

# Proceedings of the Conference

## - Book of Papers

28<sup>th</sup> BIENNIAL NATIONAL CONFERENCE

Home Science Association of India, Kolkata Chapter

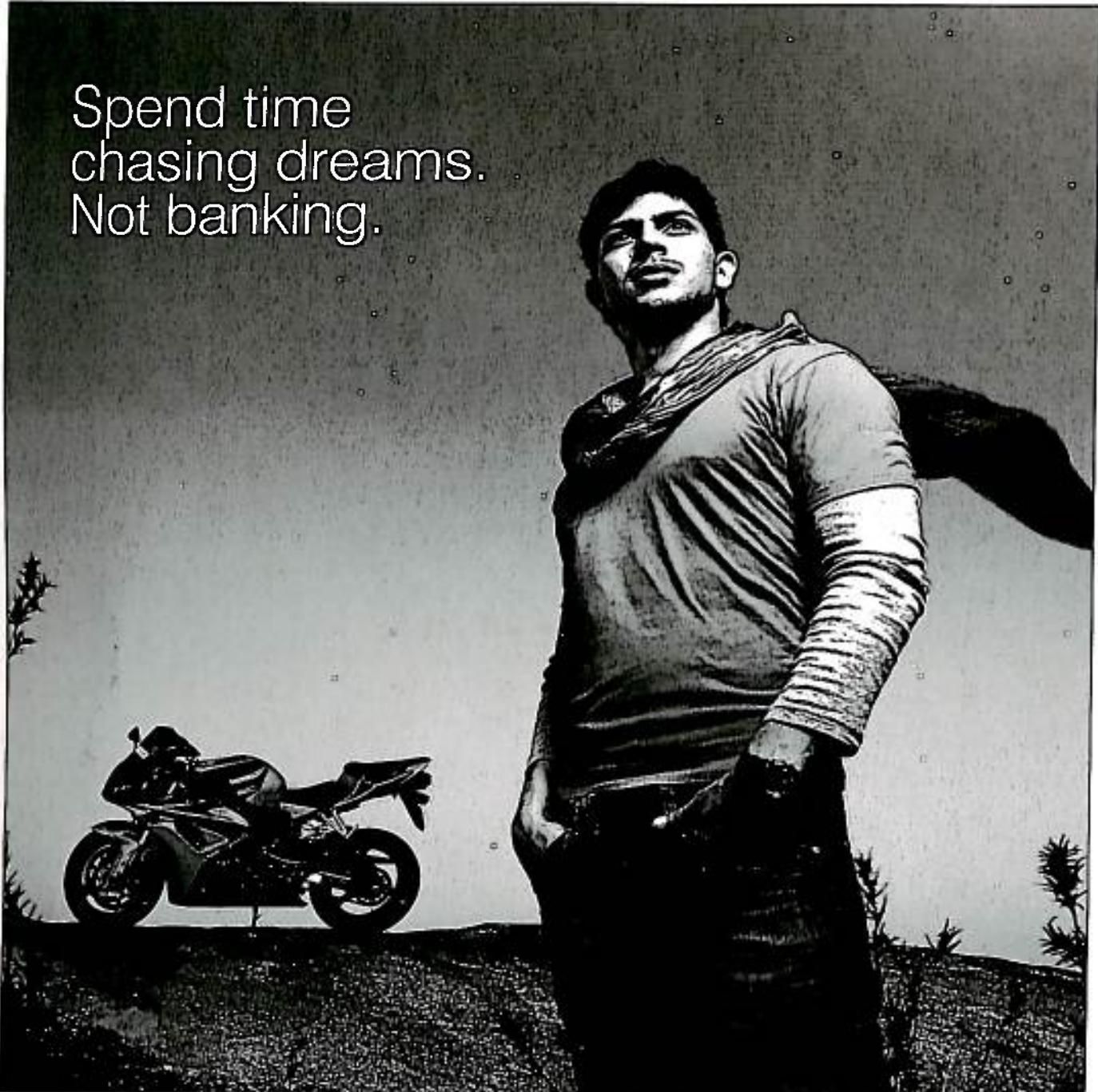
7th to 9th January, 2010



**J. D. Birla Institute (Dept. of Home Science)**

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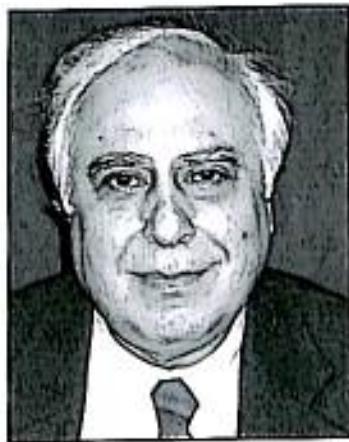
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**28<sup>th</sup> Biennial National Conference  
Home Science Association of India, Kolkata Chapter  
'Impact of Social Charge & Technological Advancements on Faculty & Community'  
7<sup>th</sup> to 9<sup>th</sup> January, 2010**

***Chief Guest :***



**Hon'ble Shri Kapil Sibal,  
Minister for HRD, Govt. of India**

***Sponsored By :***

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805, Central Plaza, 2/6, Sarat Bose Road  
Kolkata - 700020



**J. D. Birla Institute, Department of Home Science  
11, Lower Rawdown Street, Kolkata - 700 020  
West Bengal**

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## **Junior Scientist Award**

1 Family Resource Management Category	Micro Level Study of Ozone Centrifugal Aerated Technology in Treating the Sewage Water	Lakshmi Priya A
2 Food & Nutrition Category	Quality Assessment of Pearl Millet Grown Under Three Different Production Systems	Saha Ruma

## **Mid-career Scientist's Award**

1 Textiles & Clothing Category	Developing Herbal Finished Baby Nappy Pads	S. Amsamani
2 Textiles & Clothing Category	Studies on Selective Chemical Treatment of Jute, Cotton and Jute-Cotton Union Fabrics	Deepali Singhee

## **Senior Scientist's Award**

1 Family Resource Management Category	Designing and Evaluating Portable Vermicompost Devices and Assessing the Efficiency of Compost Prepared Using Different Methods	M R Thilakam
2 Family Resource Management Category	The Impact of Economic and Social Policy Decisions on the Family in a Community Context	Vinya Madane

• ORAL & POSTER PRESENTATIONS .....	35
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## **Extension Education & Communication - Oral**

1 EEC/Oral/1	Ensuring the Survival of the Girl Child: An Analysis of Cash Incentive Schemes in Haryana	Ruchi Gaur & Sarita Anand
2 EEC/Oral /2	Off Season Paddy straw Mushroom Cultivation Under Low Cost Polyhouse	Laxmipriya Pradhan, M.P Nayak & A.K Khuntia
3 EEC/ Oral /3	Connecting People, Empowering Communities – Mapping the Impact of Community Radio Using the Most Significant Change (MSC) Technique	Vidhu Kapur, Shweta Anand, Archana Kumar & Mridula Seth
4 EEC/Oral /4	Role of MAVIM in Women Empowerment – A Case Study	Shobha Y. Waghmare & Sandhya M. Rotkar
5 EEC/Oral /7	The Role of NGOs in the Care of the Elderly	Sandra Anandrajan & Karuna Miraclyn Stephen
6 EEC/Oral /8	Association of Personal-Localite Sources with Demographic and Socio-Economic Variable of Vegetable Growers Women	D K Sujan, Sarita Tripathi & Indira Bishnoe
7 EEC/Oral /9	Entrepreneurship Training Programmes For Women	D K Sujan & Sarita Tripathi
8 EEC/Oral/11	An Appraisal of Uzhavarsandhai (Farmer's Market) in Tamil Nadu	R Hemarupaa & Sathyavathymuthu

## **Extension Education & Communication - Poster**

1 EEC/Poster/1	Imparting Health Education to Irula Tribal Women in Coimbatore District	R S Philachon
2 EEC/ Poster/2	Problems of Entrepreneurship Development among Farm Women	Laxmipriya Pradhan, Pranati Das & Subhashree Sahoo
3 EEC/ Poster/3	Designing and Developing Interactive Multimedia as Trainer's Instructional Guide	Varindar Randhawa & Sumita Roy
4 EEC/ Poster/6	An Analytical Study on the Usage of Teaching Learning Materials in the Selected Schools of Manipur State	Sisiliya K

## **Food Nutrition, Dietetics & Hospitality Management - Oral**

1 FNDHM/Oral/1	An Epidemiological Study of the Assessment of the Dietary Pattern and Nutritional Deficiencies in Rural Areas of Shimla District	Dewan Anjali
2 FNDHM/ Oral/3	Quality Evaluation of Moth Bean Based Extruded Products	Gitanjali Rattan & Madhu Goyal

3 FNDHM/ Oral/8	A Study on the Nutritional Status of Athletes in the Age Group of 17- 22 Years Undergoing Training at Sports Authority of India, Mumbai	S Abraham & P Machado
4 FNDHM/ Oral/10	Study on Nutritional Status of Primary School Children Covered by Mid-Day Meal Programmes in Palghar and Wada Talukas, Thane District	Nisha Bellare, Veena Yardi & Denny John
5 FNDHM/ Oral/11	Impact of Nutrition Education in Obese Adolescents	S Kavitha & R Parimalavalli
6 FNDHM/ Oral/12	Efficacy of Dark Chocolate on Lipid Profile of Cardio Vascular Patients	
7 FNDHM/ Oral/14	Women Empowerment through <i>Pleurotus Sajor-Caju</i> Supplemented Biscuit Enterprise	Vimla Dukwal & Sudesh Jood
8 FNDHM/ Oral/18	Impact of an Intervention Based on Pearl Millet <i>Ladoo</i> on Hemoglobin Status of Adolescent Girls	Tanu Shree Singh & Madhu Goyal
9 FNDHM/ Oral/24	Effect of Growth Performance and Certain Blood/Biochemical Constituent of Mice Raised on Different Levels of Non-Conventional Dietary Protein	Meenakshi Dutta Mazumdar & Santana Kakoti
10 FNDHM/ Oral/26	Development and Nutritional Analysis of Spirulina Incorporated Biscuits	Vandita Sharma & Vimla Dunkwal
11 FNDHM/ Oral/28	Trends in Breast Feeding Practices Among Missing Tribes of Jorhat District, Assam	Daisy Kaneng Baruah, Nilima Neogi & Mridula S Barooah

#### **Food Nutrition, Dietetics & Hospitality Management - Poster**

1 FNDHM/Poster/2	Dietary Practices and Knowledge System about Health Care, Hygiene, Morbidity Patterns And Superstition of Tribal Children: A Case Study of Koraput, Orissa	Sunita Mishra
2 FNDHM/ Poster/3	Nutritional Status and its Implications on Health: A Prevalence Study on BPO Workers of Kolkata	Neha Rai Surana & Indrani Biswas
3 FNDHM/ Poster/5	Dietary Factors and Vulnerable Population for Gallbladder Diseases	Neelam Kumari & A S Kare
4 FNDHM/ Poster/6	Value Added Ethnic Weaning Food of Madhya Pradesh - A Systematic Approach to Attain Nutritional Security	Meera Vaidya, Alpana Singh & Varuna Singh
5 FNDHM/ Poster/7	Comparative Study of Food Pattern of Working Women among Different Income Groups	KumKum Kumari & Arvind Kumar Sharma
6 FNDHM/ Poster/10	Quality Evaluation of Spirulina Based 'Khakra'	Vandita Sharma, Ruma Saha, Mamta Singh & Vimla Dukwal Anjali Dewan
7 FNDHM/ Poster/11	Development of Value Added Products from Nutricereals and the Effect of Packaging and Storage on their Shelf Life	B B Wasnik, A A Deshpande, S V Gulhane
8 FNDHM/ Poster/12	Maharashtrian Snacks: Traditional Rice Delight	Neelu Vishwakarma, Ajay Khare & Gayatri V Singh
9 FNDHM/ Poster/13	Enhancing Availability of Vegetables in Diet through Nutritional Kitchen Gardening: A Study on Tribal of MP	S Premakumari
10 FNDHM/ Poster/16	An Appraisal of Noon Meal Programme in Tamil Nadu	Raka Srivastava & Prachee Baid
11 FNDHM/ Poster/19	Influence of Changing Food Pattern on Childhood Obesity in the Cities: Jodhpur and Kolkata	Raka Srivastava & Prachee Baid
11 FNDHM/ Poster/19	Influence of Changing Food Pattern on Childhood Obesity in the Cities: Jodhpur and Kolkata	

#### **Family Resource Management - Oral**

1 FRM/Oral/1	Utilization of Abilities of Elders in the Changed Social Context	Sandhya Madhukar Rotkar & S Y Waghmare
2 FRM/ Oral /2	Micro Level Study of Ozone Centrifugal Aerated Technology in Treating the Sewage Water	Lakshmi Priya A & Chitra Prakash
3 FRM/ Oral /4	Creating Awareness about Recycling of Kitchen Waste	Asha Jyoti & Somya L K
4 FRM/ Oral/6	Level of Satisfaction Gained by the Homemakers in Dual Established Families of Andhra Pradesh	K V Padmavathi
5 FRM/ Oral/7	Types of Electrical Home Appliances used by Women and its Impact on Her Life Style with Special Reference to Middle Income Group in Sangli City	Susmita S Durgule & Shruti S Joshi
6 FRM/ Oral/9	Quality of Life of Older Adults through the Eyes of Youth	S Mitra & B Dasgupta
7 FRM/ Oral/10	Involvement of Women in Financial Decision Making Process of Rural Households, under Dispur Assembly Constituency	Santana Bordoloi Kakati & Jupitara Sarma

<b>8</b>	<b>FRM/ Oral/11</b>	Empowerment of Women on Consumer Protection	<b>S Prema &amp; A Venmathi</b>
<b>9</b>	<b>FRM/ Oral/12</b>	Sericultural Technologies on Rural Women with Reference to Economic Status and Health Aspects	<b>Shobha B &amp; Sheela K</b>
<b>10</b>	<b>FRM/ Oral/13</b>	Acceptance of Accessories Made from Reusable Materials	<b>Mamatha B &amp; Seema Shirurmutt</b>

#### **Family Resource Management - Poster**

<b>1</b>	<b>FRM/Poster/1</b>	Reflections of Homemakers on Dual Establishment through Swot Analysis	<b>K V Padmavathi</b>
<b>2</b>	<b>FRM/ Poster/2</b>	Designing Colonial Theme Restaurant reflecting the British Era of Kolkata	<b>Sweta Mesaria &amp; Neerja Jaiswal</b>
<b>3</b>	<b>FRM/ Poster/3</b>	A Study on Usage of Mobile Phone amongst College Students in Kolkata	<b>Komal Sharma &amp; Phorum Shah</b>
<b>4</b>	<b>FRM/ Poster/4</b>	Middle Income Group Families with Working and Non-Working Wife & their Income & Expenditure Patterns- A Comparative Study	<b>Ratna Bannerjee &amp; Ishita Biswas</b>
<b>5</b>	<b>FRM/ Poster/5</b>	An Analysis of the Occurrence of Carpal Tunnel Syndrome among Men and Women Using Computers	<b>Agrata Wahi &amp; Nandita Das</b>
<b>6</b>	<b>FRM/ Poster/8</b>	Feasibility of Improved Sickle in Drudgery Reduction of Farm Women	<b>Manju Gupta, Sudesh Gandhi &amp; Asha Rani</b>

#### **Human Development, Family Studies and Early Childhood Education & Development - Oral**

<b>1</b>	<b>HD/Oral/2</b>	Assessment of Knowledge, Attitude and Practice of Anganwadi Workers About Non-Formal Pre-School Education	<b>Illa Jogi</b>
<b>2</b>	<b>HD/Oral/3</b>	A Study on Knowledge, Attitude and Practices Regarding Gender Related Aspects among Rural People	<b>D Vijayarani &amp; Dr. G Baradha</b>
<b>3</b>	<b>HD/Oral/4</b>	Awareness of Never Married Adults (20-35 Years) Regarding Matrimonial Websites	<b>Mansi V Mehta &amp; Kamini. P Rege</b>
<b>4</b>	<b>HD/Oral/5</b>	Appraising Perceived Self-Efficacy and its Influence on Specific Efficacy Outcomes	<b>K Arockia Maraichelvi &amp; Hasna K T</b>
<b>5</b>	<b>HD/Oral/6</b>	Psychosocial Impacts of Changing Family Patterns on the Elderly in Kolkata	<b>Paromita Ghosh</b>
<b>6</b>	<b>HD/Oral/8</b>	Media Preferences among Urban Adolescents of Jammu	<b>Neeru Sharma &amp; Ruchira Sapru</b>
<b>7</b>	<b>HD/Oral/9</b>	Socio – Psychological and Economic Status of Institutionalized Elders	<b>N Prabhavathy Devi &amp; P Tamilarasi Murugesan</b>
<b>8</b>	<b>HD/Oral/10</b>	Academic Stress and School Environment: A Study of Adolescents of Jammu, J and K	<b>Neeru Sharma &amp; Ruchira Sapru</b>
<b>9</b>	<b>HD/Oral/14</b>	Efficacy of Modern Family Planning Methods in Rural Community of Jharkhand	<b>Asha Kumari</b>
<b>10</b>	<b>HD/Oral/16</b>	Positive Therapy for Enhancement of Self-Esteem, Self-Efficacy and Management of Stress Among Women in Local Governance in Coimbatore District	<b>M Shanmugavani, S Rajkakshmi, KC Leelavathy</b>
<b>11</b>	<b>HD/Oral/18</b>	A Study on Significance of Traditional Toys for Pre School Children	<b>Usha Kothari &amp; Nasreen Gazdar</b>
<b>12</b>	<b>HD/Oral/19</b>	Impact of SHGS (Sgsy) on Socio-Economic Status of Women Weavers of Manipur	<b>Elangbam Jenita Devi &amp; Sarita Anand</b>
<b>13</b>	<b>HD/Oral/20</b>	Changing Role of Father: A Study of Fathers' Participation in the Care of their Mentally Retarded Children	<b>Kunjan Trivedi &amp; Pratibha Bohra</b>

#### **Human Development, Family Studies and Early Childhood Education & Development - Poster**

<b>1</b>	<b>HD/Poster/2</b>	Enhancing the Lives of Street Children through Life Enrichment Education (Lee)	<b>K Arockia Maraichelvi &amp; N Jayapoorani</b>
<b>2</b>	<b>HD/Poster/8</b>	A Study of Personality, Rigidity and Leadership Preference of Undergraduate Commerce Students	<b>Krishnakali Bhattacharyya &amp; Pragjyoti Bhowmik</b>
<b>3</b>	<b>HD/Poster/9</b>	Impact of Social Change and Other Approaches for Self Development of Girls in Jharkhand State	<b>Renu Bose, Bhartiyan &amp; Kumkum Kumari</b>
<b>4</b>	<b>HD/Poster/10</b>	Impact of Mothers Education on Cognitive Abilities of Pre- School Children	<b>Suman Bhanot &amp; Shabnam Ansari</b>
<b>5</b>	<b>HD/Poster/11</b>	Education and Employment as Related to Modernity: A Study of Social Change in Women of Hazaribagh	<b>Renu Bose</b>
<b>6</b>	<b>HD/Poster/13</b>	A Study of Achievement Motivation and Study Habits of Bengali Medium and English Medium Adolescent Girls	<b>Punam Mehra &amp; Arpita Saha</b>

7	HD/Poster/14	Impact of Technological Advancements on Family and Community	Anjali Pattanaik, S Waranaji Misra & Laxmipriya Dei
8	HD/Poster/16	Impact of the Use of Cell Phones on the Educational Interest, Creative Thinking and Personal Values of Teenagers	Jyoti Mankar
9	HD/Poster/17	Nutritional Status and Quality of Life of Rehabilitated Leprosy Victims of Burla Town, Odisha	Tillottama Khandapani &
10	HD/Poster/18	Braja Kishori Mishra Matrimonial Website: Challenges and Solution Perceived by Never married Adults (20-35 Years)	Mansi V Mehta & Kamini P Rege
11	HD/Poster/19	Non-Formal Pre-School Education and its Impact on Development of Children Under ICDS Programme	Ila Jogi
<b>Textiles Science, Design, Clothing &amp; Fashion Studies - Oral</b>			
1	TSDCFS/Oral/2	Printing of Silk with Croton Leaves ( <i>Codium variegatum</i> )	Rachna Singh, Ekta Grover,
2	TSDCFS/Oral/3	Sustainable Traditional Preparatory Processes- New Hopes for Social, Ecological and Hygiene Concerns	Nargis Fatima & Sristi Maurya
3	TSDCFS /Oral/4	Development of Spray Tank Cover for Farm Workers	Manju Hundekar &
4	TSDCFS /Oral/5	Singh, Neelam Pruthi & Neelam M Rose	Ela Dedhia
5	TSDCFS /Oral/7	Fragrance Lingerie	Priya Makkar, Saroj S Jeet
6	TSDCFS /Oral/9	Extraction of Dye from Peepal ( <i>Ficus religiosa</i> ) Bark and Leaves and its Application for Dyeing Cotton and Silk Fabrics	Foram T Shah & Pratima Goyal
7	TSDCFS /Oral/12	Designing Middy Tops with Wearable Electronics	Inderpal Rai, Sabra Ureshi &
8	TSDCFS /Oral/13	Enzymatic Singeing of Jute Cotton Fabrics Amsamani	Ms. Sandeepa Kumawat
9	TSDCFS /Oral/14	Economic Rehabilitation of Persons with Disabilities in the Garment Sector- Current Scenario	S Jayapriya & S Amsamani
10	TSDCFS /Oral/17	Influence of Technological Advancement on Awareness of Indian Regional Embroidery	R Uma Maheswari & S.
11	TSDCFS /Oral/18	Chemical and Structural Characteristics of Non-Mulberry Silk Pupae of <i>Antherea assama</i> Ww	Manpreet Chahal, Seema Sekhri & Dr. Ritu Mathur
12	TSDCFS /Oral/19	Influence of Education and Communication Media on the Clothing Awareness and Purchasing Practices of Tribal Girls	Anvita S Agarwal,
13	TSDCFS /Oral/21	Impact of Handloom Weaving Training on Socio-Economic Status of Rural Women	U K Vairagade & P S Lathkar
14	TSDCFS /Oral/22	Value Addition of Jainsem from Meghalaya with Indian Embroidery	Mamata Goswami Adhikari &
<b>Textiles Science, Design, Clothing &amp; Fashion Studies - Poster</b>			
1	TSDCFS/Poster/1	A Study on Buying Behaviour and Construction of Jeans for Females According to Preference	Manjoo Goswami Mishra
2	TSDCFS/Poster/2	Probing Entrepreneurial Qualities of Students in Professional and Non-Professional Courses Studying Fashion and Textiles	Smriti Rekha Sarkar,
3	TSDCFS/Poster/3	A Comparative Study of Non-Working and Working Wives on the Role Played by Them in the Selection of their Husbands Clothing	Animesh Sil & Sangeeta Deo
4	TSDCFS/Poster/4	Designing of Utility Garments for Spastic Persons	Sangeeta Deo
5	TSDCFS/Poster/10	Antimicrobial Finishes Using Medicinal Herbs	Marsoki M Hek & Deepa Rathai
6	TSDCFS/Poster/11	Trial for Utilization of Bio-Waste from the Non-Mulberry Silk Industry (A. Assama Ww) of Assam	Sristi Maurya
7	TSDCFS/Poster/12	Application of Madhubani Designs for Apparels Using Screen Printing Technique	Samita Gupta & Bindiya Lalwani
8	TSDCFS/Poster/13	A Study on Purchasing Practices of Mothers Residing in Different Apartments with Special Reference to Pre-School Children's Clothing	Manushi Tewari &
9	TSDCFS/Poster/14	A Comparative Study of Handmade and CAD Created Textile Motifs & Prevalence of CAD Software's in Textile Export Units of Jaipur	Shailee Mehra
10	TSDCFS/Poster/15	Studies on Repeated Dyeing of Silk with Red Sandalwood Using Selective Mordants	Smita Parekh
11	TSDCFS/Poster/16	Sari - A Rite of Passage	Shweta Tuteja, Anshu & Archana Singh

• **ADVERTISEMENTS**

# PROGRAMME SCHEDULE

## DAY ONE

<b>Venue</b>	<b>J D Birla Institute, Satellite Campus</b>
<b>08:30 am to 09:45 am</b>	<b>Breakfast &amp; Registration</b>
<b>10:00 am to 11:30 am</b>	<b>INAUGURAL SESSION</b>
10:00 am to 10:05 am	Welcoming of Guests
10:05 am to 10:15 am	Welcome Address by Mrs. Sumangala Birla
10:15 am to 10:20 am	Lighting of the Lamp by the Chief Guests
10:20 am to 10:25 am	Address by Ms. Rita Bibra - Chief Administrator (introduce the Institute)
10:25 am to 10:45 am	Presidential Address by Dr. Vijayalakshmi Purushothaman - President, HSAI (introduces the theme of the conference)
10:45 am to 11:15 am	Speech by Chief Guest - Prof. Pradip Narayan Ghosh, Vice Chancellor, Jadavpur University
11:15 am to 11:25 am	Special Address by Dr. Mrunalini Puar
11:25 am to 11:30 am	Vote of Thanks by Dr. Deepali Singhee, Principal, JDBI
11:30 am to 12:00 am	<b>Tea Break</b>
<b>12:00 am to 01:00 pm</b>	<b>TECHNICAL SESSION-I</b>
12:00 am to 12:30 pm	<i>Knowledge Creation vs Knowledge Application: Science vs Technology</i> - Swami Atmapriyanandaji, Vice Chancellor, Ramakrishna Mission Vivekananda University, Kolkata
12:30 am to 01:00 pm	<i>Application of Science and Technology in Home Science</i> - Prof. M. Varghese, Former Senior Advisor to NAAC
<b>01:00 pm to 01:45 pm</b>	<b>Lunch Break</b>
<b>01:45 pm to 03:25 pm</b>	<b>TECHNICAL SESSION-II</b>
01:45 pm to 01:55 pm	Chairperson: Dr. (Mrs.) Ila Dedhia Associate Professor, Department of Textiles & Fashion Technology, College of Home Science Nirmala Niketan and immediate past president, Indian Chapter ARAHE
01:55 pm to 02:25 pm	1. <i>Globalisation &amp; Health: The Indian Case</i> - Prof. (Dr.) Mohan Rao, Professor, Center for Social Medicine & Community Health, Jawaharlal Nehru University, New Delhi.
02:25 pm to 02:55 pm	2. <i>Value addition to Natural Fibres : A Sustainable Economic Activity for Upliftment of Rural Women</i> - Dr. S Sreenivasan, Director, Central Institute for Research on Cotton Technology (CIRCOT), Mumbai
02:55 pm to 03:25 pm	3. <i>New Media Technologies and Rural Communities: Challenges &amp; Potential</i> - Prof. (Dr.) T. T. Shreekumar, Assistant Professor at Communications & New Media Programme, National University of Singapore (NUS)
<b>03:30 pm to 04:30 pm</b>	<b>MID CAREER SCIENTIST'S AWARD</b>
03:30 pm to 04:00 pm	1. Dr. S. Amsamani, Avinashilingam University for Women, Coimbatore (Textile Category)
04:00 pm to 04:30 pm	2. Dr. Deepali Singhee, J D Birla Institute, Kolkata (Textile Category)
<b>04:30 pm to 05:00 pm</b>	<b>High Tea</b>
<b>05:00 pm to 06:00 pm</b>	<b>YOUNG SCIENTIST'S AWARD</b>
05:00 pm to 05:30 pm	1. Dr. A. Lakshmi Priya, JBAS College for Women, Chennai (Family Resource Management Category)
05:30 pm to 06:00 pm	2. Ruma Saha, College of Home Science, Rajasthan (Food & Nutrition Category)
<b>06:30 pm to 08:00 pm</b>	<i>Colours of India</i> , Cultural Programme by Students of JDBI
<b>08:00 pm to 09:00 pm</b>	<b>Dinner</b>
<b>09:00 pm</b>	<b>Leave for Hotel</b>

## DAY TWO

<b>Venue</b>	<b>J D Birla Institute, Satellite Campus</b>
<b>08:30 am to 09:45 am</b>	<b>Breakfast</b>
<b>10:00 am to 11:30 am</b>	<b>SPECIAL SESSION WITH &amp; RELEASE OF SOUVENIR BY SHRI. KAPIL SIBAL</b>
10:00 am to 10:05 am	Guests requested to be seated on the Dias
10:05 am to 10:10 am	Greeting the Special Guest and other Guests with bouquets of flowers after introducing them

<b>10:10 am to 10:15 am</b>	<b>Welcome Address by Shri. S. K. Birla</b>
<b>10:15 am to 10:20 am</b>	<b>Address by Prof. Vijayalakshmi Purushothaman, President, Home Science Association of India</b>
<b>10:20 am to 10:45 am</b>	<b>Address by Shri. Kapil Sibal - Chief Guest</b>
<b>10:45am to 10:50 am</b>	<b>Address by Prof. Subhash Chandra Bhattacharya, Dean, Faculty Council of Science, Jadavpur University</b>
<b>10:50 am to 10:55 am</b>	<b>Release of Souvenir by Shri. Kapil Sibal</b>
<b>10:55 am to 11:00 am</b>	<b>Vote of Thanks by Dr. Deepali Singhee, Principal, JDBI</b>
<b>11:00 am to 11:30 am</b>	<b>Sponsor's Coffee</b>
<b>11:30 am</b>	<b>Press Meet with Shri. Kapil Sibal</b>
<b>11:30 pm to 12:00 pm</b>	<b>Tea</b>
<b>12:00 pm to 01:00 pm</b>	<b>SENIOR SCIENTIST'S AWARD</b>
<b>12:00 pm to 12:30 pm</b>	1. Dr. M. R. Thilakam, Avinashilingam University for Women, Coimbatore ( <b>Family Resource Management Category</b> )
<b>12:30 pm to 01:00 pm</b>	2. Dr. Vinya Madane ( <b>Family Resource Management Category</b> )
<b>01:00 pm to 01:45 pm</b>	<b>Lunch Break</b>
<b>01:45</b>	<b>Transfer to Main Campus</b>
<b>Venue</b>	<b>J D Birla Institute, Main Campus</b>
<b>01:00 pm to 01:45 pm</b>	<b>Judging of Research Posters</b>
<b>02:00 pm to 04:30 pm</b>	<b>RESEARCH PAPER SESSION – PARALLEL SESSIONS</b>
<b>04:30 pm to 5:00 pm</b>	<b>High Tea</b>
<b>05:00 pm to 06:00 pm</b>	<b>General Body Meeting &amp; Visit to 'Rangamati Mela' – The Craft's Bazaar</b>
<b>06:00 pm to 7:00 pm</b>	<b>INTERACTIVE SESSIONS – PARALLEL SESSIONS</b>
<b>07:00 pm to 08:00 pm</b>	<b>Visit to Craft's Bazaar</b>
<b>08:00 pm to 09:30 pm</b>	<b>Dinner on the College Terrace</b>
<b>09:30 pm</b>	<b>Leave for Hotel</b>

### **DAY THREE**

<b>Venue</b>	<b>J D Birla Institute, Main Campus</b>
<b>08:30 am to 09:45 am</b>	<b>Breakfast</b>
<b>10:00 am to 11:00 am</b>	<b>TECHNICAL SESSION-III</b>
<b>10:00 am to 10:10 am</b>	Chairperson: Dr. (Mrs.) Vijaya Khader, Retired Dean, Faculty of Home Science, Acharya N. G. Ranga Agricultural University, Hyderabad
<b>10:10 am to 10:40 am</b>	1. <i>Emergence of Women's Rights through Social Changes &amp; Technological Advancements</i> - Dr. Kumud Sharma, Chairperson, Centre of Women Development Studies, ICSSR, New Delhi
<b>10:40 am to 11:10 am</b>	2. <i>Diet, Nutrition &amp; Health: Problems &amp; Possibilities</i> - Dr. M. S. Bamji, Ex-Director Grade Scientist, National Institute of Nutrition, Hyderabad
<b>11:10 am to 11:40 am</b>	<b>Tea</b>
<b>11:40 am to 12:30 am</b>	<b>Visit to Crafts Bazaar</b>
<b>12:30 am to 01:30 pm</b>	<b>Lunch</b>
<b>01:30 pm to 02:30 pm</b>	<b>VALEDICTORY SESSION</b>
<b>02:30 pm to 03:00 pm</b>	Prize Distribution Ceremony, Prof. Siddharta Datta, Pro-Vice-Chancellor, Jadavpur University
<b>03:00 pm to 03:30 pm</b>	Reading of the Results of the Interactive Sessions
<b>03:30 pm onwards</b>	Reading the Outcome of the Conference, Convenor of the Conference
	Vote of Thanks by the Chairperson of the Conference
	<b>General Body Meeting</b>
	<b>High Tea</b>
	<b>Distribution of the Participation Certificates</b>

# **CONFERENCE ORGANISING COMMITTEE**

## **Steering Committees & Sub-Committees**

### **FACULTY MEMBERS**

<b>Chairperson</b>	<i>Dr. (Ms.) Deepali Singhee, Principal, JDBI</i>
<b>Convenor</b>	<i>Mrs. Lilu Mancha, Head, Dept of Home Science</i>
<b>Registration Committee</b>	<i>Mrs. Komal Sharma</i>
Press & Information Counters	<i>Ms. Saba Shamim</i>
Registration Counters for Four Zones	<i>Ms. Ishita Biswas, Mrs. Granthana Sengupta Ms. Ranita Ganguly, Ms. Dipa Roy</i>
Spot Registration Counter	<i>Mr. Manoj Kiroli &amp; Mrs. Radha Ravindran</i>
<b>Hospitality Committee</b>	<i>Mrs. Smita Parekh,</i>
Guest House In-Charge	<i>Ms. Indrani Biswas, Mrs. Keya Ghosh, Mrs. Atri Chakraborty &amp; Mrs. Rukmini Bunker</i>
Resource Persons, Guests & Jury Receiving Committee	<i>Mrs. Lilu Mancha &amp; Ms. Shweta Tuteja</i>
Medical	<i>Mrs. Papri Gomes &amp; Elizabeth</i>
Enquiry at Station & Airport	<i>Ms. Punam Mehra &amp; Mrs. Basudha Mukhopadhyay</i>
<b>Paper Review Committee</b>	<i>Dr. Vipasha Chakraborty, Dr. Krishnakali Bhattacharyya, Dr. Banani De &amp; Dr. Nandita Das</i>
<b>Parallel Sessions (Oral Paper Presentations &amp; Interactive Sessions)</b>	
Foods, Nutrition, Dietetics and Hospitality Management	<i>Ms. Shivarati Bose</i>
Textile Science, Design, Clothing and Fashion Studies	<i>Ms. Manushi Tewari</i>
Human Development, Family Studies and Early Childhood Education & Development	<i>Ms. Sohini Kahali</i>
Family Resource Management	<i>Ms. Shweta Patney</i>
Extension Education and Communication	<i>Ms. Ishita Biswas</i>
<b>Poster Presentations</b>	
Foods, Nutrition, Dietetics and Hospitality Management	<i>Mrs. Lilu Mancha</i>
Textile Science, Design, Clothing and Fashion Studies	<i>Mrs. Samita Gupta</i>
Human Development, Family Studies and Early Childhood Education & Development	<i>Ms. Punam Mehra</i>
Family Resource Management	<i>Mrs. Komal Sharma</i>
Extension Education and Communication	<i>Dr. Banani De</i>
<b>PR &amp; Publicity Committee</b>	<i>Ms. Rachana Kejriwal &amp; Ms. Sreetama De</i>
<b>Food &amp; Refreshment Committee</b>	<i>Ms. Shivarati Bose</i>
<b>Decoration &amp; Crafts Bazaar Committee</b>	<i>Mrs. Amita Dutta</i>
<b>Discipline Committee</b>	<i>Shweta Patney &amp; Sudeshna Ray</i>
<b>Cultural Show Committee</b>	<i>Mrs. Samita Gupta &amp; Mrs. A. S. Manjulakshmi</i>
Costumes	<i>Dr. Deepali Singhee, Ms. Manushi Tewari, Ms. Shweta Tuteja &amp; Ms. Tania Majumdar</i>
Make-up	<i>Ms. Sreetama De &amp; Ms. Rukmini Bunker</i>
Hair styles	<i>Dr. Nandita Das &amp; Ms. Indrani Biswas</i>
Backstage & Props	<i>Ms. Punam Mehra</i>
Music	<i>Dr. Banani De</i>
<b>Crafts Bazaar Committee</b>	<i>Mrs. Amita Dutta &amp; Dr. Nandita Das &amp; Dr. Deepali Singhee &amp; Mrs. Amita Dutta, Dr. Nandita Das &amp; Ms. Mitali Majumdar</i>
Selection of Craft Items	<i>Mrs. Sohini (Kahali) Acharya &amp; Ms. Sangeeta Nath</i>
Stall in-charge	<i>Mrs. Smita Parekh &amp; Mrs. Sujata Singh</i>
College Stall in-charge	<i>Ms. Manushi Tewari &amp; Dr. Vipasha Chakraborty</i>
<b>Gifts &amp; Award Committee</b>	<i>Ms. Tania Majumdar</i>
<b>Certificate Committee</b>	
Photography	

# **CONFERENCE ORGANISING COMMITTEE**

## **Steering Committees & Sub-Committees**

### **STUDENT MEMBERS**

#### **Hospitality Committee**

Guest House In- Charge

*Gujrat Samaj :*

*Sabiha Nazam, Dinal P. Jasai, Vrinda Dugar, Disha Mooljee*

**Meera Mandir :**

*Kayenat Khan, Archana Chowdhury*

*Tishya Ghosh, Damanjit Kaur, Nikita Bansal, Saadgi*

*Chowdhury, Megha Jalan*

**Howrah :**

*Shikha Khandelwal, Srishti Jaiswal, Vidhi Mkishra, Raksha  
Mussaddi*

**Sealdah :**

*Swati Balasaria, Smriti Poddar*

*Monika Dhanuka, Kanchan Kapoor, Pooja Lath, Neha Golcha,  
Nikita Surana*

*Shilpa Arora, Raksha Banka, Chitra Jhunjhunwala, Nikita  
Surana, Anushree Mohita, Priya Singh*

*Sneha Gupta, Amria Beriwal, Nisreen Lakdawala Soni  
Khandelwal, Palak Daga*

*Saloni Agarwal, Samragi Saha Chowdhury, Aakansha Sharma  
Kritika Poddar, Anantika Lohia, Varuni Goenka, Udit Agarwal,  
Sneha Bajaj*

*Nikita Sanghai, Sneha Routh, Ritika Shaw, Priyanka Hemdrom,  
Richa Kirthania, Megha Mussadi, Swastika Bhattacharya,  
Sharique Shamim, Shweta Agarwal, Sakshii Jain, Sachipriya  
Ghuwalewala, Kashish Mahatani, Zaara Shahnawaz, Nikita  
Dugar, Nandini Kejriwal, Roshni Seth, Indiva Mukherjee,  
Shrabashi Dev, Anurupa Dey, Pushali Das, Paridhi Batwal,  
Abhinanda Banerjee, Tanistha Pathak, Shruti Agarwal,  
Bhumika Yagnik, Anuja Khetawat, Nupur Agarwal, Aratrika  
Bhagat, Shalini Chatterjee, Atiyaba Ahmed, Ritika Agarwal,  
Krutika Desai, Eishani Kedia, Rupinder Kaur, Harveen Kaur,  
Ritika Goyal, Preeti Sharda, Disha Pansari, Radhika Goenka,  
Swechha Gupta, Mona Agarwal, Ankita Churawal, Priyanshi  
Agarwal, Varsha Parakh, Chandni Jhawar, Shweta Sharma,  
Rupsha Roy Chowdhury, Vruti Rupani, Pooja Goenka, Anshuma  
Todi, Shradha Navetia, Sanjita Kundu, Apurva Adhikari,  
Sudeshna Bhaumik, Mona Gandhi, Isha Jajodia, Ruchi Jha,  
Satarupa Ray, Shweta Singh, Shilpa Arora, Nikita Rajada,  
Hemlata Jaiswal, Monica Nahata, Vidhi Agarwal, Neha  
Bararia, Pragya Khattar, Ankita Mondol, Shirshti Singh, Kritika  
Agarwal, Ruchita Bohra*

*Manisha Chaffer*

*Veena Abhani, Ankita Chaanani*

*Harshita Banka*

#### **Gift and Award Committee**

#### **Certificate Committee**

#### **Photography Committee**



# MESSAGE



**J. D. BIRLA INSTITUTE**

(Affiliated to Jadavpur University)

**DEPARTMENT OF HOME SCIENCE, COMMERCE & MANAGEMENT**

Ref. No:

Date:



As an interdisciplinary subject dealing with applied sciences, Home Science touches different age spans and spheres of human life, which in turn enables it to address the vital concerns related to the quality of life. Rapid changes in technology have ultimately improved the quality of life of individuals and families. It has subsequently brought about changes in social organization and in general populace. The concept of family, its promotion and strengths has been and will be one of the greatest and unique contribution India can make to the entire world. I am sure that the deliberations of this conference would highlight the significant role of family and community sciences in enhancing the quality of our lives and lead to some concrete plan of action from the academics and activists in the field of Home Science towards achieving this goal.

I am confident that the learned gathering at the conference would bring before society all aspects of the subject, broaden its parameters and offer new incentive to budding researchers to take-up further studies in it. I am also happy to note that the host college is bringing out a souvenir on the occasion and hope that the articles published in the souvenir will disseminate information for the benefit of the participants and society as well. I wish the conference a great success.

*Sumangala Birla*  
**Mrs. Sumangala Birla**  
President, Governing Body,  
J. D. Birla Institute

# MESSAGE

যা দ্ব পুর বিশ্ববিদ্যালয়

PROFESSOR PRADIP NARAYAN GHOSH  
VICE-CHANCELLOR  
অব্যাপক প্রদীপ নারায়ণ ঘোষ  
উপচারী



\*JADAVPUR UNIVERSITY  
KOLKATA-700 032, INDIA

OFFICE OF THE VICE-CHANCELLOR : AUROBINDO BHAVAN ANNEXE



I am extremely pleased to learn that *J. D. Birla Institute* is going to organize 28<sup>th</sup> Biennial National Conference during January 7-9<sup>th</sup>, 2010 on the topic "Impact of Social change and Technological Advancements on Family and Community".

It is very significant to conduct such conference in the present academic and socio-economic scenario. Hope this will facilitate the young generation to navigate themselves to the emerging trends of social life through shared conversation with their contemporaries.

I wish all success for the programme

*Pradip Narayan Ghosh*  
Prof. Pradip Narayan Ghosh  
Vice Chancellor, Jadavpur University

# MESSAGE

যা দ্বাৰা পুৱ বি শ্ৰ বি দ্বাৰা ল যা

PROFESSOR SIDDHARTHA DATTA  
PRO-VICE-CHANCELLOR



\*JADAVPUR UNIVERSITY  
KOLKATA-700032, INDIA

SALT LAKE CAMPUS, BLOCK-LB, PLOT NO. 8, SECTOR-III, JADAVPUR UNIVERSITY KOLKATA-700098



It gives me immense pleasure to know that J. D. Birla Institute is organizing an all India conference on behalf of the Home Science Association of India, The title; '*Impact of Social Changes and technological Advancements on Family and Community Life*' is very apt in today's context where family is gradually losing its identity. I hope deliberations on this issue would lead to significant solutions and show ways to improve and strengthen family and community life. I wish the organizers a resounding success.

A handwritten signature in black ink, appearing to read "Siddhartha Datta".  
Prof. Siddhartha Datta  
Pro-Vice Chancellor, Jadavpur University

## MESSAGE

যা দ্বাৰা পুনৰ বিশ্লেষণ কৰা লাগিব।

PROF. SUBHASH CH. BHATTACHARYA  
DEAN  
FACULTY OF SCIENCE



\*JADAVPUR UNIVERSITY  
KOLKATA-700032, INDIA



It is a matter of great happiness that J.D Birla Institute is hosting the 28<sup>th</sup> Biennial National Conference of the Home Science Association of India, Kolkata Chapter on the "Impact of Social Change and Technological Advancements on Family and Community". The topic is of great relevance in today's society. Social and technological changes have varying effects on the individual and community which need to be addressed for building a healthy society.

I wish the conference all success.

A handwritten signature in black ink, appearing to read "Bhattacharyya".

Prof. Subhas Chandra Bhattacharyya  
Dean, Faculty Council of Science,  
Jadavpur University

# MESSAGE



**J. D. BIRLA INSTITUTE**

(Affiliated to Jadavpur University)

**DEPARTMENT OF HOME SCIENCE, COMMERCE & MANAGEMENT**

Ref. No:

Date:



The Home Science department of the J D Birla Institute is one of the most prestigious in the country. It gives us immense pleasure to host the 28<sup>th</sup> Biennial National Conference as the Kolkata Chapter of the Home Science Association of India.

Through its theme '*Impact of Social change and Technological Advancements on Family and Community*' I am confident we will be enlightened on the significance of the role of technology on family and community. In our country it is of particular importance to grasp the far reaching impact of technology on nuclear families which in turn has a domino effect on the community at large creating a critical mass impacting social change.

It is with great enthusiasm that I look forward to this conference and wish the organizers a resounding success in their endeavor.

**Ms. Rita Bibra**

Chief Administrator, J D Birla Institute

## **MESSAGE**



I am delighted to know that the 28 th Biennial National Conference is being organized by J.D. Birla Institute on behalf of the Kolkata Chapter of Home Science Association of India on “Impact of Social Change and Technological Advancements on Family and Community from 7-9 th January 2010.

Home Science being an applied discipline can contribute to the improvement of quality of living of individuals and families which ultimately results in the national development- the main aim of Education especially Higher Education. I congratulate the Association’s efforts to update and change with the times to make the discipline more relevant to the society, considering the socio-economic changes and technological advancements. In this globalized world, Home science as an interdisciplinary field for the benefit of families and communities at the micro and macro level can gear the change and development in the desired directions.

With best wishes for the Conference and the deliberations!

**Dr. Mariamma Varghese,**  
Former Vice Chancellor, S.N.D.T University  
& Senior Education Consultant, NAAC

# MESSAGE



## THE HOME SCIENCE ASSOCIATION OF INDIA

HEAD-QUARTERS OF THE ASSOCIATION : MRUNALINI-DEVI CHARITIES  
INDUMATI MAHAL, JAWAHARLAL NEHRU MARG BARODA-390 001, GUJARAT, INDIA. TEL.: (0265)-2433082/2431045

Dr. VIJAYALAKSHMI PURUSHOTHAMAN  
President  
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Dr. RAVIKALA KAMATH  
Immediate Past President

Dr. CHITRA PRAKASH  
Vice President South Region

Dr. ELA DEDHIA  
Vice President West Region

Dr. BIJAYALAKSHMI DAS  
Vice President East Region

Dr. VINITA NARULA  
Vice President North Region

Dr. K.C. LEELAVATHY  
Hon. General Secretary

Dr. ANJALI KAROLIA  
Hon. Joint Secretary

Dr. M. AMIRTHAVENI  
Hon. Treasurer

Dr. MRUNALINI DEVI PUAR  
Chairperson Nominating Committee

It is my pleasure and privilege to extend my warm and best wishes to all members of the Home Science Association of India, as they are meeting together at the 28th Biennial Conference of the Home Science Association of India. The association has been in existence for over 50 years. Home Science which was essentially started to prepare girls for better

management of the household has to day become a thorough-bread professional subject and has developed into many branches and specializations. There are nutritionists among ourselves, there are fashion designers and trend setters, there are dietitians, there are extension and social welfare workers, human development scientists and resource management professionals. What a proud and great achievement!

Along with such great growth, our responsibilities have also increased. Our syllabi should be upto date in all respects. The teachers should be a well informed lot and inculcate the work culture among the younger generations. We have to find rightful places of employment to our graduates and make Home Science, a field which is most sought after. Home Science graduates should be made the most knowledgeable in their fields of specialization, so that employers look for these graduates. I am sure that the 28th Biennial Conference will allocate some time to analyze these aspects and pass not only resolutions but also see that action is taken for implementation along the correct directions by representing the matter to the concerned government authorities.

The organizers of the Conference from the Kolkata chapter have been planning and working for the past six months for the successful conduct of the conference and I have no doubt it is going to revitalize all the home scientists.

I wish the organizers of the conference all the best and the members attending the conference a useful time while they are here.

Wishing the best to all the concerned once again.

Dr. (Mrs.) Vijayalakshmi Purushothaman  
President  
Home Science Association of India

## PRESIDENTIAL ADDRESS

### Meetings the Challenges of Social Change and Technological Advancements

Dr. (Mrs.) Vijayalakshmi Purushothaman

President, Home Science Association of India

Home science as a field of study was coined even before the start of the twentieth century by a group of women, most of whom were scientifically educated and reform-oriented, who were interested in applying science and philosophy to improving everyday life. The field's mission was to improve family wellbeing by enabling families to be successful in their reciprocal relationships with the environments in which they function. With the industrial revolution and changing times some family functions have today shifted to factories, hotels, bakeries, restaurants, nursing homes, and schools, making policy concerns relevant. As a result, the field expanded its work also, adding development, delivery, and evaluation of consumer goods and services, creating awareness among policy makers about concerns of the field, and attempting to shape social and even global change. Consequently, the field has provided many career options for both men and women in governmental, non – governmental organizations, business houses and many other walks of life.

Home Science education has played an important role in strengthening the inner ability of our women by enhancing their level of education and by imparting financial independence. It has been a major pathway for women into public education and for providing entry to a wide variety of careers for women in academia, business, public relation, government and health care. This development of women is essential not merely for the benefit of womenfolk but for the very survival of the society, for the progress, peace and prosperity of the country.

Home Science has today become:

- an academic discipline to educate scholars, to conduct research and to reach out to the community with a helping hand by bringing out through bread professionals,
- an arena for meaningful living in households, families and communities for developing human growth potential and meeting human necessities,
- a curriculum area that facilitates students to discover and further develop their own resources and capabilities to be used in their personal life, as well as professional careers and
- a societal arena to influence and develop policies to advocate for individuals, families and communities to achieve empowerment and wellbeing, to utilize transformative practices, and to facilitate sustainable future.

To be successful in these four dimensions of practice means that the profession is constantly evolving, and there will always be new ways of performing the profession. This is an important characteristic of the profession, linking with the twenty-first century requirement for all people to be 'expert novices', that is, good at learning new things, given that society is constantly and rapidly changing with new and emergent issues and challenges.

The thread or essential ingredient that all subjects, courses of study and professionals identifying as home scientists must exhibit has atleast three essential dimensions:

- A focus on fundamental needs and practical concerns of individuals and families in everyday life and their importance both at the individual and community levels, and also at societal and global levels so that wellbeing can be enhanced in an ever changing and ever challenging environment
- The integration of knowledge, processes and practical skills from multiple disciplines synthesised through interdisciplinary and transdisciplinary inquiry and pertinent paradigms and
- Demonstrable capacity to take critical/ transformative/ emancipatory action to enhance wellbeing and to advocate for individuals, families and communities at all levels and sectors of society and ensuring the interplay of these dimensions of Home Science is the basis upon which the profession can be sustained into the future. Because of these attributes, Home Science is distinctively positioned to collaborate with other professionals.

Home science has an extremely important place in our educational system today. No other academic discipline incorporates in its curriculum as many pertinent life skills that will help students succeed independent of their chosen career paths. The most important aspect of home science education is that students not only learn about subject matter that has relevance to their present lives, but will constantly be of use as they continue to grow. One area of home science that is considered to be among the most essential is the emphasis on personal development, decision making and intrapersonal skills. According to a study done in Japan, students' personal initiatives play an extremely large role in determining how they'll react to their changing work situations. Those who lack the ability to make effective personal decisions are more at risk for experiencing hardships in the instabilities found in the real world. It was also found in the study that students do not feel they have the proper means to learn these valuable life skills at home. Taking courses in home science allows students to acquire the necessary decision making, social, and communication skills deemed critical for occupational success.

In addition to the development of valuable intrapersonal skills, the home science curriculum also opens the doors to the students to a wide variety of potential career paths with a proper understanding on how economic, social, and cultural

factors personally affect them and their behaviors in consumerism. While other academic courses may cover theoretical aspects of personal finance, home science gives a more practical, everyday application of the subject matter. Home Science as a field is firmly embedded in the agriculture and is extremely useful in enhancing the status of women and children. With growing concern for lifestyle, health and nutrition, the importance of nutrition which is part of home science has become everybody's business. It is expected that very soon, home science courses would find a place as an important course in all colleges and universities and not only for girls but also for boys. It is hard to find a single subject taught today that incorporates as many topics of interest as home science, helping students to become well informed and developed and professionally ready individuals.

The employment opportunities for home science graduates are growing in leaps and bounds. Thus, one can take up a job in the production industry, tourism industry, service industry or teaching jobs, technical jobs, or sales jobs. One can also work independently in any field of home science.

With the rapid change in the national and international scenario, the curriculum has to be updated frequently. With the tremendous increase in the information technology, the world has shrunken to a global village. The multi nationals have invaded our homes creating new career opportunities as well as competition.

In order to keep the subject at the top, the course should aim at capacity building of students to manage long and short-term interventions within the reach of family and community, to meet and achieve the challenges in food and nutrition security, energy conservation, environment protection, product design, marketing, habitation designing, researchable issues in human development and family studies, scientific technological and management problems related to consumers, weavers, apparel and textile industry and reaching out to vulnerable groups in community and facilitating them to secure rewarding jobs are all possible with the knowledge gained in this field. Along with all these, the courses should also help the students in developing entrepreneurial qualities and finally establishing their own enterprise.

The challenges are different for countries with different income levels, but there are commonalities. There is more money being spent on health than ever before and more knowledge to address global health challenges, including better medical technology. Along with this, other whereabouts of environment such as hygiene, sanitation, exercise and diet during illness, in other words overall life style modification well at early stage by utilizing the health care provided by the government and organic healthy foods from the green fields of our great farmers can surely pave way for better and healthier world which would further completely reduce the double burden of disease. The above possibilities can become a reality when Home Science and nutrition education is introduced in the curriculum of all the students invariable of their core subjects and learning home science as a separate subject should receive priority in any formal or informal education policy. Since, the philosophy of Home Science aims at utilization of modern science to improve home living, family life, sound scholarship for intellectual thinking, research to increase information on facts of life, use of all resources to make home and family effective parts of the social fabric, emphasis on the control of material things to realize the higher spiritual blessings, it is possible for home scientists to make life more beautiful, gracious and worthwhile.

Human development specialists are required big numbers to provide professional counselling for better family understanding and functions so that better human relationship which is very badly needed today is achieved. Textile and Clothing specialists should be equipped develop suitable cost effective health promoting clothing for all age groups, Introduce medical textiles for clinical and biological purposes like Antimicrobial finish, mosquito repellent garments, heat & cold resistive garments and the like. The resource management professionals should be prepared to popularize clean eco-friendly dwellings, promote income generation among men and women so that purchasing power is increased, teach people to utilize solar energy, biogas, wind thermal and wave energies, make people sensitive to environmental pollution, promote sanitation at all levels and the extension professionals to take care of the environmental and sanitation aspects of rural population and life style modification of urban population to reduce the incidence of chronic diseases and promotion of safe drinking water for everyone.

The role of Home Science in developing women power and thereby achieving the goals of family life and protecting health of the family, community, nation and world at large cannot be compromised. Today's world demands flexibility and response to change for which many are not prepared. Home Science courses are designed to train women to meet these vital changes with confidence. It promotes one's professional skills, develops insights into home and family living, and prepares one to enter a wide range of career options. Let all us remember that to be successful we need to have a detailed and indepth knowledge of our subject both in the theoretical and practical aspects and develop the work culture among students which is badly needed.

Become a job - provider than a job seeker. Learn to take risks and responsibilities. Come out of your shell and enter into this large world with confidence. Utilize the government funding facilities and training programme to your advantage. Make your subject the most sought after, let us all vow to promote home science education to achieve this great goal. I am sure that all of us will work towards achieving this great goal in this conference. I wish all the delegates useful and enjoyable time. While you all here.

Thank You

## NORTH ZONE



In my view, Home Science is the most important and significant area of study to improve the lot of women in our country. It empowers them to meet with varied challenges of their life and aspirations of their families. These women further extend their wisdom and expertise to improve the status of communities they belong to - whether these are tribal, rural, periurban or urban.

The conference, held every two years provides a wonderful opportunity to exchange ideas, thrash out issues and provide direction to forge ahead in order to meet with the ultimate goal of National Development. After 1966, once again, the venue has become the beautiful city of Kolkata. I vividly remember our awesome fraternity on the dais and their intensely motivational talks. Both these, had indeed left permanent impressions on my mind as a young home scientist. On occasions like this, our mentors ensure that the tender buds of Home Science learn to carry the flag forward making India, a country as a force to reckon with. Home Science, as a holistic stream of education needs to be saluted. This year this enormous task of organizing the much awaited conference has been taken up by the J D Birla Institute, Kolkata. I wish the whole organizing team best of luck and pray for the success of this conference. I am confident, it will show the path for a very bright future for all of us.

**Dr. (Mrs.) Vinita Narula**  
Vice President, HSAI - North Zone  
Vice Principal, Lady Irwin College, New Delhi

## WEST ZONE



It is an honor to welcome you all to the 28<sup>th</sup> Biennial National HSAI Conference hosted by Home Science Association of India, Kolkata Chapter in association with J. D. Birla Institute, Department of Home Science, Kolkata from January 7<sup>th</sup> – 9<sup>th</sup> 2009. The theme of the Conference ‘Impact of Social Change & Technological Advancements on Family and Community’ is very appropriate and timely. The entire program is well thought of.

HSAI has always continued to support high quality work and strived for excellence within its members. I extend my congratulations and sincere gratitude to the Home Science Association of India, to the Organizing Committee of this conference, Home Science Association of India, Kolkata Chapter in association with J. D. Birla Institute, Department of Home Science, Kolkata and all colleagues who have invested their time, mind and energy to ensure the success of this conference. My special congratulations to my dear student, Dr. Deepali Singhee, Principal of the college and Chairperson of this conference. I hope this conference will be meaningful, insightful, and knowledgeable and create a platform to network amongst fellow home scientists from various regions of the nation. I wish it has a lasting impact in the development of the Community and the Nation. My best wishes to all of you.

**Dr. (Mrs.) Ela M Dedhia**  
Vice President, HSAI - West Zone  
Associate Professor, Textiles & Fashion Technology,  
Nirmala Niketan College of Home Science, Mumbai

## **SOUTH ZONE**



The Biennial Conference of the Home Science Association of India provides a forum for sharing of experiences of the various activities done by Home Scientists. This helps to strengthen the association to formulate meaningful activities for the future and expose the role of Home Science in inculcating quality culture in family and community. The Association while continuing the tradition of Excellent Work enhances the quality of life in our country.

The Biennial Conference of the Home Science Association of India provides a forum for sharing of experiences of the various activities done by Home Scientists. This helps to strengthen the association to formulate meaningful activities for the future and expose the role of Home Science in inculcating quality culture in family and community. The Association while continuing the tradition of Excellent Work enhances the quality of life in our country. I am confident the resource persons would bring before the society all aspects of the subjects, broaden its parameters and offer new incentives to the budding scientists to take up further research. I am sure the conference will prove beneficial in fulfilling the objectives and the articles published in the souvenir will disseminate information for the benefit of the participants and society as well. I extend my gratitude to Dr. (Ms). Deepali Singhee, Principal, JDBI, for shouldering the responsibility to conduct the conference at Kolkata. I thank the conveners and organizers for their great effort. My best wishes and prayers for the success of the conference

**Dr. (Mrs.) Chitra Prakash**

Vice President, HSAI - South Zone  
Reader, Department of Resource Management,  
Avinashilingam University for Women,  
Coimbatore, Tamil Nadu

## **EAST ZONE**



I hope this 28<sup>th</sup> Biennial National Conference will definitely be purposeful and give a new direction to the issues with enlightened ideas and measures. I wish conference good luck and ground success.

**Dr. (Mrs.) Bijaylakshmi Das**

Vice President, HSAI - East Zone



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Pramod Goenka

Suresh Kumar Agarwal

**Eminent Panel of Jury Members for Research Oral & Poster presentation at  
the 28<sup>th</sup> Biennial Conference of the Home Science Association of India,  
Kolkata Chapter**

**Textile Science, Design, Clothing and Fashion Studies**

1. Prof. (Dr.) A. K. Samanta, Professor in Textile Chemistry and Academic incharge, Institute of Jute Technology, Kolkata
2. Dr. Gautam Basu, Senior Scientist, National Institute of Research Jute and Allied Fibre Technology, Kolkata
3. Mrs. Nishi Surana, Senior Lecturer, Department of Consumer Sciences, University of Swaziland, Luyengo, Swaziland

**Human Development, Family Studies and Early Childhood Education & Development**

1. Dr. Kumudhavalli Sarangapani, Principal, S. P.N. Doshi Women's College, Mumbai
2. Dr. Krishnakali Bhattacharya, Senior Lecturer, J. D. Birla Institute, Kolkata - 700020
3. Ms. Sarbani Goswami, Research Officer, Department of Women's Study, Jadavpur University, Kolkata
4. Dr. Saugata Basu, Reader, Department of Psychology, Rajabazar Science College, Calcutta University
5. Dr. Sadhan Dasgupta, Reader, Department of Applied Psychology, Calcutta University, Kolkata
6. Dr. Paromita Ghosh, Reader, Department of Home Science, Calcutta University, Kolkata
7. Prof. Indrani Mukherjee, Department of Applied Psychology, Calcutta University, Kolkata

**Foods, Nutrition, Dietetics and Hospitality Management**

1. Dr. Vinita Narula, Vice Principal & Associate Professor in Food & Nutrition, Lady Irwin College of Home Science, New Delhi
2. Prof. Lalitgauri, Professor, Department of Food Technology and Biochemical Engineering, Jadavpur University, Kolkata
3. Dr. A. K. Mukhopadhyay, Scientist, National Institute of Cholera and Enteric Diseases, Kolkata
4. Ms. Babita Hazarika, Chief Dietician, Appollo Gleanaeagles, Kolkata

**Family Resource Management**

1. Dr. Priya Dasgupta, Selection Grade Lecturer, Department of PGSR in Home Science, SNDT Women University, Mumbai
2. Nandini Chatterjee, Dean Social Science, Department of Home Science, Calcutta University
3. Dr. Soma Dasgupta, Ex-Lecturer, J. D. Birla Institute, Kolkata
4. Dr. Dalia Chakraborty, Professor, Department of Sociology, Jadavpur University, Kolkata

**Extension Education and Communication**

1. Dr. Tandra Mitra, Adult Education & Extension, Jadavpur University, Kolkata
2. Prof. Mita Banerjee, Professor, Department of Education, Calcutta University, Kolkata
3. Dr. Ratneswar Bhattacharya, Director, Centre for Adult Continuing Education and Extension, Kalyani University
4. Ms. Jaya Basu Sarbadhikary, Visiting Faculty, J. D. Birla Institute, Kolkata

## SWAMI ATMAPRIYANANDA



Before becoming a monk, Swami Atmapriyananda completed his doctoral programme leading to PhD degree from the Department of Theoretical Physics, University of Madras, Chennai, in 1975. While at Chennai he was drawn to serious spiritual life of meditation and service as a result of his close interaction with Ramakrishna Math, Chennai. Inspired by the ideal of renunciation and service as taught by Sri Ramakrishna, Sri Sarada Devi, Swami Vivekananda and the direct disciples of Sri Ramakrishna, he joined Ramakrishna Mission Saradapitha as a Brahmacharin (spiritual trainee) in 1978. He was appointed the Principal of Ramakrishna Mission Vidyamandira in 1992, a post he held till July 2005. The Institution, under his leadership, was awarded an A+ grade by the National Accreditation and Assessment Council (NAAC).

In July 2004, Swami Atmapriyananda headed a committee whose efforts culminated in the Government of India, through the Ministry of Human Resource Development, on the advice of University Grants Commission, New Delhi, declaring *Ramakrishna Mission Vivekananda Educational and Research Institute* as a deemed-to-be-University. The name of this Institute was subsequently changed to 'Ramakrishna Mission Vivekananda University'. Swami Atmapriyananda was appointed the first Vice Chancellor of this University in 2005, a post that he still holds today.

Swami Atmapriyanandaji would be talking on '*Knowledge Creation vs Knowledge Application: Science vs Technology*'.

## PROF. (MRS.) MARIAMMA A. VARGHESE



A PhD from IOWA State University, USA and D.Litt from SNDT Women's University, Mumbai, Dr. Mariamma Varghese has been the Vice-Chancellor of SNDT Women's University, Mumbai from 1996 to January 2001 and a Senior Educational Consultant with NAAC, Bangalore. In the capacity of the latter she has re-designed the Methodology for Re-accreditation in order to make the assessment process focused and objective. She has been instrumental in redesigning the CGPA system for Assessment and Accreditation and in developing a road map for the XI Plan. Under her guidance the E-assessment instrument was developed in collaboration with INFOSYS. She has assessed and accredited 25 institutions, both Universities and Colleges, in the country and has been conducting Peer Team Training for the assessors.

She has been the Director of Education, CIL of Ministry of Human Resource Development (MHRD); Director, Education Management Services, Bangalore; Member of the Advisory Board for Jamnalal Bajaj Foundation; Hon. Secretary of National Society for Clean Cities, Mumbai; Member of the Governing Board for Children of the World; Director for the Urban Basic Services for the poor for Mumbai Municipal Corporation. She has also been a reader with J D Birla Institute that is affiliated to the Jadavpur University of Kolkata.

She has been a recipient of Ford Foundation Fellowship for her Masters and PhD programmes.

She has been the President's nominee to the National Distance Education Council, to the Court of Jawaharlal Nehru University and has served in the High level Committee on implication of Supreme Court judgment on Minority Institutions. She has been the Principal Investigator to several Community Development oriented projects sponsored by International agencies like IRDC, WHO, UNICEF & UNESCO.

Dr. Varghese has guided several Master's, MPhil, and PhD thesis apart from a number of projects. She has authored many books and journals articles. Among them are Women in India, Women Administrators in Education, Resource Management, Ergonomics, and Ergonomic Evaluation of Women engaged in different occupations and Applied Ergonomics.

Dr. Varghese would be talking on '*Application of Science and Technology in Home Science*'.

## **PROF. (Dr.) MOHAN RAO**



Dr. Mohan Rao is Professor at the Centre of Social Medicine and Community Health, School of Social Sciences, Jawaharlal Nehru University, New Delhi. As a medical doctor who has specialized in public health, he has written extensively on health and population policy and on the history and politics of health and family planning. He is the author of *From Population Control to Reproductive Health: Malthusian Arithmetic* (Sage, New Delhi, 2004) and has edited *Disinvesting in Health: The World Bank's Health Prescriptions* (Sage, New Delhi, 1999) and *The Unheard Scream: Reproductive Health and Women's Lives in India* (Zubaan/Kali for Women, New Delhi, 2004). His new volume, co-edited with Sarah Sexton entitled *Markets and Malthus: Gender, Population and Health in Neoliberal Times* (Sage, New Delhi) is forthcoming. He has been a member of the National Population Commission and is actively involved with the Jan Swasthya Abhiyan.

Professor Shreenivasan would be talking on '*Globalisation & Health: The Indian Case*'.

## **PROF. (Dr.) S. SHREENIVASAN**



Dr. S. Sreenivasan is the Director of Central Institute for Research on Cotton Technology (CIRCOT), Mumbai. A PhD in Physics from University of Kerala, he has been a recipient of various awards, medals and titles - V. Sivaramakrishna Iyer Memorial Gold Medal and V. S. Subramania Aiyar Gold Medal both from the University of Kerala. He has been the fellow of the Textile Association of India (FTA), Chartered Textile Technologist and Fellow of The Textile Institute Manchester, UK. He has also received the Magnum Foundation Award for Best Fibre Technologist, 2003 from Magnum Foundation, Nagpur and Sardar Patel Outstanding ICAR Institution Award for the year 2004. He has been a Member, International Workshop Organizing / Steering Committees (IWOC) of International Cotton Genome Initiative (ICGI), 2004. He has been the recipient of the Rajrishi Tandon Rajbhasha Puraskar of ICAR 2005-06 and the Accomplishment Award at Advances in Textiles, Machinery, Non-wovens and Technical Textiles-2009 award jointly by Bannari Amman Institute of Technology; Coimbatore and Texas Tech. University, USA in 2009.

Dr. Shreenivasan has 35 years of research experience in Fibre Science and Technology. He has 5 patents to his credit and has published over 150 papers, published 4 books and about 110 bulletins. He has taught at University of Mumbai and Shivaji University, Kolhapur and has provided research guidance to M.Sc students studying Textile and Clothing and students doing PhD in Physics.

Professor Shreenivasan would be talking on '*Value addition to Natural Fibres: A Sustainable Economic Activity for Upliftment of Rural Women*'.

## **PROF. (Dr.) T. T. SHREEKUMAR**



Prof. Sreekumar is an assistant professor at the Communications and New Media Program of the National University of Singapore (NUS). Prior to joining NUS, he taught at the University level in India and Hong Kong. Prof. Sreekumar earned his M.Phil. in Applied Economics from Jawaharlal Nehru University, and has a PhD in the Science, Technology & Society stream from Hong Kong University of Science and Technology.

His research interests include the Impact of the Internet in Developing Countries, with a focus on Community Informatics and the Digital Divide, ICTs and Innovation Systems in Asia, ICTs and Civil Society in South Asia, ICTs and Political Economy of Development, IT, Tourism and Development, Global Civil Society and New Social Movements. Dr Sreekumar has published numerous articles in reputed journals such as *Science, Technology and Society*, *Media Culture and Society* and *International Journal*

*of Technology and Management*. He has contributed chapters in books by prestigious publishers such as Sage, Orient Longman, Palgrave Macmillan, to name a few.

Dr Sreekumar has attended and presented a number of papers at National and International conferences in the USA, Norway, Peru, UK, Italy, Phillipines, Vietnam, Indonesia and Thailand.

Professor Shreekumar would be talking on '*New Media Technologies and Rural Communities: Challenges & Potential*'.

## **Dr. MAHTAB S BAMJI**



Dr. Mahtab Bamji got PhD in Biochemistry in 1961, from Bombay University while doing research at the Indian Institute of Science in Bangalore. After three years of post doctoral experience at the Tufts University Boston and John's Hopkins University Baltimore, USA she joined the National Institute of Nutrition in Hyderabad in 1965, and retired from that Institute as Director Grade Scientist in 1994. She has over 200 publications, has guided 10 students for Ph.D. and edited a very popular Text Book of Human Nutrition 3<sup>rd</sup> edition of which is under print. She was the contributing editor of Nutrition Reviews, USA for 15 years.

Dr. Bamji has developed biochemical tests for assessing B-vitamins status and used them for deriving nutrient requirement of Indians. The Glutathione reductase test developed by her for assessing vitamin B<sub>2</sub> status is now used internationally.

Dr. Bamji is the fellow of Indian National Science Academy, National Academy of Agricultural Sciences, National Academy of Medical Sciences and Hon. Fellow of the AP Academy of Sciences. She has received several national and international awards including National award for Woman Bio-scientist for the year 2000, and Sir CV Raman medal of the Indian National Science Academy, 2005. Dr. Bamji has been a member of many policy making and advisory committees. She chaired the National Task Force for Women in Science, under the Ministry of Science and Technology from 2005-2009.

Since her retirement Dr. Bamji has been associated with an NGO, Dangoria Charitable Trust as INSA Honorary Scientist, and working in the villages of Medak district near Narsapur. Her effort is to evolve strategies for improving health, food, and nutrition and environment security through scientific and technological interventions and with women's participation.

Dr. Bamji would be talking on '*Diet, Nutrition & Health: Problems & Possibilities*'.

## **Dr. KUMUD SHARMA**



Dr. Kumud Sharma is the former Director and currently the vice-chairperson at the Centre for Women's Development Studies. She is a former President of Indian Association of Women's Studies. A PhD in sociology, she has several books and research publications to her credit. Her main areas of interest are Sociology of Development; Women's Studies; Women and Work; Women and Natural Resource Management; Women's Movement; Women in the Political Process; Women and Governance etc. She has also worked on issues related to gender implications of macro economic policies and is currently working on issues related to gender and poverty; gender & environment and women in local self government. She was a consultant with the International Centre for Public Enterprises, Lublanja, Yugoslavia and was a visiting fellow at the Simone De Beauvoir Institute, Concordia University Canada. She has served on academic/advisory bodies of Jawaharlal Nehru University; Indira Gandhi National Open University; National Institute of Public Cooperation and Child Development; Rajiv Gandhi Foundation's Task Force on Panchayati Raj.

Dr. Sharma would be talking on '*Emergence of Women's Rights through Social Changes & Technological Advancements*'.

### **PROF. (Dr.) VIJAYA KHADER**



Prof. (Mrs.) Vijaya Khader, an M.Sc and PhD in Food and Nutrition has worked as Associate Dean at College of Home Science, Bapatla, as the Principal of College of Home Science, Hyderabad, as the Director, Center of Advanced Studies in the field of Foods and Nutrition, and Dean Faculty of Home Science, Acharya N. G. Ranga Agricultural University.

She has completed 20 independent ad hoc research projects financed by National and International organizations. Dr. Khader fabricated and patented two equipments - Low Cost Ice-cream Freezer and Multi-purpose Fresh Fish Vending and Display Table.

She is the recipient of State Best Teacher Award; Appreciation Certificate from ICAR; Women of the year 1998 & 2000 (American Biographical Institute); Bharata Mata Award 2001 (from Astrological Research Project, Viswa Jyothi Prishad, Calcutta); Best Citizen of India 2002 (International Publication House). She received the Fellow of Association of Food Scientists and Technologists Award in 2004 at CFTRI, Mysore and the Outstanding Woman Professional Award for the year 2007-2008, by Federation of Indian Chambers of Commerce and Industry (FICCI).

Dr. Khader would chair Technical Session-III as an eminent Home Scientist.

### **Dr. ELA DEDHIA**



Dr. (Mrs.) Ela Manoj Dedhia, PhD in Textiles & Clothing and Post Graduate in Education Management is an Associate Professor at the Department of Textiles & Fashion Technology of College of Home Science Nirmala Niketan, affiliated to the University of Mumbai.

She has 27 years of teaching experience. She has contributed to framing of curriculum for undergraduate and post-graduate degree and diploma courses in the field of textiles and fashion. Dr. Dedhia has a wide research experience and has successfully guided several PhD and M.Sc research scholars. She is a consultant for UNDP and UGC research projects on natural dyes and training of crafts-persons.

She has presented several research papers in National and International Conferences and has published several papers in national and international journals. She has also acquired a few patents and has been honored as Fellow by the Textile Association of India.

She has been the vice-president (Western Region) of Home Science Association of India. She is currently the president of Home Science Association, Mumbai Chapter; Member of Board of Studies of University of Goa, Member of Advisory Board of School of Fashion Technology (SOFT) Pune, Member Advisory Committee for Post Graduate Courses of Dr. B. M. N. College of Home Science SNDT Women's University, among others. She is also the chairperson of Society of Dyers and Colourists, Mumbai Region and is the design advisor for Khadi Village Industries Commission Cell. She recently chaired the prestigious Biennial Congress of ARAHE.

Dr. Dedhia would chair Technical Session-II as an eminent Home Scientist.

## **SCIENTIST'S AWARD**



## **JUNIOR SCIENTIST'S AWARD**

**Dr. Lakshmi Priya A** is senior lecturer with the Department of Interior Design and Décor, JBAS College for Women (Autonomous), SIET Trust, Teynampet, Chennai – 18  
lakshmi16priya2002@yahoo.co.in, (09994111344)

*Paper Short Listed for the Award*

### **MICRO LEVEL STUDY OF OZONE CENTRIFUGAL AERATED TECHNOLOGY IN TREATING THE SEWAGE WATER**

Fresh water resources are considered as vital life-giving and life supporting constituents. Resource Management, a specialized course of study in Home Science, focuses water resource since it has been one of the challenging priority areas of research gaining national significance. The investigator with keen interest in attempting to study the pollutants affecting the major surface water reservoir, the Singanallur Lake the water source and the effect of Ozone treatment in rejuvenating the water body, designed a research study entitled 'Micro Level Study of Ozone Centrifugal Aerated Technology in Treating Sewage Water' with the objective to find out the nature and extent of pollutants present in the water and find out the efficiency of Ozone treatment in treating sewage water. The water samples from the canal and nearby bore well were taken and analyzed. The polluted water was subjected ozone treatment. The surface water and bore well water analysis reported the presence of pollutants (TDS, TSS, BOD, COD, Nitrate, TPC and Nitrate) above the prescribed water standards. The ozone treatment significantly decreased the TDS, TSS, BOD and COD. The ozone treatment further improved the quality of water by increased the DO level. By further increasing the percentage of ozone and aeration time the values can be brought to nil. Ozone is the only environmentally friendly and completely ecological way to produce a healthy chemical free environment in an economical and efficient way.

**Saha Ruma** is a senior research fellow with the Department of Food & Nutrition, College of Home Science, Rajasthan rumasahajain@yahoo.com

*Paper Short Listed for the Award*

### **QUALITY ASSESSMENT OF PEARL MILLET GROWN UNDER THREE DIFFERENT PRODUCTION SYSTEMS**

The study was undertaken to evaluate the nutritional, physico-chemical characteristics and sensory characteristics of pearl millet (RHB-121) grown under three production systems i.e. organic, organic intensive (OI) and integrated nutrient management (INM). Pearl millet samples of each production systems were subjected for analysis of proximate composition, vitamin C and mineral contents. The estimated values for moisture were found to be 9.82 to 9.98 g/100g. Comparing the protein (12.96, 11.24 and 11.19 g/100g), fat (7.00, 7.25 and 8.50 g/100g), fiber (1.56, 1.31 and 1.25 g/100g), mineral (2.51, 2.01 and 2.11 g/100g) and energy (379.44, 383.09 and 389.66 Kcal/100g) contents with in three production systems, significant variation were noted at 5% level of significance. While carbohydrate content was found to be 66.15, 68.22 and 67.10 g/100g in organic, OI and INM samples respectively with non significant differences. The difference in the values of vitamin C was also noted to be significant among organic (0.5 mg/100g), OI (0.2 mg/100g) and INM (0.1 mg/100g) samples. Among three samples non significant variation was observed in iron (7.32-7.79 mg/100g) content whereas significant difference was observed in calcium (40.66-42.42 mg/100g), phosphorus (238-376 mg/100g) and zinc (2.56-2.85 mg/100g) content respectively. Non significant difference was observed in seed weight (7.46 to 8.47 g/1000 seed) and seed volume (0.019 to 0.29 ml/seed). Organic sample significantly varied with respect to its water retention and swelling index values from OI and INM. The overall acceptability scores were found to

be 8.05, 7.90 and 7.80 for organic, OI and INM respectively. Similarly *khichda* developed by organic pearl millet also secured higher score for overall acceptability i.e. 8.08 as compared to other two samples (7.83-7.90). With an overview of the study it can be concluded that organic sample had better nutrient content, physico-chemical properties and higher sensory scores as compared to two other samples.

## MID-CAREER SCIENTIST'S AWARD

**Dr. S. Amsamani** is currently a Reader at Department of Textiles and Clothing, Avinashilingam University for Women, Coimbatore, Tamil Nadu. She has a teaching experience of 16 years (since 1991) at the Institute. She has published several papers that are listed below apart from reading papers at various national and international conferences.

### *Paper Short Listed for the Award*

#### **DEVELOPING HERBAL FINISHED BABY NAPPY PADS**

Evolution is constant and human race is constantly trying to upgrade to better quality of life. One of the outcomes of this "growth" is the need for healthier living through better hygiene. Health care textiles consist of absorbent disposable products, such as nappy pads, sanitary napkins, tampons, incontinence products, panty shields and wipes which are mostly single use items designed to receive, absorb and retain body fluids and solid wastages. Nappy pads are made up of different kinds of fibers such as cotton, rayon, wood pulp, cotton linters and super absorbent viscose. Usually nappy pads utilise cellulose fluffs combined with super absorbent polymers to create the absorbent core which acts as a storage structure in the product. These cellulosic materials used in nappy pads are easily degraded by microorganisms which are present in the urine passed by the baby which will create adverse effects to the sensitive skin of babies resulting in nappy rashes on the genital area, the folds on the thighs and the buttocks of the baby. As it is a commonly accepted principle, prevention is better than cure and hence maintaining a better hygienic environment will obviate the need for curative measures. The population explosion and the environmental pollution in the recent years forced the researchers to find new health and hygiene products for the well being of the mankind. Hence this search was carried out to design nappy pads with natural herbal plant extracts to control microbial activity. The results have a strong foundation for production of antimicrobial finished nappy pads.

**Dr. (Ms.) Deepali Singhee** is currently the Principal of J D Birla Institute (affiliated to Jadavpur University, Kolkata) and Reader in textiles and Clothing. Dr. Singhee has 15 years of teaching to her credit. She completed her PhD under Prof. Asis Kumar Samanta (Professor in Textile Chemistry, Institute of Jute technology, Kolkata) and Prof Kumar Kanti Mahalanabis (Ex-Head, Department of Chemistry, Jadavpur University). Apart from attending and participating in various national and international conferences she has also published several papers in reputed national and international referred journals [deepalisinghee@yahoo.com](mailto:deepalisinghee@yahoo.com), 09331040390

### *Paper Short Listed for the Award*

#### **STUDIES ON SELECTIVE CHEMICAL TREATMENT OF JUTE, COTTON AND JUTE-COTTON UNION FABRICS**

Jute, cotton and jute-cotton (75:25, w/w) union fabrics have been subjected to ambient (30°C) room temperature bleaching under the combined oxidative action of  $H_2O_2$  and  $K_2S_2O_8$  under varying conditions of

treatment, to optimize an energy efficient low temperature bleaching of the said fabrics. A comparative assessment of all important textile related properties, changes in surface appearance, chemical functionality and thermal behaviour have been made for standardizing the optimum conditions of this said low temperature bleaching method for all the three different fabrics.

Jute-cotton union fabric has been subjected, separately, to varying dosages of mixed enzyme (mixture of cellulose, xylanase and pectinase) with or without selective pretreatments with NaOH, steam and H<sub>2</sub>O<sub>2</sub>, etc., under selective treatment conditions. Maximum enhancement in enzyme action is obtained by sequential scouring and H<sub>2</sub>O<sub>2</sub> bleaching pretreatment with the use of Stabilizer-AWNI, and in general the enzyme action is found to be more pronounced in cotton direction than in the jute direction. Study of the scanning electron micrographs, DSC thermographs and X-Ray crystallinity data gives an insight to this bio-chemical modification.

Jute and jute-cotton union fabrics treated with selective UV-absorbers (benztriazole and benzophenone) and antioxidants (methyl-ehtly-ketone, lauryl thio-di-propionate and sodium azide) compounds were subjected to photo-exposure under UV-light for different durations (0– 320 h) and the corresponding changes in the surface appearance properties as well as retention of tensile strength have been assessed. 1-2% benztriazole was applied on jute and jute-cotton union fabrics by two different techniques (pad-dry and exhaust process i.e. bleach-bath) under acidic or alkaline pH, respectively. Pad-dry technique renders better stabilization of whiteness but is associated with higher loss in tensile strength than that obtained by bleach-bath technique. The possible reactive interaction between benztriazole and jute has also been explored.

The efficacy of the above said newer process of bleaching jute fabric using 2% (benztriazole in H<sub>2</sub>O<sub>2</sub> bleach-bath referred here as the NUVA-Process, has been compared with that of the other known stabilized bleaching of jute (Huetex and chemically dehairing cum bleaching i.e. CDB process), conventional hot H<sub>2</sub>O<sub>2</sub> bleaching process, sequential texturing and bleaching (STB process), etc. with respect to their bleaching performance index and whiteness stabilization after photo-exposure under UV-light for 320 h. Selective conventional (dimethylol-dihydroxy-ethylene urea i.e. DMDHEU) and unconventional (acrylamide formaldehyde i.e AMF-resin and thiourea formaldehyde i.e. TUF-resin) cross linking agents (resins) were also applied on jute fabric after the said bleaching process, and also prior to the same, to assess the relative performance of this reverse order in the sequence of treatments. AMF-resin pretreatment followed by conventional H<sub>2</sub>O<sub>2</sub> bleaching or chemical dehairing and bleaching provides most advantageous property balance with less fibre damage and strength loss and good degree of whiteness stability. Use of 2% acrylamide or 2% cationic softener in the resin-bath restricts the strength loss to a minimum; however, 2% benztriazole along with AMF-resin does not produce desired whiteness stabilization, rather it increases its strength loss. On the other hand, application of 2% benztriazole in the dye-bath during dyeing jute fabric with reactive dye is found to provide higher dye-uniformity and better light fastness rating than that obtained by sequentially dyeing and application of benztriazole by pad-dry technique.

## **SENIOR SCIENTIST'S AWARD**

### **Dr. M R Thilakam**

Reader, Department of Resource Management with 29 years of under graduate and post graduate teaching experience. Guided four M.Phil research and has more than 40 publications in journals, conference / seminar proceedings and Souvenirs

#### **Paper Short Listed for the Award**

#### **DESIGNING AND EVALUATING PORTABLE VERMICOMPOST DEVICES AND ASSESSING THE EFFICIENCY OF COMPOST PREPARED USING DIFFERENT METHODS**

Most of the urban cities are facing problems of waste collection, treatments, and disposal due to increasing population, rapid urbanization, industrialization and commercialization. Hence effective planning of solid waste

recycling programme is a substantial challenge for current solid waste management system in India, due to depletion of land fill space and delay in construction of municipal incinerators. Compost is the most widely applicable process for handling diversified wastes especially garbage. Vermi composting a technique of using earthworm for converting biodegradable solid waste into manure is considered to be the most ideal method for individual houses since it is appropriate for treating smaller quantities of garbage. Two groups of trainees from the rural and urban sectors had been deliberated the modusoperande of vermin composting with the help of a women upliftment cell using visual aids. Twenty per cent of rural homemakers and 40 per cent of urban homemakers had initiated to start the venture. Lack of space was the main reason given by the urban homemakers for not adopting the technique. Hence portable VermiCompost device 1 was designed using deal wood, device 2 was designed using bamboo reed. Both the devices were felt for operation and effective. There was no difference in the number of days taken for composting (40-45 days) between both the devices. Cow dung + waste+ EM+ earthworm took a minimum of 52 days for composting followed by EM + waste which took 57 days for composting. Assessing the efficiency of the compost prepared revealed that amaranthus treated with vermicasting showed a faster growth followed by vermicompost and vermiwash. Biometric observation of the germination of ladies finger seeds in the selected composts also showed the same trend. The nitrogen and phosphorous content of the prepared compost was found to be maximum in the compost prepared using cow dung, E.M. solution, waste and earthworms. By utilizing earthworm's – the friend of farmers the intestine of the soil, we can manage the organic waste as a sustainable asset and improve the environment.

### **Dr. Vinya Madane**

*Paper Short Listed for the Award*

#### **THE IMPACT OF ECONOMIC AND SOCIAL POLICY DECISIONS ON THE FAMILY IN A COMMUNITY CONTEXT.**

In India economic reforms were started from 1991. With the acceptance of "New Economic Policy", we get bounded firmly to the Globalization, imposing concrete foot print on social life with the help of technology advancement. The effect can be seen with both positive and negative side. Positively thinking we got vast open market for industrial as well as for agricultural produce. This has produced gains in productive efficiency but has also greatly strengthened the hand of the already powerful, including certain national and international elite, as well as creditor countries and international financial institutions, at the expense of poorer groups and countries. By getting the right value for production, circulated excess money have changed the mentality for betterment of education, health care, tours and travels, accommodation status etc. To cope with these amenities, community started using latest technology, like e-revolution. 'The Negative Effect' observed is man-machine relationship which leads to urbanization. Again working stress resulted in addiction. Excess money pushed the youngster in pub culture. Modification in the organization of work, changes in the work places also affected the family. As people compete as economic actors, they are required to be flexible spent long hours on the jobs not compatible with family life. The technologies allow families to put old behaviors and relations into new contexts. Technology does not just play an economic role in defining families and communities, but also a metaphorical, symbolic one.

**EXTENSION EDUCATION AND COMMUNICATION**  
**(Oral & Poster Presentation)**



## Ensuring the Survival of the Girl Child: An Analysis of Cash Incentive Schemes in Haryana

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### ABSTRACT

*In India, the gender gaps can be identified through a disparity between males and females on various demographic and sociographic indicators. According to 2001 census, the child sex ratio, which is powerful indicator of the status of girls, stood at 927 girls per 1000 boys. It has further plunged with figures of less than 900 girls in states of Punjab, Haryana, Delhi, Himachal Pradesh and Gujarat. The status of girl child has lately become a focus of national concern reflected through policies, programmes and schemes for the same with Haryana being the first to take an initiative through incentive schemes. The study conducted in 2008 evaluates Apni Beti Apna Dhan and Ladli - cash incentive schemes in Haryana and reveals that though the schemes aim to improve knowledge and favorable attitude among the beneficiaries, yet the utilization has not been to a great extend. The cash grant is perceived as an incentive to be utilized for their dowry thereby adding a little to their status. The data also reveals that a significant role is played by the Anganwadi worker at the village level in dissemination of information and in provision of assistance for the schemes. The effort made by Haryana government is a step towards improving the status of the girl child; yet the schemes fail to benefit the middle and higher income group who equally practice female foeticide.*

### INTRODUCTION

The declining child sex ratio (F/M) has been one of the important concerns in India's demography in recent times. The 2001 Census of India shows an unusually high sex ratio (females per thousand males) for children in 0-6 years of age in the country as a whole. Though there has been an increase in the overall sex ratio from 927 in 1991 to 933 in 2001, which is a good news, the worrying news is that the sex ratio figures (number of females per thousand males) of children below seven years has fallen markedly from 945 in 1991 to 927 in 2001. However, the child sex ratios are the lowest ever in some of the affluent states of the country situated in northern parts of India like Haryana, Punjab, Himachal Pradesh, Delhi, Gujarat. In India as a whole son preference is stronger in the North than it is in other parts of India. The sharp decrease in the 0-6 year's sex ratio in the northern states of India is commonly assumed to be the result of the rapid spread of the use of ultrasound and amniocentesis for sex determination, followed by sex selective induced abortions (Arnold et al., 2002). Factors like practices of exorbitant dowry payments to get daughters married and the overwhelming fear of sexual exploitation and abuse in socio milieu serve as other prominent deterrents to the girl child's arrival in Indian homes.

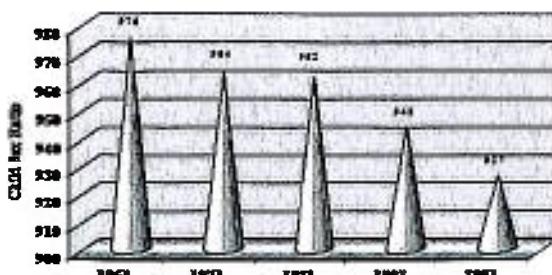


Fig 1: Child Sex Ratio, India (1961 – 2001), Source – Census of India, 2001

Sex ratio in Haryana never reached the figure of 900 since 1901 census. Earlier it was due to infanticide and now this decline points to sex selective abortions that has gained currency during the 1980s and more sharply in the 1990s. As a result of sharp decline in the sex ratio, Haryana has begun experiencing a serious shortage of marriageable girls, although this is not matched by any increase in status of women. Sex determination tests and female foeticide are on rise as people inherit 'son syndrome'. The preference for the male child in our socio-cultural milieu is justified by the perception of female child as a liability and male child as an asset.

To stop the abuse of advanced scientific techniques for selective elimination of female foetuses through sex - determination, the government of India passed the PNDT Act in 1994. But the techno-docs and the parents desirous of begetting only sons had subverted the act. The Pre-conception & Pre-natal Diagnostics Techniques (Regulation and Prevention of Misuse) Amendment Act, 2002 received the assent of the President of India on 17-1-03, increasing the conviction for the culprit to 3-year imprisonment and a fine of Rs. 50000/- . In addition to legal action and awareness campaigns, 'Apni Beti Apna Dhan' was launched in 1994 in Haryana to help in raising the overall status of the girl child and bring about a positive change in family and community attitudes. A cash grant of Rs 2500 was made in the name of the girl child (up to 3 per mother), which is invested, in a financial instrument for education of girl child and to make her economic independent. This is paid to the girl when she attains the age of 18 years and remains unmarried till then. Under the "Ladli" scheme implemented by the Haryana government, an amount of Rs 5,000 every year for five years would be provided to parents on the birth of a second daughter.

Government policies reflect that such schemes and programmes focusing on economic benefit being attached to the birth of girl child have a potential to alter the sex ratio and gradually appeal to the mindset of masses, raising the overall status of girl child in Indian society which will ultimately lead to balancing the declining sex ratio and thereby making the uncounted girls count. However, among researchers and activists there is a constant debate on whether such programmes can really achieve such objectives. Therefore, there is a need to analyze these schemes from people's (beneficiaries and non-beneficiaries) perspectives.

## **AIMS & OBJECTIVES**

The study was undertaken with the following objectives:

1. To identify and analyze the programmes/schemes being implemented for restoring the balance of sexes in Child Sex Ratio (0-6 years).
2. To determine the knowledge level of the beneficiaries about the schemes.
3. To study the perception of beneficiaries about the usefulness and relevance of such programmes.

## **MATERIALS & METHODS**

**Locale :** The figures of 2001 Census have reported that the Child Sex Ratio in the Haryana has plunged with less than 900 girls per 1000 boys in the age group of 0-6 years showing less tolerance to the girl child.

According to Census 2001 Haryana has got the second lowest Child Sex Ratio i.e. 820 girls per 1000 boys. The situation has worsened since 1991; almost all districts in 2001 record a child sex ratio of less than 850 girls to 1000 boys with districts like Kurukshetra, Sonipat, Kaithal, Ambala and Rohtak are critical with less than 800 girls to 1000 boys. Kurukshetra, Jind and Gurgaon were selected as the locale of the study with an aim to study the district with lowest, average and highest child sex ratio – Kurukshetra with 770, Jind with child sex ratio close to the state average – 818 and Gurgaon with the state's highest child sex ratio of 863 girls to 1000 boys.

From the selected districts, two blocks were selected based on their geographical location i.e. one block in which the district headquarter is situated and the other which is close to the national highway. Two villages were selected randomly from each block.



Fig 2: Child Sex Ratio, Haryana 2001, Source – Census of India, 2001

- Tools and techniques:** Checklist, interview schedules and focus group discussions were used in the study.

## RESULTS & DISCUSSIONS

- The schemes:** The cash incentive scheme 'Apni Beti Apna Dhan' was introduced in Haryana State on 2<sup>nd</sup> October 1994. It aimed to reduce demographic imbalance between sexes and delay the age of marriage of girls to at least 18 years. The scheme provided Rs 500 to the mother for her nutrition and recoupment of health and Rs 2500 were invested in favour of girl child within 3 months of her birth for five consecutive years in the post office. Those eligible were the girl children born on or after 2-10-1994 in families living below poverty line. However, Ladli was introduced on 20<sup>th</sup> August 2005. It aims at combating the menace of female foeticide, restore the demographic sex ratio imbalance and to facilitate the birth of more girl children. The eligible parents must be residents of Haryana, or having Haryana domicile, whose 2nd girl child is born on or after 20th Aug, 2005 are eligible for this cash incentive irrespective of their caste, creed, religion, income and number of sons. The scheme provides Rs.5000/- on the birth of 2nd girl child per annum for 5 years. However, earlier the investment of Rs 5000 for five years was made in post office savings scheme but since 2008 the investments are made in LIC scheme.
- Knowledge, perception and usefulness to the beneficiaries:** All the ABAD and Ladli respondents were aware of the scheme under which their daughters were eligible for the cash grant and AWW was the main source of information about the scheme. However, it was found that their knowledge level regarding those eligible for getting the benefits under the scheme was quite low. In case of ABAD scheme, majority of the respondents did not get the post delivery benefits on time and the reason they gave for this was that the application was submitted late. Most of the respondents (for both the scheme) had knowledge about the amount of money invested in the name of the girl child but they had no knowledge about the scheme in which the amount was invested. All the respondents agreed that the scheme will help in delaying the age of the marriage and that cash grant cannot empower the girl child as it will be utilized for her dowry. Majority of the respondents still considered their female child as burden for which they gave the reason that they cannot depend on girls in old age, girls have to be given dowry, their movement have to be watched as they may be subjected to sexual abuse, they have to go to others home so no benefit to the parents and they cannot go out, work and support the parents throughout their life as sons do. Majority of the respondents suggested that some amount out of the total amount invested in the name of the girl child should be released so that it can be utilized for their education, which according to majority of them was a must for their girl child.

## **CONCLUSION**

The organization and implementation of the scheme aims to improve knowledge and favourable attitude among the implementers and beneficiaries, yet the utilization has not been to a great extend. Though the effort made by Haryana government is a step towards improving the status of the girl child, the schemes fail to benefit the middle and higher income group who equally practice female foeticide. We need to look at the change in people's perspective. The questions raised are why they still want a male heir for their family and how can these efforts succeed in stopping female foeticide in case of third daughter. The most important question being why the parents are going for the third child in case of two daughters. If yes, then what are their aspirations? The answer to these will determine the success of government's efforts.

## **RECOMMENDATIONS**

- Since AWWs who play a major role in implementation of the schemes empathize with the families of girl children as they belong to the same socio-cultural setup, thus their mindset needs to be changed through various sensitization workshops, seminars and lectures.
- Grassroots level functionaries i.e. the AWWs and helpers have low knowledge about the schemes which calls for a proper orientation programme at every level so that proper knowledge about the schemes is percolated at the village level.
- Short term, realistic targets should be set at the district level and some incentives must be provided to the functionaries promoting the schemes.
- Since the beneficiaries are found to be illiterate and struggling with keeping of records therefore, assistance should be provided at the village level for filling of the forms and compiling of the documents required.
- Complaints must be registered for those eligible but are denied of the benefits because of various reasons.
- The schemes should be publicized on equal footing as the pulse polio campaign and the media, the film personalities; women of substance, civil society, policymakers, and govt. officials should join together and make this as mass campaign.

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## Off Season Paddy straw Mushroom Cultivation Under Low Cost Polyhouse

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### ABSTRACT

*Mushroom cultivation is considered to be a remunerative agro-based enterprise. The Agro-climatic condition of Orissa is conducive for production of paddy straw mushroom during March to end of October and Oyster mushroom during November to February. As such, there is demand for paddy straw mushroom round the year, because of its better taste, short production period, easy and simple cultivation method. Paddy straw mushroom has been in the peak of both demand and supply in the market in most part of Orissa, but its production is constrained due to low atmospheric temperature and humidity during winter months (November to February). The present experimental study was undertaken in 3 villages namely Gopalpur in Bonta block, Jamojodi in Tihidi block and Bandhantia in Dhamnagar block of Bhadrak district of Orissa to study the "Performance of paddy straw mushroom (*Volvariella volvaceae*) in winter under low cost polyhouse" through Krishi Vigyan Kendra, Bhadrak. Paddy straw mushroom was cultivated during the months of November to February under low cost polyhouse of dimension of 20ft×10ft×9ft in 3 villages with twenty beds during each fortnight. Observation of temperature and humidity were taken through thermohygrometer and productions were taken on a fortnight interval. It was found that, the average production of paddy straw mushroom is 965gms per bed during winter under low cost polyhouse as against 1.5 kg in the peak season.*

### INTRODUCTION

Paddy straw mushroom (*Volvariella volvaceae*) is one of the most tropical mushrooms suitable for cultivation in summer and rainy season (March to October) when the atmospheric parameters like temperature and humidity varies almost within 25-38°N and 80-85% respectively. The production of paddy straw mushroom is seriously affected during winter months due to prevailing low temperature and humidity. Because of its better taste, short production period, easy and simple cultivation method, paddy straw mushroom has been in the peak of both demand and supply in the market in most part of Orissa. Even though mushroom is in the traditional food habit of the people of Bhadrak district, oyster mushroom has not gained that popularity because of its relatively poor cooking quality. This has become a major challenge for the mushroom producers both in marketing their produce (oyster mushroom) as well as to meet a virtual demand of paddy straw mushroom during winter, but cultivation of this mushroom becomes difficult in winter season. So keeping this in view, Krishi Vigyan Kendra Bhadrak has tried an innovative technology of production of paddy straw under low cost polyhouse in winter. Krishi Vigyan Kendra Bhadrak, conducted an on - Farm Testing entitled "Performance of paddy straw mushroom (*Volvariella volvaceae*) in winter under low cost polyhouse" during the year 2008 – 09.

Poly house is a framed structure covered with transparent material and large enough to grow crops under partial or, fully controlled condition to get maximum productivity and quality produce.

High-tech polyhouse technology requires huge initial investment and production cost is also very high. The small and medium farmers cannot afford the technology due to high capital investment. Hence, with UV stabilized

Polythene, low cost locally available materials like bamboo, sand have been found quite effective in reducing the cost of the structure for off season crop production. Since the major objective of using polyhouse is to regulate atmospheric temperature & humidity. The same technology was thought to be useful for production of paddy straw mushroom.

### **AIMS & OBJECTIVES**

1. To Produce Paddy straw mushroom with control condition of respective temperature & humidity in low cost polyhouse in winter (Off Season).
2. To meet the demand of the market.

### **MATERIALS & METHODS**

Krishi Vigyan Kendra Bhadrak has taken an experimental study entitled "Off Season paddy straw mushroom (*Volvarilla volvacea*) production under low cost polyhouse" in Bhadrak district of Orissa. This technology testing commenced from November 2008 and continued up to February 2009. Three numbers of trial were taken in three villages namely, Gopalpur in Bont block and Jamojodi in Tihidi block Bandhantia of Dhamnagar block in Bhadrak district. Low cost polyhouse frames made up of bamboo, G.I. wires, flooring with 6" sand bed, roofing with  $200\mu$  U.V. stabilized polythene with dimensions of  $20\text{ft} \times 10\text{ft} \times 9\text{ft}$  were erected. An adjusted thermo-hygrometer was fixed in this polyhouse to take observations on temperature and humidity inside the polyhouse. Twenty paddy straw mushroom beds were laid inside the polyhouse in every fortnightly. The temperature and humidity were recorded by thermo-hygrometer on a daily basis.

### **RESULTS & DISCUSSION**

From the observation it was found that, the average production of paddy straw mushroom is 965gms per bed during winter under low cost polyhouse as against 1.5 kg in the peak season. Higher temperature & humidity could be maintained inside the polyhouse which facilitate the growth of fungus yielding on an average 965gm/ bed during the winter months under low cost polyhouse.

### **CONCLUSION**

Even though the average production was almost 535gm less than the peak season production of paddy straw mushroom (the average production is 1.5 Kg per bed) during summer and rainy, but the net return is compensated because of higher market price of paddy straw in winter (Rs.90 to Rs.110 per kg). The mushroom size was big & colour was same as in peak season cultivation.

### **RECOMMENDATIONS**

The initial investment has been calculated to be Rs 4000/- in preparation the polyhouse of size 20' X 10'. This size of poly house can accommodate 42 beds at a time. Such investment in poly house preparation can be recovered from two batches (84 beds) of production during a period of one month. During a production period of four months, a farmer can earn a net return of Rs 21,840/- from this size of poly house. As there is a demand for paddy straw mushroom through out the year in the state because of it's test and consumer preference, the technology of producing paddy straw mushroom during winter months using poly house could bring a revolution in mushroom production in the state.

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## Connecting People, Empowering Communities – Mapping the Impact of Community Radio Using the Most Significant Change (MSC) Technique

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### ABSTRACT

*Community Radio (CR) is increasingly being seen as a tool to facilitate participatory communication and empowering local communities for bottom up development. CR is characterized by access, people's participation in production and decision-making and non-profit listener-friendly economics. A truly people's radio perceives listeners not only as receivers and consumers, but also as active citizens and creative producers of media content. HCR, located in Tehri Garhwal district of Uttarakhand, functioning since 2001, has proved exemplary in putting the tool of communication in the hands of the community for their cultural sharing, dialogue, growth and development. This paper aims at representing some insights into the structure, functioning and possible prospective effects of CR on the lives of the people by analyzing Henvalvani Community Radio (HCR) as one of the case studies of a CR. The study was conducted in two phases. In the first phase an ethnographic qualitative approach was followed to understand the structure of HCR, the dynamics of content formation of HCR programmes and its transmission. The approach involved interviewing and conducting focused group discussions with all the team members who have been directly involved in programme production process along with the listener groups. Following this, Most Significant Change (MSC) technique was used as an innovative participatory tool for evaluating the impact of HCR. The technique involves participants narrating their stories about what they perceive to be 'significant change'. Different stakeholder groups engage in a process of discussion and selection to identify those stories that are considered to be most illustrative of significant change.*

### INTRODUCTION

Community Radio (CR) is increasingly being seen as a tool to facilitate participatory communication and empowering local communities for bottom up development. CR is characterized by access, public participation in production and decision-making, and by a non-profit listener-friendly economics. A truly people's radio perceives listeners not only as receivers and consumers, but also as active citizens and creative producers of media content. This paper, through a case study approach aims at providing insights into the structure and functioning of Henvalvani Community Radio (HCR), one of the pioneering community radios in India and delineates its effects on the lives of the people. HCR, functioning since 2001 is, located in Tehri Garhwal district of Uttarakhand. On a shoestring budget, HCR volunteers have been designing, producing and narrowcasting programmes. However, the organization has not been able to show the impact of its programmes. The Most Significant Change (MSC) technique was used as an innovative participatory tool for evaluating the impact of HCR and understanding people's perspective. MSC was first developed in 1996 by Rick Davies in an attempt to monitor the process and outcomes of a programme run in Bangladesh by a non-governmental organization.

## **AIMS & OBJECTIVES**

The study was conducted with the following objective:

- To gain insights into the functioning of the Henvalvani Community radio.
- To delineate the issues that has been addressed by the CR programmes.
- To study people's participation<sup>1</sup> in the Henvalvani Community Radio.
- Map the impact of Henvalvani Community Radio using Most Significant Change (MSC) technique as a participatory tool.

## **MATERIALS & METHODS**

The study was carried out in two phases. During the first phase an ethnographic approach was followed that helped gain understanding of structure and functioning of HCR. For the purpose of understanding structure of HCR and the dynamics of content formation and transmissions of programmes, semi-structured interview and focused group discussion were conducted with team members of HCR and listener club members.

As a part of successive analysis, mapping of the impact of HCR programmes was done using the Most Significant Change (MSC) technique. The broad steps in implementing the MSC technique include building interest in using the MSC technique; Collection of significant change (SC) stories; Selection of the MSC stories; and Analysis of SC stories. HCR core team was oriented to the concept, methodology and scope of using the MSC technique. Subsequently, core team members became the core trainers and trained other people in the use of MSC technique. Under the MSC technique domain of story is decided, a domain is defined as broad heading under which stories are collected. The domain of story collection was identified as '*Impact on people because of their engagement with HCR*'. Selection of stories through a hierarchy makes the Most Significant Change (MSC) technique unique and different from other PLA methods. The stories collected are analysed and filtered up through different levels of stakeholders typically found within an organisation or programme. Story collection and selection was conducted separately for stories from listener, peripheral and core group members. For the listener stories, a three level story selection structure was planned. First level selection was conducted at the local/primary level i.e. within the village itself. Second level of selection took place at the organizational level where the Henvalvani members selected the MSC story. The first round for peripheral member stories and core group member stories took place at the organizational level or within Henvalvani. Of the 57 SC stories collected, 40 were contributed by the listeners of HCR, 11 from peripheral members and 6 from the core team members.<sup>1</sup>

The significant change stories were analyzed for meta-monitoring and content analysis. Meta analysis provided a profile of the storytellers and the people participating in the selection of stories and content analysis framework for analysis of significant change stories was developed with the core and peripheral members of Henvalvani CR. The aspects that emerged in the story analysis framework developed included: i) participation of stakeholders; ii) nature of the medium; and iii) effects of participation.

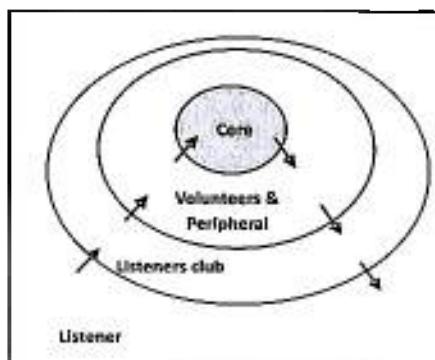
## **RESULTS & DISCUSSIONS**

The HCR initiative is purely a volunteer movement. Volunteers from the local community contributed their time, money and other resources for the sustenance of the initiative. The structure of the HCR initiative provided insights about the engagement of different people with the HCR and helps in understanding its impact.

- **Structure of HCR :** Structure of the HCR comprised of groups of people who differ in their time and orientations towards the CR initiative. People's participation in HCR was based on the level of engagement as shown in Figure1 which also forms the structure of HCR. The basic groups or levels of engagement include: (a) Core Group members. The core team comprises of 11 members who are very actively engaged with the initiative. The core team provides inputs at various levels of CR functioning ranging from various aspects of programme production of CR program, decisions about the selection of the message, treatment of the message, researching and obtaining feedback, meeting the community groups, to attending conferences,

debates for advocating pertinent issues, collecting funds and canvassing with the government and bilateral and other agencies about the initiative.

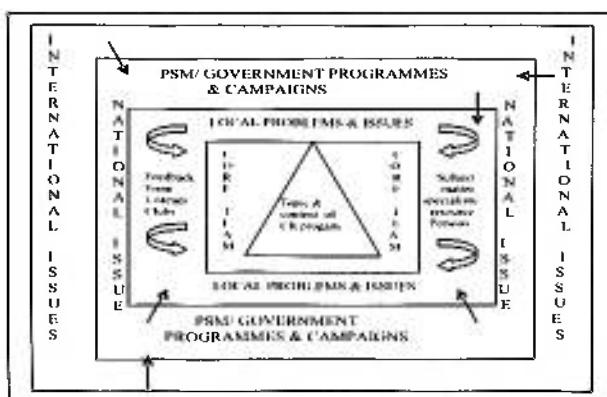
(b) Peripheral members. The peripheral members are persons from the community who are included in a host of activities of HCR. Their main task comprises of organizing listener club activities and reporting back listeners view about the programmes aired and need and interest of the listeners.



**Fig 1: Structure of HCR**

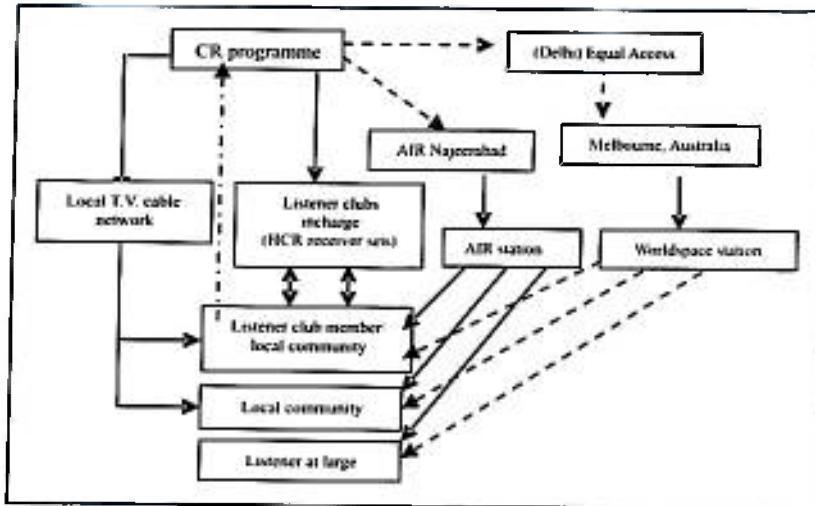
(c) HCR Listeners - Listeners are individual who engage in HCR most by listening to HCR programmes. Depending upon the availability of the medium, listeners attuned to the HCR programmes. Thus depending on the channel they use, HCR listeners can be further classified as (1) Listener club members and (2) Listeners at large.

- **HCR programme production process :** The basic essence of community radio lies in the active participation of the community and is evidently reflected in every step of HCR programme production. Based on the need assessment, the HCR team takes consensus on picturising, analyzing, evaluating and prioritizing the various issues and problems which were of local concern. Relevance of these issues is collectively evaluated and prioritized along with the community groups before mainstreaming them into content of CR programmes. Participation in this process is drawn from local people belonging to different backgrounds to formulate a holistic understanding on any issue. Both listener clubs and subject matter specialists were involved in selecting the content of the messages in HCR programmes. Many a times certain key messages of PSM from government campaigns and schemes were included in HCR programmes. As a final step, core team permeates the messages from different angles, comprehends and sorts them in sync with the national and international context.



**Figure 2: Dynamics of CR programme production**

- **Transmission of HCR programmes :** In the absence of favourable broadcasting policy, the group adopted a combination of ways to transmit programmes ranging from broadcasting programmes on regional public broadcast channel, through Worldspace (Asia Dev 1304), narrowcasting the programmes, and now also through cable casting. Figure 2 shows the transmission process of HCR.



**Fig 3: Transmission of HCR programmes**

- **Mapping the Impact of HCR through the Most Significant Change (MSC) Technique :** Stories in the MSC technique are based on experiences of the storytellers and represent empirical evidence capturing an otherwise unobtainable richness of events and the circumstances of the people involved in those events, their emotions and perspectives of reality. Of the 57 SC stories collected, 40 were contributed by the listeners of HCR, 11 from peripheral members and 6 from the core team members.
- **Profile of Story Narrators :** Engagement of people in HCR was not restricted to a particular age group; people engaging in HCR cut across all the age groups in the community. Youth were found to be actively involved in HCR as peripheral members and core members. Women were not only engaging in HCR in large numbers also, their engagement was not limited as listeners but they involved themselves at all the level and functioning of HCR. Profile of the storyteller reveal, of the stories collected most of the stories were by women of the community. The storytellers of SC stories ranged between the age group of 14years to 70years, nearly half of the stories were from young persons (47 percent) interestingly the listener stories received had a good spread from all age groups. The storytellers were largely engaged in farming and allied activities or were students. The Meta analysis of the profile of the storyteller was found to be similar to the listener profile of HCR collected by survey methods. Thus the persons from whom the stories were collected largely represented the range of people engaging with HCR.
- **Participation :** Participation is a process by which stakeholders' influence and share control over development initiatives and the decisions and resources that affects them. Community participation is a fundamental characteristic of community radio. The stories revealed that the Henvalvani members differed in the nature of association and engagement with the functioning of Henvalvani. Participation of people in HCR was found to take place in three different ways - i) Information sharing; ii) Collaboration; and iii) Empowerment. For most storywriters, HCR association was more than just as listeners - they were engaging through giving feedback, sharing opinions, and participating in the process of programme production. Some even participated in local level development activities. Longer association was seen with peripheral and core members. Older members association became more intense with their greater participation in the activities of HCR.
- **Nature of the Medium :** Another important aspect that emerged in the significant change stories were aspects about CR programmes. Stories provided feedback about HCR programmes and the reasons for their popularity. In the SC stories, several factors about the medium emerged. These were clubbed under the following broad categories: i) media appeal; ii) programme content; iii) IPC activities by HCR; and iv) individual perceptions. Aspects about the nature of the medium was found to raise the interest of people in HCR, was a motivator for people to participate and influenced the level of people's association with HCR. People listened to HCR programmes because they found CR medium appealing. HCR programmes were appealing because not only were they in their local language but also provided them information about issues

that most concerned their lives. Hence HCR programmes were able to break the prevailing socio cultural and literacy barriers, mainstream people and creating community. The specific characteristic of HCR like proximity, credible and contextually relevant information, and use of local dialect has given HCR a flavour and appeal different from the other channels of communication.

Significant Change stories reveal that participation with Henvalvani has given them recognition in the community; people recognized them as members of Henvalvani and they felt their social status had been enhanced. Stories reveal that networks and dialogue amongst and within community groups has led to the development of important ‘social skills’ among individuals increasing community belongingness. HCR was perceived to be intrinsically woven with the socio-cultural fabric of the community. Preference for HCR programmes was expressed on account of locally relevant issues giving greater meaning to the information provided. The effect of HCR was revealed at different levels - at an individual level, members gained knowledge and critically reflected upon specific issues, developed contacts and networks to find new job avenues and enhanced employability. At a collective level, it has led to the revival and preservation of local culture, language and dialect, stimulated dialogue within the community and formation of groups and collectives for addressing local issues.

## **CONCLUSION**

HCR being rooted in local community based organizations, through its narrowcasting network, has created new mechanisms for information exchange. HCR is playing a complementary role, as community communications addressing local issues; it is promoting information inclusion and facilitating horizontal and vertical communication linkages in the communities, transcending the socio, economic and cultural barriers. It has significantly developed into a responsive, equitable, local information resource network that reaches far out to communities in an increasingly fluid environments of rural Uttarakhand; India. Henvalvani Community Radio has succeeded in putting the tool of communication in the hands of the community for their cultural sharing, dialogue, growth and development. Ownership of the media has translated into ownership of issues and concern which has led to participation of local people in local governance and local decision making.

### **Key findings of the study**

- The HCR initiative is purely a volunteer movement. Volunteers from the local community contributed their time, money and other resources for the sustenance of the initiative.
- The basic essence of community radio lies in the active participation of the community and is evidently reflected in every step of HCR programme production. Participation in henvalvani was found to be an empowering one. Involvement of community in HCR was not limited as listeners but also by opinion sharing and producing programme
- The basic essence of community radio lies in the active participation of the community and is evidently reflected in every step of HCR programme production. Participation in henvalvani was found to be an empowering one. Involvement of community in HCR was not limited as listeners but also by opinion sharing and producing programme.
- Strong interpersonal links promoted by HCR, maintained through narrowcasting network of listener clubs, enabled members to dialogue and discuss issues raised through the programmes. By being rooted in community based organization through its narrowcasting network, HCR has led to new mechanism for information exchange amongst different stakeholders.
- HCR was perceived to be intrinsically woven with the socio-cultural fabric of the community. Preference for HCR programmes was expressed on account of locally relevant issues giving greater meaning to the information provided.
- HCR due to its specific characteristic like proximity, credible and contextually relevant information, use of local dialect has given HCR a flavour and appeal different from the other channels of communication and has made it a very popular channel locally.

- The effect of HCR was revealed at different levels - at an individual level, members gained knowledge and critically reflected upon specific issues, developed contacts and networks to find new job avenues and enhanced employability. At a collective level, it has led to the revival and preservation of local culture, language and dialect, stimulated dialogue within the community and formation of groups and collectives for addressing local issues.

## RECOMMENDATIONS

Radio still remains a popular and affordable means of mass communication mainly because of its large coverage, mobility and low cost. With appropriate strategies Radio can be used as a potential means for bringing social change, particularly for the rural, sparsely populated areas of the country. Thus, there is an urgent need to expand the scope of the community radio as a medium of communication for meeting the needs of the local communities. The new broadcasting policy has brought into focus CR as a medium. The policy should be implemented in full capacity and must provide an enabling environment for CR to grow and flourish. It is estimated that India could have 4000 community radio stations. However technical support mechanisms need to be worked out at the ground level. Already developed CR can help in this regard by providing technical expertise and training to the upcoming CR initiatives.

Viability of community radio initiatives/stations needs to be determined through internal fund raising mechanisms. It needs to be analyzed that besides maintaining the level and extent of people's participation it is equally important to achieve financial and technical sustainability. As a step forward government should provide the necessary technical support and should remove the transmission cost for the community based CR. This will help CR initiatives achieve financial stability and will spur new CR initiatives. Thus with a great potential to expand, these CR initiatives, to continue serving democratically, there has to be a balance that needs to be maintained between increasing voluntary participation from the local communities along with maintaining the issue of their financial sustainability and continuity.

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## Role of MAVIM in Women Empowerment – A Case Study

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### ABSTRACT

*Empowerment is the process of enabling or authorizing an individual to think, behave take action and central work in an autonomous way. Women's empowerment is the process by which the powerless gain greater control over the circumstances of their lives. It includes both control over resources and over ideology. The present study was undertaken to know the role Mahila Arthik Vikas Mahamandal Limited (MAVIM) in empowerment of poor rural women. The study was conducted in the three villages of Partur Taluka, Dist. Jalna. In the study area 92 respondent from 20 SGH formed by MAVIM were selected randomly and interviewed. Second Objective of the study was to study the income of the member after joining SHG. The study area covered only one year period (2007-08). It is found that MAVIM became successful in organizing rural poor women under the roof of SHG. It enforced the participation of all category women in strengthening SHG by institutionalizing for their perpetual development. It is also found that MAVIM created confidence for economic self reliance among economically backward. The income of the respondent has been increased after joining SHG. MAVIM turned out to be an effective agency for women's empowerment. It is also successful in creating awareness among member of SHG in issues such as government programmes and schemes, bank transactions, health hygiene and family welfare. Women from SHG matured and developed concept of "Me to We" They started participating in the activities alike the celebration of independence day, participating in Gram Sabha meeting, cleaning roads, Income generating activities like goat rearing, poultry, flour mill, bangle selling which increased members saving and created asses in women's own names. Thus MAVIM plays very significant role in empowerment of rural poor women.*

### INTRODUCTION

Women who constitute nearly half of the population play a very significant role in the home and outside. Studies from the all over the world show that women do not have equal status to that of men. This is because society is "Gender Biased and Male Dominated". Thus women have no access to credit. Women have no ownership of land, houses or any property in their name. An ancient India, women had a status of dignity. This was lost in the medieval period because of socio-political changes. Today their status is measured by means of indicator such as sex ratio, literacy, and work participation. To raise the status of women, they must be socially, economically and politically empowered. Empowerment is a process of awareness and capacity building leading to greater participation, greater decision making power and control of the transformative action. Zainab Rahman (2005) writes, "Empowerment is not a commodity that can be handed over to women". Power is an analytical category which denotes strength or control. It is something that has to develop from within. Empowerment comes to women when they strive hard it.

**Concept of MAVIM:** Mahila Arthik Vikas Mahamandal Limited (MAVIM) is the prominent state level organization works for the development and empowerment of women through forming Self Help Group (SHG) implementing women's developmental schemes sponsored by Central and State Government. MAVIM is undertaken programme of Maharashtra Government, which is established on the occasion of International

Women's year in 1975. Which works with aim – To create social, financial and political justice for rural and poor women through perpetual developmental process. MAVIM works as a co-coordinating organization at state level between SHG, financial organization, voluntary organization and related departments of the government. MAVIM works with the following objectives.

- Organizing women under the roof of SHG.
- Organizing skill based training and vocational training to motivate women to become 'Entrepreneurs'
- Enforcing the participation of women's in education, property and power politics.
- Coordinating employment opportunities and marketing

**Concept Of Self Help Group (SHG):** SHG is a small voluntary association of poor people preferably from the same socio-economic background. They come together for the purpose of solving their common problems through SHG and mutual help. The lower limit of member in one SHG is ten and does not exceed twenty. The formation of SHG is not ultimately a micro credit project but an empowering process. The concept aims at empowering women and thus uplifting their families above the poverty line. It is a gradual process resulting from interaction with group members through awareness and capacity building

## AIMS & OBJECTIVES

Study is carried out with the following two objectives

1. To know the role of MAVIM in socio-economic empowerment of women.
2. To study the income of the member after joining SHG

## MATERIALS & METHODS

The present study has covered three villages (Singona, Amba and Osmanpur) from Partur taluka district Jalna. This study is complied with the help of primary data and secondary data. Covered for only one year (2007-08) period. The primary data were collected with the help of specially prepared interview schedule. The schedule included the questions related to the general information about the SHG members, income, savings, and loan schemes available to SHG member. Total 92 respondents were selected from 20 SHG (276 total members) from three villages by simple random sampling method. The same size was 1/3 of the total members in the selected SHG. This is purely a descriptive study. Therefore no complicated models and tools were used only percentage and average were used for the analysis.

## RESULTS & DISCUSSIONS

The first objective of present study is to know the role of MAVIM in empowerment of women. MAVIM organized 12170 poor rural women under the roof of SHG (811) without organization of women process of empowerment cannot takes place. (Table-1)

Table 1: SHG formed by MAVIM (in Jalna Dist)

Sr. No.	Taluka	No. of SHG formed
1.	Jalna	143
2.	Partur	231
3.	Badnapur	42
4.	Ambad	79
5.	Ghansawangi	59
6.	Jafrabad	12
7.	Mantha	131
8.	Bhokardan	—
	Total	811

**Table 2: Caste wise distribution of women in SHG formed by MAVIM**

Sr. No.	Particulars	No. of women	Percentage (%)
1.	SC	5438	44.68
2.	ST	214	1.75
3.	OBC	1009	8.94
4.	NT	1004	8.24
5.	Minority	637	5.23
6.	Open	3788	31.12
	<b>Total</b>	<b>12170</b>	<b>100%</b>

While forming the SHG MAVIM covered poor rural women from all the categories (Table-2) result shows the active participation of SC (44.68%) and open category (31.12%). Thus MAVIM enforce the participation of women in strengthening SHG by institutionalizing for their perpetual development.

**Table 3: Contribution of economical backward member under MAVIM**

Sl. No.	Economic Status	No. of women	Percentage
1.	BPL (Below poverty line)	4191	34.43
2.	PRA BPL (Participatory Rural Appraisal)	7942	65.25
3.	APL (Above poverty line)	39	0.32
	<b>Total</b>	<b>12172</b>	<b>100%</b>

To create confidence for economic self reliance MAVIM motivates (Table-3) economically backward rural women. MAVIM broaden the economic spectrum for PRA BPL (65.25%) women.

The second objective of the present study is to study the income pattern of members after joining SHG. This section deals the economic improvement of women through SHG formed by MAVIM.

In the study area totally 20 SHG (Table-4) are functioning with 276 members. From 276 members 92 respondents were selected for the study.

**Table 4: Membership in SHG**

Sl. No.	Village	No. of SHG	Total Member
1.	Amra	8	120
2.	Singona	6	84
3.	Usmanpur	6	72
	<b>Total</b>	<b>20</b>	<b>276</b>

(Source – Primary data)

Age and socio-economic activities are interrelated. In the study area (Table-5) 30-40 and 40-50 age groups are actively participated in SHG activities. Aged people (above 50) are also in SHG. Their guidance for solving problem plays an important role for SHG.

**Table 5: Age groups of Members of SHG**

Sr. No.	Age group	No. of respondent	Percentage
1.	Less than 30	15	16.30
2.	30-40	40	43.47
3.	40-50	28	30.43
4.	Above 50	09	9.78
	<b>Total</b>	<b>92</b>	<b>100</b>

**Reasons for joining SHG:** The prime aim of SHG is to promote saving and to credit for the productive and consumption purpose. In this study maximum member 58.69% joined SHG (Table-6) for getting loan where as 21.73% respondent joined SHG for improving the saving. Few of the total respondent joined SHG to gain social status.

**Table 6: Reason for joining SHG**

Sr. No.	Reason	No. of respondent	Percentage
1.	For getting loan	54	58.69
2.	For promoting saving	20	21.73
3.	For social status	12	13.04
4.	For other reason	06	6.52
	<b>Total</b>	<b>92</b>	<b>100</b>

(Source – Primary data)

**Income level of the members:** Figures in table-7 reveals that the income of the member has been increased after joining the SHG. Therefore women member of groups are independent to meet their personal expenditure and they contribute more to their house hold income. 25% housewives did not earn anything before joining SHG but after a member of SHG they are also earning reasonably.

**Table 7: Income level of the members**

Sr. No.	Monthly income Rupee.	Before joining SHG		After joining SHG	
		No. of respondent	Percentage	No. of respondent	Percentage
1.	Less than 1000	40	43.47	10	10.86
2.	1000-2000	22	23.91	70	76.08
3.	2000-3000	07	7.60	10	10.80
4.	Non earning	23	25.00	92	100
	<b>Total</b>	<b>92</b>	<b>100</b>	<b>92</b>	<b>100</b>

(Source – Primary data)

## CONCLUSION

The study was undertaken role of MAVIM in women's empowerment through SHG. It is found that MAVIM become successful in organizing rural poor women under the roof of in SHG. MAVIM enforced the participation of all category women in strengthening SHG by Institutionalizing for their perpetual development. It is also found that MAVIM created confidence for economic self reliance among economically backward women .The income of the women has been increased after joining SHG.

There fore MAVIM turned out to be an effective agency for women's empowerment. The group concept has enabled the rural poor women to develop saving haberd. The member of SHG has got awareness in issues such as government programmers and schemes, bank transactions, health hygiene and family welfare. Women from SHG matured and developed concept of "ME to WE "They started participating in various social activities: so we may conclude that the MAVIM plays an important role in empowerment of rural poor women.

## **RECOMMENDATIONS**

1. MAVIM should create the environment for healthy and positive attitude towards women entrepreneurship.
2. Arrange the entrepreneurial literacy programmes more frequently to create self confidence among SHG women.
3. Identify problems faced by rural women and take measures to over come them.
4. Ensure provision of training, employment and income generation activities to make women economically self-reliant.

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## The Role of NGOs in the Care of the Elderly

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### ABSTRACT

*Aging is universal and multidimensional phenomenon. From ancient times aging has been debated as one of the most important problem of our lives. However, the problem of old age has gained importance due to the rapid demographic transition involving high fertility and mortality and consequent aging of population.*

*Society tends to think of the older persons as out-dated. We should instead tap the potential and experience of the sensations and put them to good use. Their families, the Government and society at large should provide them employment opportunities, set up trusts to create such opportunities and establish a social security system where by the seniors become financially independent.*

*The relevance of old age homes in India is increasing. Many factors have contributed to the alienation of the elders.*

*The contribution of voluntary agencies in the field of social welfare and social development is enormous. The voluntary organization today has a vast field of study. One of them is taking care of senior citizens by running old age homes. The study reveals that most of the old age homes are actively running in Coimbatore city for the welfare and care of the elderly.*

*The study was conducted in Non-government Organisations, which are engaged in the care of the elderly in Coimbatore city. Fifteen organisation, were drawn randomly for the study. These entire organisations were registered to run old age homes for senior citizens.*

*Hundred percent of the organisations maintained financial records. Social accountability was ensured by the organisations because they were answerable to the funding sources and to the government.*

*Fourteen institutions provide residential care. Whereas only one offers day-care service to the elderly. Fourteen organisations have dormitory facility along with which five have double room accommodation for old couples and five organisations with single room facility.*

*It was encouraging to note that all the organisations provide full medical care, for the state of health among the elderly and severe morbid conditions require it.*

*Majority of the elderly people were in the age group of 71-80 years.*

*64 per cent of the elderly people in the old age home are in contact with their children whereas. 36 per cent of them are not in contact with anyone 23 per cent of the elderly receive pension. Majority of the elderly came to this home on their own interest as they did not want to be a burden on their families and they were not able to substantiate the family income. Ninety two per cent of the old people were satisfied with food as they were able to socialize well with the other members and staff. Since most of the organisation had set – timings for elders to eat, they could eat together and socialize well as they are of same age group and rest most of the time.*

*Leisure time activities involve walking, gardening, reading, helping in daily task of the homes, talking, watching television, listening to radio, singing, painting and performing their own personal hobby.*

*Basic amenities like food, clothing, toilet and bath, vocational training, health services, recreations, are provided in all the Homes.*

*Case studies also revealed that most of them were happy in these homes and these homes have been a boon for them.*

## **INTRODUCTION**

The population of the world is 'graying' at a faster pace than ever before. The number of persons 60 and above in India was about 12 million in 1901 and 2001 it increased to 57 million. This changing demographic composition will have serious social, political and economic implications and will pose newer challenges in responding to the needs of the elderly, and in planning and developing programmes for their well being; systematic planning and action are needed at the national and state levels particularly in the areas of health care, housing, income maintenance, education and meaningful social activities. (Help Age India)

The least noticed of the destitute in India are the elderly. Millions of elderly in India are trapped in misery through a combination of low income and poor health. The traditional support structure of the family is increasingly unable to cope with the problem. In the world where joint family is breaking down, and children are unable to take care of their parents, millions of elderly face destitution. The emerging demographic profile and socio-economic scenario of the country indicate that matters will worsen dramatically in the years to come.

Indian society was having traditional informal support system such as joint family, kin and community. The primary responsibility of the joint family was to protect its dependent members, for instance, elderly, children, disabled by providing basic needs such as food, clothing, shelter, health and psychological support.

## **AIMS & OBJECTIVES**

Since care of the elderly has become need of the hour, this study has been undertaken with the following objectives:

1. To examine the functioning of the Homes for the aged in catering to the needs of the elderly.
2. To find out the methods of providing care for the elderly.
3. To study the commitment of the NGOs in meeting the needs of the elderly.
4. To study the role of NGOs in protecting the rights of the elderly.

In India most of the NGO's have concentrated their work among the lower income group and disadvantaged and unprivileged sections of the society. It is only in the last few years when the demographers provided alarming statistics on the growth of the elderly population that a need was felt to work in this area as it was always assumed that the elderly were well taken care of and were safe in the custody of the well integrated joint family system in India. Initial studies show that the elderly are taken care of by the family but the reality and recent ethnographic case studies also prove that the so called 'joint family' system in India is a myth and the elderly though they live with their sons and his family are neglected and uncared for, by them. This scenario led to the emergence and mushrooming of various NGO's working towards the concerns of the elderly.

The relevance of old age homes in India is increasing. Many factors have contributed to the alienation of the elders. Some of the reasons are mentioned below:

1. Migration of young couples from the rural areas to cities in search of better employment opportunities to fend for themselves.
2. Elders who have been in control of the household for a long time are unwilling to give up the responsibility to their children.
3. Youngsters on their part are sometimes resentful of the attitude of their parents.
4. Many youngsters have moved to places far away from their native homes and in the recent past to many countries abroad. So even if they want to they cannot accommodate their parents in their own homes.

5. Elders are sometimes too incapacitated or unwell to look after themselves or get medical care especially in an emergency.

All these have made the old age homes seem more relevant in the Indian context than even before. The national policy on older persons was announced by the Government in 1999 in response to the fast changing population dynamics. The policy aims at age integrated society and envisages an umbrella of measure including – support for financial security, health, care education, shelter, welfare and protection against abuse and exploitation. The people in India are living longer. Increase in life expectancy on one hand and decrease in mortality and fertility on the other has contributed to an increase in people of 60 and above. This has led to provide social services and other benefits to senior citizens. This needs is further highlighted with the changing roles of family as well as with the increased pace of industrialization, urbanization, westernization which have severely affected our value systems making the older persons position very vulnerable in family and community at large. This was in this context that national policy of older persons was formulated in 1999, declared as the international year of older persons by the Government of India.

## MATERIALS & METHODS

- **Selection of the Sample:** Sampling involves the selection of few items from a particular group to be studied with a view to obtain relevant data, which helps in drawing conclusion regarding the entire group.

There were 22 NGOs located in Coimbatore City, working for the elderly. Only 15 NGOs extended their cooperation to contribute details for the research and all the 15 NGOs were included as the sample for the survey. Out of fifteen organizations five organizations were formed under a trust, whereas ten were formed as society.

The addresses of the NGOs were obtained from the directory 'Help Age India' and the directory called 'Sahaya - Voluntary Organization'.

**Society:** A Society is formed when people come together to do something with some common purpose, which is legal and useful for others.

**Trust:** A trust is created when a donor attaches a legal obligation to the ownership of certain property based on his confidence placed in an accepted by the Donee or Trustee, for the benefit of another.

Five inmates from each old age home were selected thus constituting 75 samples be sought. It is therefore, the data collected under this method is reliable dependable and also valid.

Interview schedule was prepared to collect information regarding general and social and psychological aspect of the selected sample.

The summary and conclusion of the study are based on Primary Data collected for the purpose of the study. However the help of the secondary data available in the form of organizational documents such as folders, journals, and brochures was taken. Further the observation made by the researcher during the course of her study has widely helped in drawing inference.

- **Details about the NGOs working for the aged:** The study was conducted in fifteen NGOs, which were drawn randomly for the study.

1. All the organizations were registered to run old age homes for senior citizens.
2. Out of fifteen NGOs nine are serving for the past 10 years, three were serving for 20 years and other three homes were serving for more than 30 years.
3. All the organizations have adequate staff members to run the homes. The finance of the twelve homes is self-supportive and in the other three homes it is met by the trust. Besides this all these homes receive donations as well.
4. All the organization conduct activities like feeding provide medical treatment, bathing and cleaning and games. Ten organizations plan out their activities with the consultation committee, whereas in other 5 organizations the head of the organization carries out the planning. All the organizations conduct good

monitoring and supervision. Thirteen NGOs follow a daily timetable, which enables the staff and supervisors to monitor the elderly people.

5. Only one organization has linkage with the International Agency. Four organizations have linkages with the local organizations, whereas the remaining 10 NGOs have no linkage with other organization.
6. Staff meeting in 5 organizations was held on monthly basis, whereas in the other organizations, it was held whenever it seemed necessary. Staff members were selected on the basis of service mindedness towards the care of the elderly.
7. Fourteen institutions provide residential care. Whereas only one offers day-care service to the elderly. Both male and female are accepted in these organizations except for two organizations which run exclusively for elderly women. Five organizations take no payment for the facility provided for the aged. Whereas other organizations charge for the stay of the elderly. The charges vary for single room, double room or dormitory accommodation.
8. Thirteen organizations provide only vegetarian food whereas the other two provide with non-vegetarian food as well. All the organizations provide full medical care for the elderly.
9. Two organizations identified problems in planning the programme. Eight organization faced problems in implementation of programme. Five organizations faced financial problems and one organization explained the conflict that often arises between the staff and the old people. All organizations had good rapport with the community. All organization believed that their publicity is through the work they do.

- **Profile of the aged:** Majority of the elderly people were in the age group of 71-80 years.

1. Twenty five percent of the group belonged to 61-70 years of age.
2. The rest of the elderly were 81 years and above.
3. Majority of the old people were females (64%).
4. Females are in excess over males in old age because of higher life expectancy at birth and recent trends in mortality favoring males.
5. Eighty percent of the elderly people were literates, and twenty per cent were illiterates.
6. Eighty five per cent of the elderly were married. Seventy two per cent of the elderly have children while rest of them have no children.
7. Fifty two percent of the elderly people were from Coimbatore. The rest of them were from neighboring places like Erode, Salem. Seven percent of them had come from other states also.

- **Status of aged prior to admission in home:**

1. Fifty two percent of the elderly lived with their children before they came to old age home.
2. Twenty three percent lived with their relatives. One percent of the elderly lived with friends and twenty four percent lived alone.
3. Forty five percent of the elderly were employed and fifty five percent were not employed at all. Sixty four percent of the elderly people are in contact with their children, where as thirty six percent have no contact with any one.
4. Twenty three percent receive pension by which they maintain themselves, where as the others rely on friends and relatives for their maintenance and support.
5. Twenty eight percent of elderly have savings where as seventy two percent have no savings at all.

- **Leisure time activities:** Elderly people follow a schedule to suit their age, which comprises of not much work and rest most of the time. Leisure time activities involve walking, gardening, reading, helping in daily task of the homes, talking, watching television, listening to radio, singing, painting and performing their own personal hobby.
- **Reasons for joining old age home:** The family structure is becoming nuclear which is resulting in deprivation of care of the elderly at homes. Majority of the elders came to old age homes with their own interest, as they did not want to be a burden on their children. Ninety one percent came on their own interest while friends motivated 9 percent. The number of years of staying in homes of the elderly is from few months to fifteen years.
- **Facilities available in old age home:**
  1. Ninety four percent provided residential care whereas six percent provided day care center for the elderly. Basic amenities like food, clothing, toilet and bath, vocational training, health services, recreations, are provided in all the Homes.
  2. Other activities conducted in homes are such as helping the elderly in bathing, cutting nails, combing hair, feeding, helping the elderly to go to toilet at nights, helping in walking around and dressing.
  3. Vehicle facility is provided in homes. Recreation like TV, Radio and Sports were also provided.
- **Social and Psychological perspective:**
  1. **Basic amenities like food, clothing, toilet and bath, vocational training, health services, recreations, are provided in all the Homes.**
  2. Thirty five percent of the old age homes were provided residential care for free of cost whereas fifty – five percent charged for the care they provided.
  3. Sixty seven percent of the elderly go for an outing, which involve shopping, cinema, and religious discourse. Thirty three percent of the elderly preferred to stay inside and never wanted an outing.
  4. Forty percent elderly purchased items for their personal use, where as sixty percent of the elder's did not find it necessary to purchase. Fifty one percent of the elders have close friends outside their homes with whom they are in contact, whereas forty nine percent have no contact with any one.
  5. Seventy percent of the elderly miss their friends, twenty three percent miss their jobs and rest of them miss their native homes and lost ones.
  6. Prayer is carried out in all homes on voluntary basis. Ninety four percent were involved in prayers whereas six percent did not prayer at all.
  7. Case studies also revealed that most of them were happy in these homes and these homes have been a boon for them

## **RESULTS & DISCUSSIONS**

**The results of the study on “The Role of NGOs in the care of elderly” is discussed under the following heads:**

1. Details about the NGOs working for the Elderly.
2. Activities of the Elderly.
3. Facilities Provided for the Elderly and
4. Social and Psychological Perspectives of the Elderly.
1. **Details about the NGOs working for the aged :** The study was conducted in fifteen NGOs, which were drawn randomly for the study. All the organizations were registered to run old age homes for senior citizens.

Out of fifteen NGOs nine are serving for the past 10 years, three were serving for 20 years and other three homes were serving for more than 30 years. All the organisation have adequate staff members to run the homes.

The finance of the twelve homes is self-supportive and in the other three homes it is met by the trust. Besides this all these homes receive donations as well.

All the organization conduct activities like feeding, provide medical treatment, bathing and cleaning and games. Ten organizations plan out their activities with the consultation committee, whereas in other 5 organizations the head of the organization carries out the planning.

All the organizations conduct good monitoring and supervision. Thirteen NGOs follow a daily timetable, which enables the staff and supervisors to monitor the elderly people.

Only one organization has linkage with the International Agency. Four organization have linkages with the local organizations, whereas the remaining 10 NGOs have no linkage with other organization.

Staff meeting in 5 organizations was held on monthly basis, whereas in the other organizations, it was held whenever it seemed necessary. Staff members were selected on the basis of service mindedness towards the care of the elderly.

Fourteen institutions provide residential care, whereas only one offers day-care service to the elderly. Both male and female are accepted in these organizations except for two organizations which run exclusively for elderly women. Five organizations take no payment for the facility provided for the aged whereas other organizations charge for the stay of the elderly. The charges vary for single room, double room or dormitory accommodation.

Thirteen organizations provide only vegetarian food whereas the other two provide with non-vegetarian food as well. All the organizations provide full medical care for the elderly.

Two organizations identified problems in planning the programme. Eight organization faced problems in implementation of programme. Five organizations faced financial problems and one organization explained the conflict that often arises between the staff and the old people. All organizations had good rapport with the community. All organization believed that their publicity is through the work they do.

- **Profile of the aged :** Majority of the elderly people were in the age group of 71-80 years. Twenty five percent of the group belonged to 61-70 years of age. The rest of the elderly were 81 years and above.

Majority of the old people were females (64%). Females are in excess over males in old age because of higher life expectancy at birth and recent trends in mortality favoring males.

Eighty percent of the elderly people were literates, and twenty per cent were illiterates. Eighty five per cent of the elderly were married. Seventy two per cent of the elderly have children while rest of them has no children.

Fifty two percent of the elderly people were from Coimbatore. The rest of them were from neighboring places like Erode, Salem. Seven percent of them had come from other states also.

- **Status of aged prior to admission in home :** Fifty two percent of the elderly lived with their children before they came to old age home. Twenty three percent lived with their relatives. One percent of the elderly lived with friends and twenty four percent lived alone.

Forty five percent of the elderly were employed and fifty five percent were not employed at all. Sixty four percent of the elderly people are in contact with their children, where as thirty six percent have no contact with any one.

Twenty three percent receive pension by which they maintain themselves, where as the others rely on friends and relatives for their maintenance and support.

Twenty eight percent of elderly have savings where as seventy two percent have no savings at all.

- **Leisure time activities :** Elderly people follow a schedule to suit their age, which comprises of not much work and rest most of the time.  
Leisure time activities involve walking, gardening, reading, helping in daily task of the homes, talking, watching television, listening to radio, singing, painting and performing their own personal hobby.
- **Reasons for joining old age home :** The family structure is becoming nuclear which is resulting in deprivation of care of the elderly at homes. Majority of the elders came to old age homes with their own interest, as they did not want to be a burden on their children. Ninety one percent came on their own interest while friends motivated 9 percent.

The number of years of staying in homes of the elderly is from few months to fifteen years.

- **Facilities available in old age home :** Ninety four percent provided residential care whereas six percent provided day care center for the elderly. Basic amenities like food, clothing, toilet and bath, vocational training, health services, recreations, are provided in all the Homes.

Other activities conducted in homes are such as helping the elderly in bathing, cutting nails, combing hair, feeding, helping the elderly to go to toilet at nights, helping in walking around and dressing.

Vehicle facility is provided in homes. Recreation like TV, Radio and Sports were also provided.

- **Social and Psychological perspective :** Basic amenities like food, clothing, toilet and bath, vocational training, health services, recreations, are provided in all the Homes.

Thirty five percent of the old age homes were provided residential care for free of cost whereas fifty – five percent charged for the care they provided.

Sixty seven percent of the elderly go for an outing, which involve shopping, cinema, and religious discourse. Thirty three percent of the elderly preferred to stay inside and never wanted an outing.

Forty percent elderly purchased items for their personal use, where as sixty percent of the elder's did not find it necessary to purchase. Fifty one percent of the elders have close friends outside their homes with whom they are in contact, whereas forty nine percent have no contact with any one.

Seventy percent of the elderly miss their friends, twenty three percent miss their jobs and rest of them miss their native homes and lost ones.

Prayer is carried out in all homes on voluntary basis. Ninety four percent were involved in prayers whereas six percent did not prayer at all.

Case studies also revealed that most of them were happy in these homes and these homes have been a boon for them.

## CONCLUSION

A solution to the problems does not lie in institutionalization of older persons, but in the encouragement of their living with the children by giving the family adequate financial and medical help. Provision of domiciliary services can enable the family to look after the aged. Living arrangements of the aged people with the members of the family is very essential for a satisfactory life on account of the stronger emotional bonding of parents with their children and grand children. In the institution physical needs of a person can be mitigated, but psychological and emotional needs such as the need of being a useful and significant member in his own world of near and dear ones cannot be satisfied which become quite important for an aging person.

Thus, if we want the actual welfare of the aged people, institutionalization should be discouraged and living with the family should be encouraged. But, at the same time the requirement of the institution cannot be ruled out for those aged people, who are neither able to manage their own affairs nor do they have any person to look after them. It is important to create the "caring society" together with State, NGOs, community, Family and the person in need through 'cost – sharing' basis. Institution should be the last resort when other alternative fails.

## **RECOMMENDATIONS**

1. A similar research may be conducted on a larger sample with more variables like: age, sex, education, family type, occupation, re employment. Single headed household, rural \urban \tribal and so on.
2. A research may be undertaken to compare the dimensions of insecurity, their extent and coping strategies adopted by aged, living in the family and those in the institutions.
3. Short term guidance and counseling, directed towards strategies for better physical, financial and socio – economic adjustments be formulated and extended to prepare them better for minimizing the insecurity and enhancing the quality of life.
4. Human Development department be encouraged to take up long term goals for the welfare of the aged and establishing a gerontology cell for Senior Citizens.
5. Study also recommends that, all the youth programme must encourage youth to take care of aged in the society.

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## Association of Personal-Localite Sources with Demographic and Socio-Economic Variable of Vegetable Growers Women

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### **ABSTRACT**

*Today, communication is assuming an important role in every sphere of human life including agriculture. The higher communicable channel source utilization and indulgence in various forms of communication have made a significant impact on agricultural development scenario. The benefits of personal locality can, however, be realized only if it is shared by the millions of women vegetable growers who are ultimate users. Keeping this in view a study was conducted with the following specific objectives: Socio-economic profile of the respondents. Use of personal locality sources by women vegetable growers.*

*The study was conducted in Araziline CBDS (Community Block Development Scheme) & Chiraigaon Block at Varanasi district purposively. Thereafter, from each block five villages were also selected purposively which had maximum area and production in vegetable crops as compared to other villages of selected C.D. blocks. There after 10 percent of vegetable female growers were selected randomly from each villages to make in total sample of 400. The respondents under study were women and head of the family.*

*The data was collected with the help of structured uniformed schedule person to person contact method after establishing report. The collected data was classified, tabulated and statistically processed with the help of percentage and X<sup>2</sup> test progressive farmers/form women (76.1%), neighbors (90.7%) and input dealers (97.7%) were highest among old age group.*

*Respondent were 12 (3%) to SC/ST, 363 (90.8%) to other backward classes and 25 (6.2%) to general caste group. The percentage of distribution of the acceptance of PL1, PL2, PL3, PL4, PL5 and PL6 by the SC/ST women were 66.7, 83.3, 58.3, 66.7, 91.7 and 100.0 respectively.). 3.8% women had no membership, 70.7% had membership of one organization and 25.5% had membership of more than one organization. The women having no membership were accepting the PL1, PL2, PL3, PL4, PL5 and PL6 as 73.3%, 100%, 53.3%, 80.0%, 100% and 93.3% respectively acceptance of PL1, PL2, PL3, PL4, PL5 and PL6 among illiterate women was 81.3, 91.7, 49.0, 81.3, 96.9 and 99.0 respectively and these percentage among women having educational level inter or more were 78.3, 95.7, 60.9, 82.6, 91.3 and 95.7 respectively.*

*The acceptance of relative's personal localite source was approximately 50% or less than it among all land holding groups. The acceptance of panchayat/co-operative society and input dealers were 90% or more in all the land holding groups. The percentage distribution of women according to their land possessing status were 3.5, 64.5, 18.0, 9.7 and 4.3 in the landless, land having less than 1 hectare, land holding between 1 to 4 hectares, land holding between 4 to 10 hectare and land holding greater than 10 hectares respectively The*

*percentage distribution of vegetable grower's women were 66.3, 24.2 and 9.5 in the income group of Rs. 1 to 1,00,000, Rs. 1,00,001 to 2,00,000 and more than Rs. 2,00,000 respectively. The relatives personal lolate was acceptable approximately 50% in all the income groups. Panchayat/co-operative society and input dealer personal localite sources were accepted by more than 90% of women in all income groups. The vegetable income has been divided in three groups namely less than Rs. 12500, Rs. 12501 to Rs. 75000 and more than Rs. 75000 and their percentage was 66.0, 21.5 and 12.5 respectively. Only half of the women accepted the relative's personal localite source in all income groups.*

*The relative personal localite source was accepted by half of the women in all age, caste, social participation, educational level, land holding, total income and vegetable income groups. More than ninety percent women had accepted the input dealers personal localite source in all socio-demographic and income groups.*

## **INTRODUCTION**

Rural women since time immemorial have played a pivotal role in agricultural production, animal husbandry and other related activities besides their normal domestic choices. Though, their role in the society is very important, the rural women are often 'Physically visible' but conceptually 'Invisible' and remained marginalized. The best way to make optimum use of the human resources is to provide them opportunities for self-development through personal locality sources, which improves their capability.

Communication of agricultural technologies to the farmers is a matter of paramount importance for the agricultural development of the country. 'Rural development depends not only on technology generation process but also on dissemination of technology as per the needs of the target groups in a particular farming system.

Today, communication is assuming an important role in every sphere of human life including agriculture. The higher communicable channel source utilization and indulgence in various forms of communication have made a significant impact on agricultural development scenario. The benefits of personal locality can however be realized only if it is shared by the millions of women vegetable growers who are ultimate users.

## **AIMS & OBJECTIVES**

Keeping this in view a study was conducted with the following specific objectives:

1. Socio-economic profile of the respondents.
2. Use of personal locality sources by women vegetable growers.

## **MATERIALS & METHODS**

The study was conducted in Araziline CBDS (Community Block Development Scheme) & Chraigaon Block at Varanasi district purposively. Thereafter, from each block five villages were also selected purposively which had maximum area and production in vegetable crops as compared to other villages of selected C.D. blocks. There after 10 percent of vegetable female growers were selected randomly from each village to make in total sample of 400. The respondents under study were women and head of the family.

The data was collected with the help of structured uniformed schedule person to person contact method after establishing report. The collected data was classified, tabulated and statistically processed with the help of percentage and  $c^2$  tests.

## **RESULTS & DISCUSSION**

The percentage distribution of the acceptance of personal locality sources according to age, cost and social participation are presented in Table 1. The acceptance of the progressive farmers/form women (76.1%), neighbors (90.7%) and input dealers (97.7%) were highest among old age group.

**Table 1: Acceptance of personal localite source according to age, caste and social participation**

Variables	Progressive farmers/ Farm women (PL <sub>1</sub> )	Neighbors (PL <sub>2</sub> )	Relatives (PL <sub>3</sub> )	Friends (PL <sub>4</sub> )	Panchayat/ Cooperative Society (PL <sub>5</sub> )	Input dealers (PL <sub>6</sub> )
<b>Age group (years)</b>						
Young (20-35) 48 (12%)	34(70.8)	44(54.2)	26(54.2)	49(83.3)	44(91.7)	45(93.8)
Middle (36-50) 93 (23.3%)	71(76.3)	83(89.2)	46(49.5)	74(79.6)	89(95.7)	90(96.8)
Old ( $\geq 51$ ) 259 (64.7%)	197(76.1)	235(90.7)	134(51.3)	212(81.9)	239(92.3)	253(97.7)
$\chi^2$ -valuep-value	0.650.72	0.260.88	2.80.87	0.360.84	1.380.503	2.170.34
<b>Caste</b>						
SC/ST (1)12 (3.0%)	8(66.7)	10(83.3)	7(58.3)	8(66.7)	11(91.7)	12(100.0)
OBC (2)363 (90.8%)	276(76.0)	330(90.9)	183(50.4)	297(81.8)	338(93.1)	352(97.0)
General (3)25 (6.2%)	18(72.0)	22(88.0)	14(56.0)	21(84.0)	23(92.0)	24(96.0)
$\chi^2$ -valuep-value	0.730.695	0.970.62	0.560.76	1.880.39	0.0780.962	0.460.795
<b>Social Participation (membership numbers)</b>						
No Membership (0)15 (3.8%)	11(73.3)	15(100.0)	8(53.3)	12(80.0)	15(100.0)	14(93.3)
Membership of one organization (1)283 (70.7%)						
organization (1)283 (70.7%)	214(75.5)	257(90.8)	144(50.9)	229(80.9)	261(92.2)	276(97.5)
Membership of more than one organization ( $\geq 2$ )102 (25.5%)						
one organization ( $\geq 2$ )102 (25.5%)	77(75.5)	90(88.2)	52(51.0)	85(83.3)	96(94.1)	98(96.1)
$\chi^2$ -value	0.04	2.22	0.034	0.31	1.59	1.26
p-value	0.98	0.33	0.98	0.86	0.45	0.53
Figures in parentheses show the percentage						

The relatives and friends personal locality sources were highly accepted by the young women whereas the acceptance of panchayat/co-operative society was highly accepted by the middle age-group women. The acceptance percentage distribution of different personal localite sources is almost similar in all the age groups and the visual difference is not found statistically significant (Table 1). The caste wise percentage distribution of the respondent were 12 (3%) to SC/ST, 363 (90.8%) to other backward classes and 25 (6.2%) to general caste group. The percentage of distribution of the acceptance of PL<sub>1</sub>, PL<sub>2</sub>, PL<sub>3</sub>, PL<sub>4</sub>, PL<sub>5</sub> and PL<sub>6</sub> by the SC/ST women were 66.7, 83.3, 58.3, 66.7, 91.7 and 100.0 respectively. The caste-wise variation observed in the acceptance of different personal localities is not statistically significant as shown by the  $\chi^2$ -values (Table 1). 3.8% women had no membership, 70.7% had membership of one organization and 25.5% had membership of more than one organization. The women having no membership were accepting the PL<sub>1</sub>, PL<sub>2</sub>, PL<sub>3</sub>, PL<sub>4</sub>, PL<sub>5</sub> and PL<sub>6</sub> as 73.3%, 100%, 53.3%, 80.0%, 100% and 93.3% respectively. The acceptance of personal localite variables according to their social participation is not significant.

Education level of women according to their acceptance of personal locality sources is presented in Table 2. The percentage distribution of acceptance of PL<sub>1</sub>, PL<sub>2</sub>, PL<sub>3</sub>, PL<sub>4</sub>, PL<sub>5</sub> and PL<sub>6</sub> among illiterate women was 81.3, 91.7, 49.0, 81.3, 96.9 and 99.0 respectively and these percentages among women having educational level inter or more were 78.3, 95.7, 60.9, 82.6, 91.3 and 95.7 respectively. Acceptance of input dealers was more than 93% among all educational level groups. The variation in the acceptance of different personal localite sources among different educational levels are insignificant (Table 2).

Table 2: Acceptance of personal localite source according to education and land holding

Variables	Progressive farmers/ Farm women (PL <sub>1</sub> )	Neighbors (PL <sub>2</sub> )	Relatives (PL <sub>3</sub> )	Friends (PL <sub>4</sub> )	Panchayat/ Cooperative Society (PL <sub>5</sub> )	Input dealers (PL <sub>6</sub> )
<b>Education</b>						
Illiterate (0)96 (24.0%)	78(81.3)	88(91.7)	47(49.0)	78(81.3)	93(96.9)	95(99.0)
Up to Primary level (1)117 (29.2%)	90(76.9)	107(91.5)	59(50.4)	92(78.6)	107(91.5)	114(97.4)
Up to Middle level (2)119 (29.8%)	84(70.6)	105(88.2)	66(55.5)	97(81.5)	110(92.4)	115(96.6)
Up to High School (3)45 (11.3%)	32(71.1)	40(88.9)	18(40.0)	40(88.9)	41(91.1)	42(93.3)
Intermediate and above (4) 23 (5.7%)						
(4) 23 (5.7%)	18(78.3)	22(95.7)	14(60.9)	19(82.6)	21(91.3)	22(95.7)
$\chi^2$ -value	3.960.412	1.830.77	4.190.38	2.290.68	3.050.55	3.620.46
<b>Land holding (hec.)</b>						
Landless (0)14 (3.5%)	9(64.3)	14(100.0)	7(50.1)	12(85.7)	13(92.9)	13(92.9)
<1 marginal (1)258 (64.5%)	197(76.4)	232(89.9)	140(54.3)	204(79.1)	239(92.6)	251(97.3)
1-4 small (2)72 (18.0%)	53(73.6)	64(88.9)	30(41.7)	63(87.5)	65(90.3)	69(95.8)
4-10 middle (3)39 (9.7%)	30(76.9)	39(100.0)	20(51.3)	32(82.1)	38(97.4)	39(100.0)
>10 large (4)17 (4.3%)	13(76.5)	13(76.5)	7(41.2)	15(88.2)	17(100.0)	16(94.1)
$\chi^2$ -value	1.24	0.64	4.27		3.33	2.93
p-value	0.87	0.73	0.37		0.50	0.57
Figures in parentheses show the percentage						

The percentage acceptance of different personal localite sources according to the land possessed by the household (Table 2). The acceptance of relative's personal localite source was approximately 50% or less than it among all land holding groups. The acceptance of panchayat/co-operative society and input dealers were 90% or more in all the land holding groups. The percentage distribution of women according to their land possessing status were 3.5, 64.5, 18.0, 9.7 and 4.3 in the landless, land having less than 1 hectare, land holding between 1 to 4 hectares, land holding between 4 to 10 hectare and land holding greater than 10 hectares respectively. There is no statistical difference in the acceptance of different personal localite sources among the different land holding groups (Table 2).

The presentation of percentage acceptance of personal localite sources according the annual income and vegetable income is presented in Table 3. The percentage distribution of vegetable grower's women were 66.3, 24.2 and 9.5 in the income group of Rs. 1 to 1,00,000, Rs. 1,00,001 to 2,00,000 and more than Rs. 2,00,000 respectively. The relatives personal lolate was acceptable approximately 50% in all the income groups. Panchayat/co-operative society and input dealer personal localite sources were accepted by more than 90% of women in all income groups. The acceptance of different personal localite sources was similar in all income groups and there is no statistically significant difference in the acceptance of study personal localite sources among the income groups (Table 3). The vegetable income has been divided in three groups namely less than Rs. 12500, Rs. 12501 to Rs. 75000 and more than Rs. 75000 and their percentage was 66.0, 21.5 and 12.5 respectively. Only half of the women accepted the relative's personal localite source in all income groups. The input dealer's personal locality was accepted by more than 95% of women in all income groups. Among the income groups, there is no statistically significance difference in any personal localite sources (Table 3).

**Table 3: Acceptance of personal localite source according to annual income and vegetable income**

Variables	Progressive farmers/ Farm women (PL <sub>1</sub> )	Neighbors (PL <sub>2</sub> )	Relatives (PL <sub>3</sub> )	Friends (PL <sub>4</sub> )	Panchayat/ Cooperative Society (PL <sub>5</sub> )	Input dealers (PL <sub>6</sub> )
<b>Annual Income (in Rs.)</b>						
<1,00,000 (1)265 (66.3)%	199(75.1)	242(91.3)	136(51.3)	216(81.5)	245(92.5)	257(97.0)
1,00,000-2,00,000 (2)97 (24.2%)	73(75.3)	86(88.7)	50(51.5)	78(80.4)	89(91.8)	94(96.9)
>2,00,000 (3)38 (9.5%)	30(78.9)	34(89.5)	18(47.4)	32(84.2)	38(100.0)	37(97.4)
$\chi^2$ -value	0.270.87	0.6460.73	0.220.89	260.88	3.210.20	0.020.99
<b>Vegetable Income</b>						
<12,500 (1)264 (66.0%)	198(75.1)	240(90.9)	135(51.1)	216(81.8)	243(92.0)	256(97.0)
12,501-75,000 (2)86 (21.5%)	65(75.6)	76(88.4)	43(50.0)	69(80.2)	79(91.9)	83(96.5)
>75,001 (3)50 (12.5%)	39(78.0)	46(92.0)	26(52.0)	41(82.0)	50(100.0)	49(98.0)
$\chi^2$ -value	0.21	0.64	0.06	0.12	4.30	0.24
p-value	0.90	0.73	0.97	0.94	0.12	0.89
Figures in parentheses show the percentage						

## CONCLUSION

The relative personal localite source was accepted by half of the women in all age, caste, social participation, educational level, land holding, total income and vegetable income groups. More than ninety percent women had accepted the input dealers personal localite source in all socio-demographic and income groups.

## RECOMMENDATIONS

On the basis of results obtained from this study, it is recommended that personal localite sources have made the applicability of advance technology for vegetable cultivation, thus the development of women vegetable growers has grown up in all their socio-economic, education, standard of life etc.

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## Entrepreneurship Training Programmes For Women

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### ABSTRACT

*It is a general belief in many cultures that the role of women is to build and maintain the namely affairs like task of fetching water, cooking and rearing children, since the turn of the century, the status of women in India has been changing due to growing industrialization, urbanization, spatial mobility and social legislation with the spread of education and awareness women have shifted from kitchen to higher level of professional activities.*

*Entrepreneurship has been a male dominated phenomenon from the very early age but time has changed the situation and brought women as today's most memorable and inspirational entrepreneurs. In almost all the developed countries in the world women are putting their steps at par with the men in the field of business. Except some Islamic countries of the world the law of the country has been made in favour of the development of women entrepreneurship.*

*The main objective of this research paper work was to organise a skill development training programme for women they lived in Varanasi city, Kashi Vidyapeeth block, Naria.*

### INTRODUCTION

Entrepreneurship has become popular and respectable area today. Entrepreneurship is the key to rapid growth of a country. A Country with able entrepreneur will always go faster on the path of industrialization as compared to a country which has no able entrepreneurs. Entrepreneurship is an activity that aims at starting establishing an increasing the size of an enterprise that produces and sells goods or services in market. Doing new things and doing things that are already done in a new way is therefore a simple definition of entrepreneurship.

Women entrepreneurship is a new phenomenon which is recently being recognized as a full-fledged profession among women. Women are increasingly sealing entrepreneurship as

A annual for economic growth of their families as well as of nation. Some researches have available on entrepreneurial characteristics and motivation of men but very negligible dates are available regarding women entrepreneurs.

We know about woman's socialization pattern behavior, how their role and responsibility do not allow them to think and behave in an entrepreneurial way this is because women have primary responsibility for child care and household work. Hence they are not encouraged to set their personal goals they make decisions only after seeking the approval of their families and do not show much initiative for personal career development. This has resulted in women acquiring attitudes and behavior not conducive for entrepreneurship. Assessing and developing behavior successful is the most important component of women entrepreneurship development. Thus project worker thought of helping women to become entrepreneur by motivating and providing training on entrepreneurship. This training would help women to get them equipped. The project is more concerned with development of women and specially women's economic independence. This training will help them to develop the entrepreneurial competencies among them due to all these reasons provoked the thought of undertaking this action project.

## **AIMS & OBJECTIVES**

The main objective of the research work was to organise a skill development training programme for semiurban women , they lived in Varanasi city, kashi vidhyapeeth block ,naria. The aim of this training programme was to improve their skill, increase their income and improve their life style.

## **MATERIAL & METHODS**

The study was conducted in Varanasi district was purposively selected for the study. In Varanasi district Kashi Vidyapeeth Block, Naria was selected purposively. Entrepreneurship training was given to twenty semi urban woman. Out of twenty women, twelve women were selling their product and eight did not sell the product. Data was collected by personal interview method. The data were processed tabulated and classified.

## **RESULTS & DISCUSSION**

Evolution is the process of deforming the extent to which objectives have been attained. Evaluation of any programs is identifies as a well planned process to measure the entire programs in terms of the objectives, which examines the success or failure of the programme.

A reaction scale was prepared by the project work to identify their reaction regarding the project. The reaction scale had four sections.

1. Section 1 - Background Information
2. Section 2- Entrepreneurship training programme
3. Section 3- About their entrepreneurship.
4. Section 4- Opinions and suggestions.

Analysis of the result revealed the following information:

**Table 1: Percentage distribution of respondent engaged in enterprises (N-2)**

Sl. No	Engaged in enterprise	Percentage
1.	Engaged	71.42
2.	Not engaged	82.58

Table 1 show that majority of respondents (71.42%) were engaged in their own enterprises. 82.58 percent of woman were not engaged in this enterprises due to their personal problems.

**Table 2: Percentage distribution of respondents according to their work group training**

Sl. No	Type of work	Percentage
1.	Making cigarettes	20
2.	Making leaf plate	5
3.	Sales women	10
4.	Labor	25
5.	Stealing	10
6.	Making beats nackles	30
	Background Information	

**Table 3: Percentage distribution of respondent according to the age of women (N=20)**

Sl. No	Age group of women (In year)	Percentage
1.	15-20	20
2.	20-25	40
3.	25-30	25
4.	30-35	15

Table 3 Indicates that majority (40 percent) of respondents were in the age group of 20-25 year and only (15 percent) respondent belong to 30-35 years.

**Table 4: Percentage distribution of respondent according to the marital status of women N=20)**

Sl. No	Marital status	Percentage
1.	Married	80
2.	Unmarried	20

Table 4 shows that majority of respondents (80.0%) were married and very few (20%) were unmarried.

**Table 5: Percentage distribution of respondent according to the type of family (N=20)**

Sl .No	Type of family	Percentage
1.	Joint	40
2.	Nuclear	60

Table 5 shows that majority of the respondents (60%) were from nuclear family and few (40%) of them were from joint family.

**Table 6: Percentage distribution of respondents according to the number of family members (N=20)**

Sl. No	Number of family members	Percentage
1.	4-6	50
2.	6-8	15
3.	8-10	20
4.	10 and above	15

Table 6 shows that majority of the respondents were having 4-6 members in their families. Families of respondents (15%) were having 6-8 & 10 to above members (20%) of responds have 8-10 family members.

**Table 7: Percentage distribution of respondents according to their educational level (N=20)**

Sl. No	Level of education	Percentage
1.	Education	90
2.	Uneducated	10

Table 7 shows that (90%) of the respondents were educated only few (10%) respondents were uneducated.

**Table 8: Percentage distribution of the respondents according to the monthly income of their family (N=20)**

Sl. No	Monthly income	Percentage
1.	500-1000	50%
2.	1000-1500	30%
3.	1500-2000	10%
4.	2000 & above	5%

Table 8 Indicates that majority of respondent (50%) belonged to the families having the monthly income between 500-1000 whereas 30% of respondents have 1000-1500 monthly income 10% of respondents have 1500-2000 monthly income & only 5% of respondents have 2000 above 2000 of per month.

**Reaction of women entrepreneur regarding entrepreneurship training programme:** This section deals with the reaction of women entrepreneurs regarding their entrepreneurship training programme.

All the respondents opined that

- Entrepreneurship training programme was useful to them.
- All women were shown their entreats in will development training programme.
- They were satisfied with training programme.
- In future they would like to attend the related programme on entrepreneurship.
- They would advise their friends, relatives who want to become entrepreneurs to join entrepreneurship training programme.

## **CONCLUSION**

The following conclusion can be made after the completion of the project.

- The project helped women to start their enterprise.
- They can make house hold decorative materials after getting training programme.
- Out of twenty women, 12 women make product & they get satisfactory profit by sold their product.
- Before training they get profit but after training they get more profit.

## **RECOMMENDATIONS**

The status of women should be achieved at par with men it is possible only as end when women become economically independent it can be achieved through entrepreneurship Training programme.

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## An Appraisal of Uzhavarsandhai (Farmer's Market) in Tamil Nadu

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### ABSTRACT

*India is an agrarian country. A large proportion of the population in India still lives in rural areas and depends upon agriculture for their livelihood. The extraordinary hike in price of vegetables prompted the government of Tamilnadu to intervene in marketing of vegetables which has a great influence on the farmer and his life, as well as the consumer's interest to purchase worth while vegetables at a fair price. The outcome of uzhavarsandhai in Tamilnadu was studied with major thrust to understand the organizational setup of uzhavarsandhai, benefits derived by both farmers and the consumers. Madurai, Coimbatore and Virudhunagar districts of Tamilnadu were selected and a total of five uzhavarsandhai from the three areas were chosen for study. The study was made in three different facets- with the officials of the Sandhai, the farmers and the consumers. A sample size of Two Hundred and Fifty (250) farmers was selected by random sampling method. They were interviewed with a structured questionnaire to elicit information on past marketing problems, impact of uzhavarsandhai, benefits realized and suggestions for its better functioning. Uzhavarsandhai was well perceived by the officials, farmers and the consumers. It had many attributes such as infrastructure, location, censoring middlemen, fair prices and parking facility contributing to the economic upliftment of the farmers especially the small and marginal farmers. The consumers were also satisfied with the uzhavarsandhai. A steady growth to hundred uzhavarsandhai is a mark of its success in Tamilnadu. The statistical analysis shows that the total quantity of arrival in the selected uzhavarsandhai was statistically significant at 5% level; the number of farmers to consumers has turned out to be insignificant. Thus the total quantity of sales is influenced by the number of consumers. Future focus on storage facilities, loan facilities and seed distribution at subsidized rates and need-based training programs may be offered through uzhavarsandhai .In conclusion we may state that uzhavarsandhai has opened up new vistas in farmer's life, a positive change to farming at the introduction of uzhavarsandhai a fascinating venture of government of Tamilnadu.*

### INTRODUCTION

India is an agrarian country. Half of our countries national income is derived from agriculture. Marketing of fresh vegetables faces a number of problems due to their bulky nature, seasonality, lack of proper storage facilities and high degree of perishability. The extraordinary hike in price of vegetables prompted the government of Tamilnadu to intervene in marketing of vegetables which has a great influence on the farmer and his life, as well as the consumer's interest to purchase worth while vegetables at a fair price. So far the outcome of uzhavarsandhai has not been studied in a scientific way. Therefore a study was taken up on 'An Appraisal of Uzhavarsandhai (farmer's market) in Tamil Nadu' with the following objectives.

### AIMS & OBJECTIVES

1. Understand the organization and administration of uzhavarsandhai in Tamilnadu
2. Know the problems faced by the farmers in marketing their produce prior to the introduction of uzhavarsandhai
3. Find out the economic benefits realized by the farmers
4. Understand the limitations of farmers in uzhavarsandhai and elicit suggestions for better functioning.
5. Study the benefits derived by consumers in uzhavarsandhai.

## MATERIALS & METHODS

Madurai, Coimbatore and Virudhunagar districts of Tamilnadu were selected and a total of five uzhavarsandhai from the three areas were chosen for study. The study was made in three different facets. The officials of the Uzhavarsandhai were interviewed to find out the concept, administration and functions of uzhavarsandhai in detail. Two Hundred and Fifty (250) farmers were selected by random sampling method. They were interviewed to gather details on past marketing problems, impact of uzhavarsandhai, benefits realized and suggestions for the improvement of uzhavarsandhai. Consumers – the ultimate beneficiaries of uzhavarsandhai were also interviewed to elicit information regarding the benefits received and the suggestions for the improvement of uzhavarsandhai.

## RESULTS & DISCUSSION

- Uzhavarsandhai - Concept, organization and administration:** Uzhavarsandhais are located in residential areas with adequate transport facility and road connections so as to benefit both the farmers and the consumers in an area ranging between .95 acres and ,65 acres, catering to not less than 35,000 household situated within 5 to 6 kilometers. The attractive feature for its steady growth are the parking facility, canteen, lavatories, drinking water, police outpost, public address system, telephone, price display board are present in all uzhavarsandhai irrespective of the area. Madurai uzhavarsandhai alone has the banking facility. Price for the produce brought for sales is fixed every day by making it 20 percent more than the wholesale and 15 percent less than retail markets. The hierarchy of the authorities starts with the administrative officer as head, helped by four other assistant administrative officers and six Makkal Nallapaniyallargal, a sweeper and three security guards. The farmers are selected by the Village Administrative Officer based on the land holding documents to get registered in the uzhavarsandhai. The farmers are given an identity card. The sales procedure starts with the checking of the identity card, weighing of the produce, allotment of shop, receiving weights and balances for starting the sales. Officials submit the reports regularly regarding the quantum sales and profit realized for a month to the District Collector.
- Socio-economic profile of the families:** The introduction of uzhavarsandhai has improved the farmers economically as more than 50 per cent of them fall into high income group. Land holding pattern reveals that the beneficiaries of uzhavarsandhai were small and marginal farmers indicating the aim of uzhavarsandhai.
- Type of marketing and problems faced prior to Uzhavarsandhai:** Most of the farmers (above 90 per cent) have marketed their produce to the wholesale markets of their area and a few in the local and rural markets. The marketing problems faced prior to uzhavarsandhai are transport constraints, low profit, intervention of middlemen and lack of storage facility.
- Farm products brought to uzhavarsandhai:** The statistical analysis shows that the total quantity of arrival in the selected uzhavarsandhai was statistically significant at 5% level; the number of farmers to consumers has turned out to be insignificant. Thus the total quantity of sales is influenced by the number of consumers.

Vegetables	Madurai			Coimbatore			Virudhunagar		
	Farmers	Arrival (Kg)	Sales (Kg)	Farmers	Arrival (Kg)	Sales (Kg)	Farmers	Arrival (Kg)	Sales (Kg)
Beetroot	32	56	53	35	86	86	25	46	44
Brinjal	37	81	89	40	95	95	42	65	64
Cauliflower	15	319	314	17	399	399	8	573	564
Coconut	10	597	590	15	671	670	6	616	583
Ladyfinger	45	78	70	45	84	83	48	55	55
Onion (Big)	33	116	115	45	90	89	37	64	61
Onion(Small)	35	131	130	45	100	97	37	75	73
Potato	36	94	93	35	54	52	15	55	54
Radish	33	87	37	35	100	99	26	40	39
Tomato	47	80	79	45	90	89	37	64	61

- **Uzhavarsandhai's impact on farmers' life:** The farmers spent less time in transporting their produce attributed to the transport facility. Majority (20 per cent) of the time was spent in sales, indirectly reflecting the profit earned. Provisions of cooling room, increase in number of shops, loan facility and seed distribution at subsidized rates were the farmers' suggestion for improvement.
- **Benefits derived by farmers through the Uzhavarsandhai:** Favorable location of the market, price fixation, censoring middlemen, infrastructural facilities, registration and provision of identity cards, enhanced income, improved standard of living, socialization with farmers and clients, improved knowledge of science and technology by exposure to various communication modes were made possible through uzhavarsandhai.
- **Consumers' views on Uzhavarsandhai:** The consumers were much satisfied with farm fresh vegetables, parking facility, fair price and proper weighment, ease of transport and availability of fresh vegetables.

## **CONCLUSION**

In conclusion we may state that uzhavarsandhai has opened up new vistas in farmer's life, a positive change to farming at the introduction of uzhavarsandhai a fascinating venture of government of Tamil Nadu.

## **RECOMMENDATIONS**

1. The government of Tamilnadu should initiate uzhavarsandhai based on the population
2. Storage facilities should be provided within uzhavarsandhai.
3. Training imparted to farmers should be need based.
4. Loan facility at subsidized rates may be extended for the farmers enrolled in uzhavarsandhai.
5. Based on the requirements more number of shops should be constructed.
6. The government needs to take special interest with reference to adult education for illiterate farmers at uzhavarsandhai.

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## Imparting Health Education to Irula Tribal Women in Coimbatore District

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Health education is dynamic in nature. Therefore, to be effective, it requires interaction between the individual, the home, the school and the community to increase the abilities of people to make informed decisions affecting their personal, family and community well-being. Hygiene deals both with the individual and the community. Karamadai block was chosen as the area of study. From each village 20 women were selected altogether 100 women were selected as a sample for the study. Interview schedule was used as a tool for collecting data and check list were also used to assess the knowledge gained on health and hygiene practices. 97 per cent had expressed that health is necessary for prevention of diseases. But after education 86 per cent had gained knowledge and understood the importance of health and sanitation. Change in childhood and school health hygiene education programme can pave a great way for improvement in sanitation and environment condition. It has been impressed upon the minds of the people that this programme is essential for keeping good health and protecting the family and village from various diseases.

## Problems of Entrepreneurship Development among Farm Women

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Women have been regarded as the nuclei of a nation and builder and molder of its destiny. National development is not possible without developing this important and substantial section of our society. Employment gives economic status to women and economic status paves way to social status. In India where 30crores of people are in below poverty line, it is possible for any Government to provide means of livelihood to everyone. There are some income generating activities like Mushroom cultivation, Pisciculture, Nursery raising, Improved poultry rearing, Bee-keeping, Agro-processing, coir work, vermin composting etc. are promoted by Krishi Vigyan Kendra, an ICAR institution and line department to the farm women Entrepreneurship development is not only solve the problem of economic development but also to solve the problems of unemployment, unbalanced areas of development , concentration of economic power & division of profit from traditional avenues of investments. Though more than half century has passed after independence, development of women entrepreneurship has not been rapidly achieved as the other measures of development. This paper represents the "Problems of entrepreneurship development among farm women". A study was undertaken in two district i.e. Bhadrak and Balasore district of Orissa with 120nos of participants on random basis. This study reveals that 60% women faced socio-personal problems (Lack of self-confidence, socio-cultural barriers), 60% women have managerial problems, 70% women have marketing problems, 68% women have financial problems and 62% women have problems Govt. Assistant So that appropriate training is needed in various development activities and programmes so that farm women can improve their knowledge, attitudes and skills to perform their jobs efficiently and effectively.

## Designing and Developing Interactive Multimedia as Trainer's Instructional Guide

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The cutting edge information technology demands faster system capable of handling communication in different domains of instruction. This is amply backed by power of multimedia. The present project aimed at designing and developing interactive multimedia for end users of technology transfer in the formal sector of training. In all 17 training modules containing text and graphic elements were designed by story boarding and prototypes were developed. Team approach was adopted for inserting artwork and transforming the content into a combination of elements of multimedia. This included graphics, still images and video clips for supplementing text prior to transforming data into electronic device of CD-ROMs. The display on individual slide was augmented with colour in the background, text, bullets and images. The correctness of entire process of designing and development was ensured through pedagogical validation. Later a variety of animation was inserted on slides to highlight the content and enhance interactivity. Audio narrations where ever necessary was added to complement the content for presentation and attracting attention of end users. This was also technically validated followed by system test and user acceptance test. These CD-ROMs then formed the platform for interactive use on the computer for which software packages were developed.

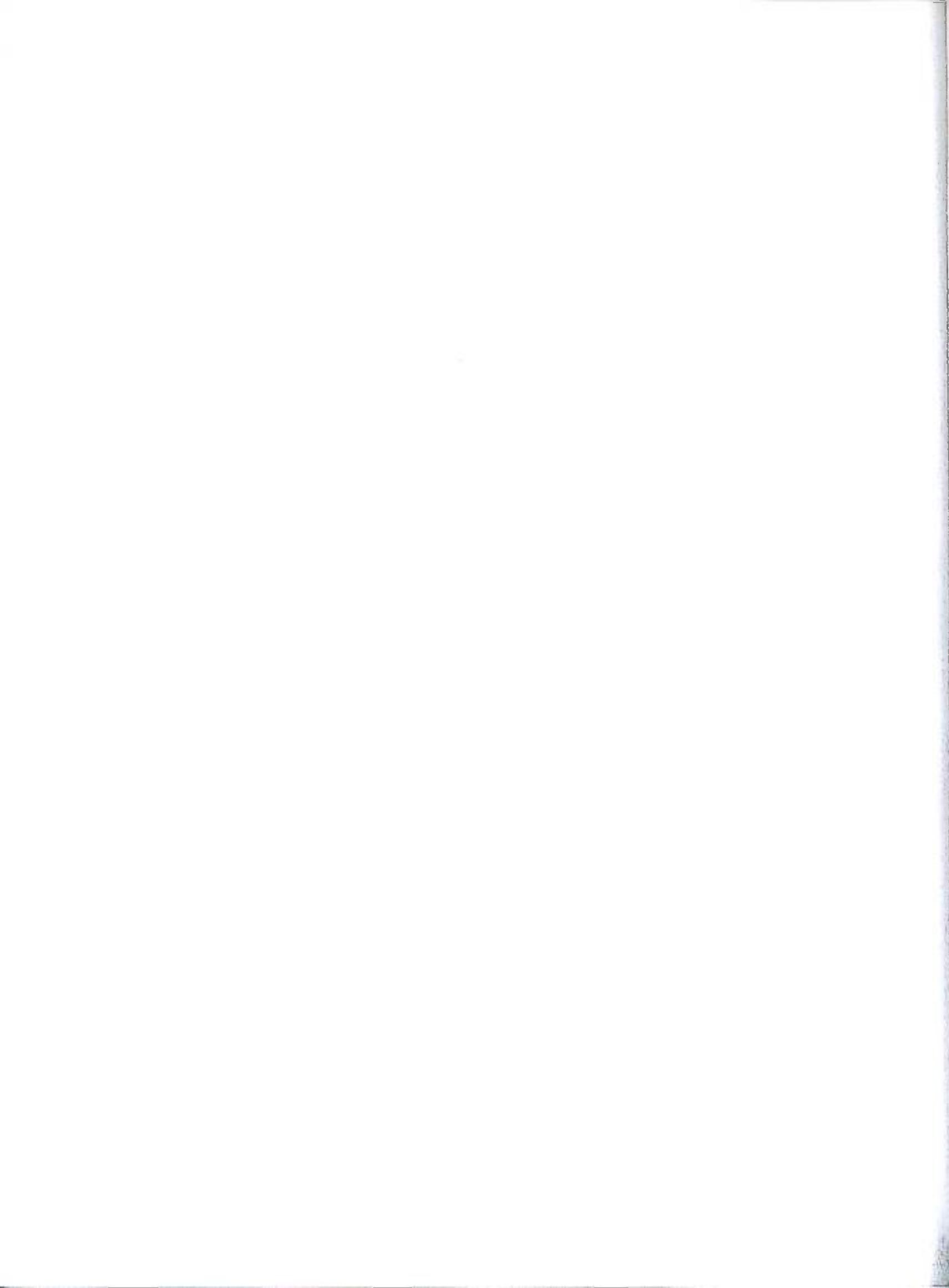
## An Analytical Study on the Usage of Teaching Learning Materials in the Selected Schools of Manipur State

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This article reflects the extent of using technological aids and modern techniques in the present position of high schools of Manipur State. This would give an important insight about technology adoption and its accessibility among the high schools with the following objectives: (a) To ascertain the extent of using teaching learning materials in the selected high school (b) To find out the problems encountered by the teachers for adopting teaching aids in the selected schools. The methods adopted for the present study was survey method. This survey was designed to obtain information about frequency, awareness and interest of using teaching learning materials and methods in the classroom. Total 30 high schools were drawn randomly from Imphal East District comprising government, aided and non-aided. Each school has 3 teachers for social studies, one each for History, Geography, and Civic. So, a total of 90 teachers participated in the survey. The Questionnaire method had adopted for collecting data .The study has revealed that though the majority of teachers are aware of various teaching methods and technological aids, the application of such methods and aids into classroom teaching is very limited. However, it was quite obvious that most of the schools had adopted the method which is traditionally oriented like lecture with blackboard, map and globes as a supplement to lecture for effective teaching.



**FOODS, NUTRITION, DIETETICS AND HOSPITALITY MANAGEMENT**  
**(Oral & Poster Presentation)**



## An Epidemiological Study of the Assessment of the Dietary Pattern and Nutritional Deficiencies in Rural Areas of Shimla District

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### ABSTRACT

*Diet and nutrition are important factors in the promotion and maintenance of good health. Health and nutritional status of an individual depends on the food they eat. The components of the diet must be chosen judiciously to provide all the nutrients needed in adequate amounts and proportions. A normal balanced diet must include daily foods from the various food groups in sufficient amounts to meet the needs of an individual. Selection of foods from the different food groups also results in variety in the diet, which not only ensures nutritional adequacy but also increases food acceptability. Food habits are an important part of our diet which affects the amount and type of food consumed and thus the nutritional status of the women. The diets of the women were mainly based on cereals and deficient in vegetables and fruits. The low intake of these protective foods resulted in nutritional disorders. The clinical signs of malnutrition, anaemia and vitamin B-complex deficiencies were observed. Promoting healthy diets and lifestyles to reduce the burden of malnutrition and non communicable diseases requires a multisectorial approach.*

### INTRODUCTION

The health and nutritional status of rural women who form the vulnerable group of India's population is far from satisfactory. In the rural areas of Shimla, they work as homemakers, farmers, food providers, fuel gatherers and animal feeders. Keeping this in mind, the present study has been undertaken with the following objectives:

- To find out the anthropometric measurements consisting of weight, height and B.M.I
- To determine and compare the nutrient intake with the Recommended dietary allowances
- To examine the clinical signs and symptoms of nutritional deficiencies.
- To assess the blood parameters of the rural women.

### AIMS & OBJECTIVES

1. To find out the anthropometric measurements consisting of weight, height and B.M.I
2. To determine and compare the nutrient intake with the Recommended dietary allowances
3. To examine the clinical signs and symptoms of nutritional deficiencies.
4. To assess the blood parameters of the rural women.

### MATERIALS & METHODS

A well structured interview schedule was developed. A sample of 500 rural women in the age group of 20-35 years was randomly selected for the study from the four villages. The food consumption of the subjects was recorded by 24-hour recall method for three consecutive days. From the actual consumption of foods daily by the respondents, the energy, proteins, iron, calcium, vitamin A (Retinol), thiamine, riboflavin, niacin and ascorbic acid content was calculated using food composition tables. The percentage adequacy of the diets was also calculated. Body mass index was calculated using the formula given by Wyngaarden, as cited in Srilaxmi (2002).

$$B.M.I = \frac{\text{Weight (Kg.)}}{\text{Height in metres}^2}$$

The blood samples of the respondents were checked for haemoglobin by cyanmethaemoglobin method of **Dacie and Lewis** (1966) and Packed Cell Volume (PCV) by **Hunter and Bomford** (1967). The results were statistically analyzed. The morbidity symptoms and the information regarding the illness suffered by the women since past three months were noted down. All the women were clinically examined using the ICMR schedule. The presence or absence of the clinical deficiency symptoms was recorded.

## RESULTS & DISCUSSION

The diet of rural women was monotonous and lacking in variety. They were more concerned about the quantity than quality of the diet. The common menu was cereal for breakfast and rice with dal or vegetable for dinner. The average daily intake of nutrients by the rural women is presented in **Table 1**.

**Table 1: Mean daily nutrient intake of rural women in comparison with RDA**

Nutrient	RDA	Mean Value $\pm$ S.D	% Diet Adequacy
Energy (Kcal.)	2225	1894 $\pm$ 241	117.47
Proteins (gm.)	50	41 $\pm$ 3.69	121.95
Fats (gm.)	20	11.4 $\pm$ 1.15	175.40
Iron (mg.)	30	23 $\pm$ 1.99	130.43
Calcium (mg.)	400	342 $\pm$ 31.0	116.95
Vitamin A ( $\mu$ g.)	600	425 $\pm$ 51.3	141.17
Thiamine (mg.)	1.1	0.6 $\pm$ 0.1	183.33
Riboflavin (mg.)	1.3	0.7 $\pm$ 0.2	185.71
Niacin (mg.)	14	9.3 $\pm$ 1.03	150.53
Ascorbic acid (mg.)	40	30 $\pm$ 5.6	66.66

The adequacy of nutrients was below the RDA's for all the nutrients. The mean daily energy and protein intake by the respondents was 117.47 and 121.95% adequate as compared to the RDA (ICMR, 1990). The mean daily intake of iron intake among the subjects was 23 mg. which was 130.43% of the RDA for iron. The low iron intake was due to insufficient intake of green vegetables, absence of sprouts. The mean values of thiamine, riboflavin, niacin in the daily diets of the respondents were inadequate as compared to the RDA's.

- **Anthropometric Measurements :** The average weight and height of the subjects is shown in **Table 2**.

**Table 2: Anthropometric measurements of the rural women**

Parameters	Mean Value	Normal Value
Weight (Kg.)	40 $\pm$ 1.8	50*
Height (cm.)	141 $\pm$ 7.9	156*
B.M.I	16 $\pm$ 0.8	18-23**

The average weight of the rural women ranged from 35 to 55 kg. whereas the range of height was from 115 to 150 cm. The results showed that the rural women were of less height, weight and B.M.I than the normal values.

- **Morbidity & Clinical Symptoms :** The illnesses and other clinical symptoms reported among this study were backache, headache, pain in the legs and hands, diarrhea and fever as shown in **Table 3**. This may be due to the considerable workload for women who spent 8-9 hours at work, continued their work at home

also and consumed less food. This led to dietary inadequacies. Anaemia was rampant as shown in **Table 4**. Clinical symptoms of anaemia such as paleness of conjunctiva and skin, pale and smooth tongue, koilonychia and fatigue were observed among the rural women. 82% of the respondents complained of lethargy. Symptoms of other nutritional deficiency diseases such as pale eyes, scarlet raw tongue, angular stomatitis, cheilosis, mottled enamel, dental caries, phrynodermia, scurvy were observed among the rural women as shown in **Table 5**.

**Table 3: Existing illnesses and other clinical symptoms**

Sl. No.	Symptoms	Number of Subjects (N=500)	%	Rank
1.	Cold	98	19.6	5
2.	Cough	107	21.4	4
3.	Diarrhoea	43	8.6	7
3.	Fever	65	13.0	6
4.	Headache	119	23.8	3
5.	Pain in hands & legs	150	30	2
6.	Backache	202	40.4	1

**Table 4: Clinical symptoms of Anaemia among rural women**

Symptoms	Number(N=500)	%
Pale conjunctiva	218	43.6
Paleness of skin	106	21.2
Pale & smooth tongue	76	15.2
Koilonychia	297	59.4
Feeling of lethargy	410	82

**Table 5: Clinical symptoms of other nutritional deficiencies among rural women**

Symptoms	Number of Subjects (n=500)	%
Pale eyes	10	2
Scarlet raw tongue	25	5
Angular stomatitis	43	8.6
Cheilosis	52	10.4
Mottled Enamel	103	20.6
Dental caries	291	58.2
Phrynodermia	8	1.6
Scurvy	38	7.6

Data showed that 58.2% rural women had dental caries. Mottled enamel was observed in 20.6% subjects. Bleeding gums, loose teeth were present in 7.6% respondents.

- **Blood Parameters :** The blood haemoglobin (Hb) level, packed cell volume (PCV) and mean corpuscular haemoglobin concentration (MCHC) values ranged from 7-12gm. /dl, 25-42% and 22-37% respectively. The mean Hb value of 9.8 gm. /dl and of MCHC 28% was below normal limit confirming the presence of iron deficiency anaemia as shown in **Table 6**.

**Table 6: Blood Parameters of the rural women**

Blood Parameters	Mean $\pm$ S.D	Normal Value
Haemoglobin	9.8 $\pm$ 0.4	12.0*
Packed Cell Volume %	36.7 $\pm$ 0.8	32-38**
Mean Corpuscular Haemoglobin Concentration %	28 $\pm$ 0.2	32-38**

\* WHO (1970)\*\* Hunter & Bomford (1967)

## CONCLUSION

The present study revealed that the consumption of milk and milk products, vegetables and fruits was much less than the RDA proposed by ICMR (1990). The body weight, height and B.M.I of the rural women were below normal. There were clinical signs and symptoms of anaemia, B-complex vitamin deficiencies. Promoting healthy diets and lifestyles to reduce malnutrition and non-communicable diseases requires a multisectorial approach. The strategies must not only be directed at ensuring food security for all but the rural women must be encouraged to consume adequate quantities of safe and good quality foods. Nothing short of radical change will help in raising the health and nutritional status of the rural women.

## RECOMMENDATIONS

An intensive study on the effects of detailed cultural factors including status of women and sharing of food and food taboos will provide for a better understanding of the various nutritional deficiency diseases. The occurrence of diseases of nutritional and non nutritional origin in district Shimla in recent years suggest a need for proper antenatal services, supplementation of iron-folate tablets in pregnancy and lactation, nutrition support to meet the RDA during pregnancy and lactation. Screening for various nutritional deficiencies, their treatment and availability of food at reduced rates for the poor women can go along way in eradication of malnutrition especially in women, adolescent girls and children. Nothing short of radical change will help in raising the health and nutritional status of the rural women.

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## Quality Evaluation of Moth Bean Based Extruded Products

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### ABSTRACT

*Moth bean (*Vigna aconitifolia*) is an inexpensive source of important nutrients & also consumed most popularly among the arid legumes, although in limited forms. In view of increasing trend of liking towards extruded products it was thought relevant to find out extrusion potential of moth bean .Hence vadi , bhujia & chakali were developed & standardized with varying proportion of moth bean along with other ingredients Organoleptic evaluation of the extruded product on 9 point hedonic rating scale by semi trained panel of 10 members revealed " moderate " (7.70,7.80, 7.90, 7.80, 7.70) to " very much liking "(8.70, 8.80, 8.90, 8.70) for the product prepared with 25% of moth bean in each case. Shelf life of the three products for a period of one month was evaluated on the basis of their overall attributes, fat acidity & standard plate count (S.P.C) using standard methods. The Organoleptic score of the product ranged between 7.10 – 8.60 at the end of the storage period with non significant differences indicating high acceptance of the product .The fat acidity (1.44 mgKOH/100g -20.54 mgKOH/100 g) & Standard plate count ( $0.2 \times 10^4$ - $0.9 \times 10^6$ ) found to be in satisfactory range after one month of storage .Thus results clearly indicated good extrusion potential of moth bean which can easily be exploited for livelihood security of the people residing in arid areas.*

### INTRODUCTION

Pulses form an integral part of the vegetarian diet in the Indian sub continent. Besides being a rich source of protein, they maintain soil fertility through nitrogen fixation and thus play a vital role in furthering sustainable agriculture. In Indian context, arid legumes consist of moth bean, cluster bean, horse gram and chickpea. Among the arid legumes moth bean (*Vigna aconitifolia* [Jacq].Marechal) is the most consuming pulse of the people living in harsh environment of arid and semi arid zones. Moth bean has been identified as one of the potential protein food source. It also possesses high nutritive value in respect of moisture, crude protein, crude fiber, and ash and nitrogen free extract .It is invariably used by local people only and hitherto under exploited for their nutritional contribution. Moth bean seeds are mostly consumed as cooked, whole seeds, split peas (*dhals*) or as sprouted.

The green immature seeds can be consumed as such or after cooking. Moth bean flour is used for preparation of traditional products like *papad*, snacks, nuggets, *roti*, *bhujia*, *ladoo*, *mathari*, *vadi* Extruded products such as *vadi*, *bhujia* and *chakali* gaining popularity in today's multicultural world as per general trend. However, one necessarily does not have to purchase them from the market, as they can be prepared at household level. Hence the present study was aimed to assess the quality evaluation of moth bean (RMO-435) based extruded products.

### AIMS & OBJECTIVES

To assess organoleptic acceptability of moth bean based extruded products & their shelf life evaluation.

## MATERIALS & METHODS

- **Availability of moth bean:** Seeds of RMO-435 varieties of moth bean were procured from Agricultural Research Station, SKRAU, Bikaner, Rajasthan. Physically sound seeds were collected after screening and cleaning and stored in air tight containers under suitable hygienic condition.
- **Development and Standardization of products:** Different extruded products (vadi, bhujia & chakali) were made from moth bean flour by replacing the basic flour i.e. either gram flour & moong dal (basic pulse) in case of vadi as per requirement at different proportions viz., 25 per cent, 50,75 and even at 100 per cent.
- **Sensory Evaluation:** To assess acceptability of the products sensory evaluation was carried out by a panel of 10 semi trained judges using nine point hedonic ranking scale.
- **Shelf life study:** The developed products were stored at room temperature for one month .The shelf life was assessed the basis of following criteria.
  1. **Organoleptic evaluation of developed products:** Stored products were subjected to organoleptic evaluation by panel of 10 semi-trained judges using 9 point hedonic ranking scale at the interval of 15 days up to 1 month
  2. **Fat acidity:** The fat acidity was determined by the method of AOAC (1995).
  3. **Microbial evaluation:** In the present study products were examined for the presence of organisms using standard procedure
  4. **Standard plate count:** Standard plate count test for developed products was conducted by pour plate method as described by APHA (1984).

## RESULTS & DISCUSSIONS

- **Sensory Evaluation:** All the 3 products of extruded category were subjected to organoleptic evaluation by the panel of judges and the pertaining results for all types of *vadi* prepared either with 25 per cent, 50 per cent, 75 or 100 per cent replacement of moong dal were falling into the "liked very much" and "liked moderately" category since their organoleptic scores were noted to be 8.70, 7.70, 7.70 and 7.80 respectively. Overall acceptability mean score for bhujia was found to be 8.80, 7.90 ,7.80,6.30 & 5.40 respectively. While the scores for chakali were 8.70,7.70, 6.60 ,5.40 & 5.30 respectively. However significant difference was observed among all the treatments for their palatability scores.
- **Shelf life study:** Under the present study shelf life of the most acceptable products was judged on the basis of their organoleptic evaluation, fat acidity and microbial count after each interval of 15 days during the storage period of one month.
- **Organoleptic evaluation of developed products:** Stored moth bean based products were evaluated by a panel of 10 judges using 9 point hedonic rating scale. .The mean scores on organoleptic parameters were found to be 8.60 ,8.30,8.10 ,7.80 ,7.50,7.20,7.70, 7.30 & 7.30 for *vadi*, *bhujia* & *chakali* respectively, with non significant statistical difference at 5 % level of significance.
- **Fat acidity:** The fat acidity contents of *vadi* , *bhujia* & *chakali* sample was analyzed to be 1.44,1.82, 4.75, 5.11, 5.75, 12.83, 16.15 and 20.54 mgKOH/100 g at 0, 15 and 30 days of storage. Values increased non significantly up to 30 days of storage for vadi where as in case of bhujia & chakali significant changes were found.
- **Microbial evaluation:** The data regarding the standard plate count all the, moth bean based extruded products reveals that number of bacteria (CFU) at '0' ,15,& 30<sup>th</sup> day of storage was found to be  $0.3 \times 10^4$ ,  $0.5 \times 10^4$  ,  $0.8 \times 10^4$ ,  $0.5 \times 10^4$   $0.3 \times 10^4$  , $0.9 \times 10^4$ ,  $0.2 \times 10^4$ ,  $0.5 \times 10^4$ ,  $0.7 \times 10^4$  indicating constant increase in the microbial count.

## **CONCLUSION**

The present investigation reveals that extruded products prepared from moth bean at 25% were well acceptable on organoleptic parameters & the most acceptable products were found in satisfactory range during storage period .Thus moth bean possess great extrusion potential with higher acceptability on organoleptic parameters.

## **RECOMMENDATIONS**

1. The present study is recommended to provide a wide scope for popularizing the under utilized and under exported moth bean legume and its value addition prospects
2. Production of different moth bean based extruded products at commercial level can promote livelihood security among the rural masses in arid regions.
3. Moth bean possess sound extrusion potential & it can be incorporated for preparing different forms of extruded products other then used under study.

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## A Study on the Nutritional Status of Athletes in the Age Group of 17- 22 Years Undergoing Training at Sports Authority of India, Mumbai

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### ABSTRACT

*Food forms the potential source of energy, providing nutrition through the regular diet. Realizing its importance athletes, this study was envisaged. Athletes (n= 46) from Sports Authority of India, Mumbai were selected and categorized based on sports categories. Nutritional status was assessed using a three-day dietary recall, food frequency questionnaire, anthropometric measurements, fitness performance tests and biochemical analysis. Dietary recall revealed that the mean calcium, beta-carotene and vitamin C intake among male and female athletes met the recommendations while a significant difference was seen in the mean intake of energy, protein and iron. The mean haemoglobin levels were below recommended levels. Eighty-two percent of the athletes were anemic. A significant difference was seen in the iron, beta-carotene, folic acid and vitamin C intake across the three sport groups. The mean body fat percent was higher among the male athletes involved in power sports and female athletes involved in combination of power and endurance sports. Optimizing an athlete's health with good nutrition is vital for peak performance. Nutritional knowledge, diet counseling and early screening of nutritional deficiencies can contribute greatly towards building better standards in Indian sports both for athletes as well as for their coaches.*

### INTRODUCTION

India has produced players with exceptional skills who have made their presence felt at the international level in the individual sports as well as team sports. An athlete's performance is a composite of many different factors and attaining this ideal performance is largely a personal choice. Young athletes and their parents are frequently unaware of the appropriate components of a training diet. Therefore this study was carried out with an aim to understand the nutritional status of these athletes.

### AIM & OBJECTIVES

1. To assess the nutritional status of athletes involved in power sports, endurance sports and combination of power and endurance.
2. To study the gender differences of the athletes concerning their nutrient intake, fitness performance scores, and biochemical profile.
3. To understand the association between the nutritional status and percent body fat, fitness performance and biochemical profile among the athletes.
4. To examine the differences between the nutrient intake, blood parameters and fitness performance between the athletes involved in power sports, endurance sports and combination of power and endurance sports.
5. To understand the coach's perception regarding nutrition.

### MATERIALS & METHODS

Forty-six athletes were selected for the study from the sports authority of India, Kandivili-Mumbai. These athletes were categorized based on the different sports categories, which included power sports, endurance sports and combination of power and endurance sports.

Nutritional status of the athletes was assessed using a three day 24 hour dietary recall and food frequency questionnaire, anthropometric measurements, fitness performance and biochemical analysis.

Coaches were interviewed regarding their nutritional knowledge and the performance of their students.

## RESULTS & DISCUSSIONS

Sports have been played worldwide by the young, old males and females and by amateurs and professionals. Many of the athletes and coaches neglect proper nutrition, which forms the foundation for a good physical performance. This study was carried out in order to understand the dietary pattern of the athletes and its relationship with their performance to improve the fitness levels of these athletes.

Body mass index was calculated based on the height and weight, which showed that 93% of the athletes fell under the optimal body fat category while 7% were underweight (Figure 1). A significant increase was seen in the fat mass among female compared to males. ( $p=.003$ ).

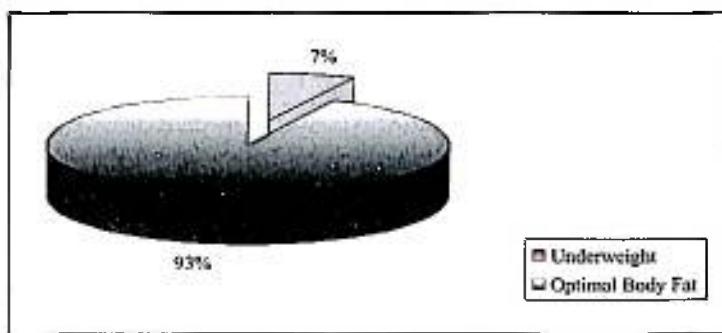


Figure 1: Distribution of Athletes based on BMI

Fitness performance test showed athletes showed poor performance among athletes in the muscular strength (47.5%) while superior performance was seen in muscular endurance test (39.1%). Significant correlation was observed in the fitness tests and blood parameters, percent body fat, BMI and nutrient intake.

Skipping meals was a common routine among the athletes (71.9%) with lunch being the most skipped among the female athletes. Thirty percent athletes (44% male and 2% female) consumed nutritional supplements in order to improve their performance. Study by Berglund et al (2001), found that among the elite athletes 76% male and 92% female consumed nutritional supplements.

Meals provided by the hostel were high in carbohydrate, protein and fat. Similar study by Helinski (1952), reported the diets of the Olympic athletes to be high in energy, proteins and fats. The requirements of calcium, beta-carotene and vitamin c were met through this diet. Though the meals provided by the hostel were rich in carbohydrate and proteins, a vast difference was seen in energy, protein and iron requirements. This could be due to lesser serving size taken by these athletes during their meals (Table 1).

Table 1: Mean Nutrient Intake Between Male and Female Athletes

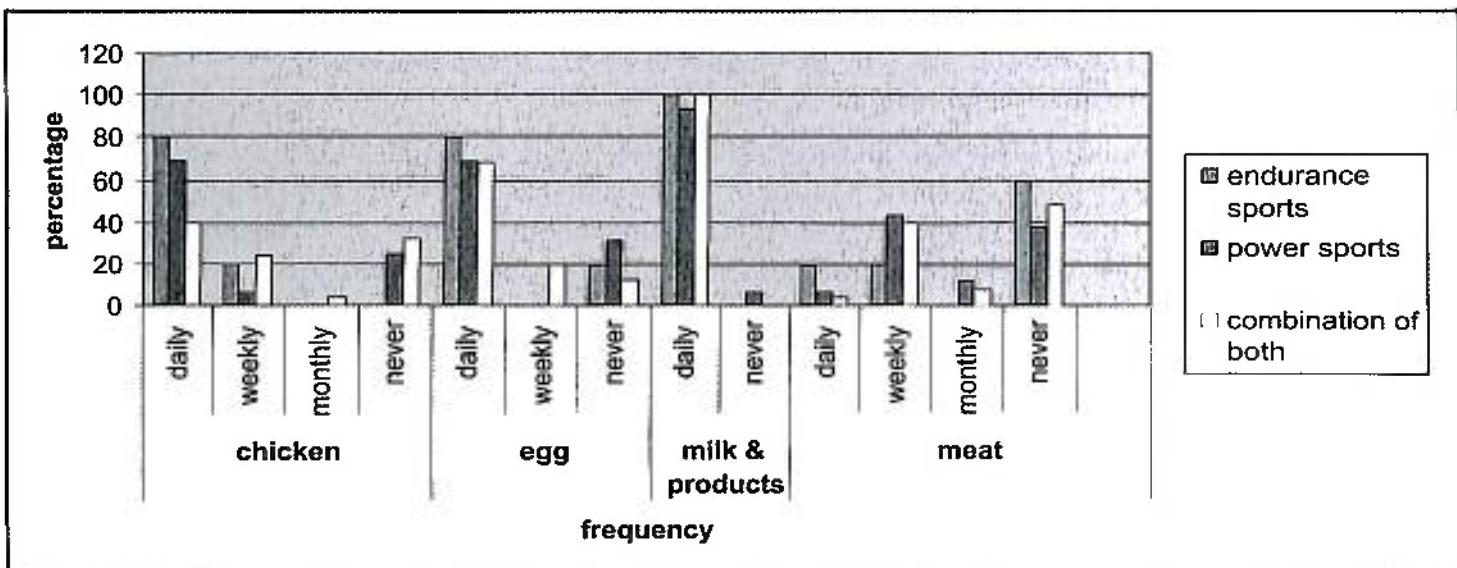
Nutrient	Mean Intake			
	Male		Female	
	Observed	Recommended	Observed	Recommended
Energy (Kcal)	2661.69 $\pm$ 535.86	4320	2205.12 $\pm$ 362.22	3480
Carbohydrates (g)	403.07 $\pm$ 86.03	—	326.88 $\pm$ 86.27	—
Proteins (g)	91.62 $\pm$ 33.31	100-120	76.88 $\pm$ 33.68	80-100
Fats (g)	75.83 $\pm$ 18.41	—	67.06 $\pm$ 15.33	—
Calcium (mg)	1079.38 $\pm$ 294.56	1000- 2000	1010 $\pm$ 246.41	1000-2000
Iron (mg)	18.62 $\pm$ 4.47	50- 75	15 $\pm$ 3.76	60- 100
Beta- carotene (mcg)	1880.41 $\pm$ 828.12	1000- 2000	1880.41 $\pm$ 828.12	1000- 2000
Folic acid (mcg)	209.94 $\pm$ 155.29	—	209.94 $\pm$ 155.29	—
Vitamin C (mg)	128.88 $\pm$ 88.46	100- 200	128.88 $\pm$ 88.46	100- 200

Iron deficiency is one of the most common nutrient deficiencies in the world and is one of the major concerns today. Sixty eight percent of the athletes had a haemoglobin level below the normal range. The mean haemoglobin levels between the male and the female athletes were found to be  $13.23 \pm 1.13\text{ g \%}$  and  $11.11 \pm 1.9\text{ g \%}$ . These values were below the reference values for males (14- 17 g %) and females (12- 15 g %) suggested by Carlson (2000) & McArdle (2005). The present study showed a significant reduction in the haemoglobin levels among the male and female athletes (Wilcoxon's  $Z = 4.796$ ,  $p = .000$ ). This may be due to the intense training or inadequate iron intake leading to insufficiency or iron deficiency anaemia. Malczewska J (2000), also found that the main cause for iron deficiency among the athletes could be too low iron intake (especially heme iron: 0.3 mg daily) and nutrients that influence metabolism. Studies have shown that intense training periods are associated with an increase in the plasma volume and a corresponding reduction in iron status.

Iron deficiency is one of the major concerns for approximately 15% of the world's population and is the most common single nutrient deficiency disease (Tobin et al, 2000). Eighty two percent of the athletes in the current study were found to have iron deficiency anaemia with a percent saturation of < 25 %. All the female athletes (100%) involved in this study were anaemic. The study carried out by Beals (2002) also showed the prevalence of anaemia among the female athletes.

In 2000- 2002, the World Health Organization classified anaemia based on haemoglobin level in the blood. According to this classification, anaemia was classified as mild (110- 119 g/l), moderate (100- 109 g/l) and severe (50- 99 g/l). In the present study, 13.6% of the athletes had mild anaemia, 9% were moderately anaemic and 9% had severe anaemia.

The Food Frequency Questionnaire showed that the consumption of cereals, pulses, banana, milk, limejuice, curds, egg and chicken (among non- vegetarians) were on a regular basis. High consumption of chicken among the non-vegetarians accounted for their high protein intake (Figure 2). Consumption of micronutrient rich foods was seen on weekly basis.



**Figure 2: Consumption of Foods Rich in Proteins among the Athletes**

Coaches play an important role in the optimal performance of the athletes. The coaches in the present study were aware of the nutritional requirements of the athletes but they emphasized more on carbohydrate loading for better performance during the competitive seasons.

Good nutrition is not only the key success to the well being of the athletes but also plays an important role for individuals from the non athletic background. Thus there is a great need for nutritional guidance and advice for the athletes as well as their coach who play an important role to improve and optimize the health, physical fitness and sports performance of these athletes.

## **CONCLUSION**

Optimizing an athlete's health with good nutrition is necessary for their overall build up. Nutritional knowledge and diet counselling and early screening of nutritional deficiencies can contribute greatly towards building better standards in Indian sports both for athletes as well as for their coaches. Thus there is a great need for nutritional guidance and counselling for the athletes should take priority.

## **RECOMMENDATIONS**

1. A better representation of athletes across the sports category, age and gender could yield better results.
2. A larger sample size could be included in the study.
3. An intervention study could be carried out.
4. More number of sports could be selected among the three different sports categories to yield better results.
5. A comparative study could be carried out between sports institutions.
6. Nutrition Education could be conducted to create awareness among the athletes.

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## Study on Nutritional Status of Primary School Children Covered by Mid-Day Meal Programmes in Palghar and Wada Talukas, Thane District

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### ABSTRACT

*The present study was carried out to assess and compare the nutritional status of primary school children (6-13 yrs) who were being newly covered by a NGO supported Mid-day Meal programme (MDM) in Palghar Taluka and a Government-run MDM in Wada Taluka in Thane District of Maharashtra State. Baseline data were obtained through an assessment of a total of 1312 subjects (Palghar -660 and Wada-652). The same subjects were followed after 4 months of supplementation through MDM programme and a total of 1042 subjects (Palghar -562 and Wada-480) was subject of re-assessment. A 24-hr dietary recall to assess daily nutrient intakes and anthropometric measurements were used for both the groups pre and post intervention and comparisons were made with RDA (ICMR, 1990) for nutrient intakes and with NCHS standards (2002) for anthropometric measurements within groups. As part of MDM subjects in Palghar were given khichdi and subjects in Wada were given the regular MDM based on the cyclic menu recommended by the government. At the time of re-assessment, all the subjects were found to have a significant increase in the mean heights ( $p<0.05$ ), whereas a significant increase in mean weight values were found among subjects in Wada Taluka ( $p<0.05$ ). Significant decrease was observed in the mean skin fold thickness measurements of subjects in Wada taluka post intervention ( $p<0.05$ ). A significant decrease ( $p<0.05$ ) in the MUAC values was observed across all the subjects except in 10-13 yr old boys and girls in Wada taluka. A significant decrease was also observed in the mean energy, carbohydrate and fat intake in subjects in Wada taluka ( $p<0.05$ ) whereas a significant increase was observed in the mean energy intake of 6-10 yr old subjects in Palghar taluka ( $p<0.05$ ). Intake of energy, macronutrients and micronutrients (calcium, iron, Beta-carotene) was found to be lower than that of RDA in both the groups at baseline as well as post supplementation. Hence a follow-up study after longer period (6 months- 1 year) of intervention would have yielded better results to understand the impact of MDM intervention in these children.*

### INTRODUCTION

Children are the invaluable assets of the nation, and their physical and educational development determines the extent to which they contribute to the national growth and prosperity. Primary school children (6-14 years) form about 20% of the total population (NNMB, 2000). It is estimated that about 40% of these children drop out of primary school. National Nutrition Monitoring Bureau (NNMB) surveys (2000) indicate that about 70% of these children are undernourished and there is about 30% deficit in energy consumption and over 75% of the children have dietary micronutrient deficit of about 50%. Problems of illiteracy, malnutrition, anemia, vitamin-A and iodine deficiency are very common among children in India. Recent studies have demonstrated that there is a high prevalence of iron deficiency among school children in areas affected by endemic goiter in India. A large number of families both in rural as well as urban areas in the country are below the poverty line.

A hungry child cannot perform well in school thus food insecurity poses a threat to the health and overall development of children. In 2001 Supreme Court of India ruled that state governments must provide mid-day meal (MDM) to children of government assisted primary schools. The Mid-day Meal Scheme is the popular name for school meal programme in India. It involves provision of lunch free of cost to school-children on all working days. School meal programmes provide children with at least one nutritionally adequate meal a day which contributes to 1/3<sup>rd</sup> of the child's daily requirements in turn leads to higher attention spans, better concentration and improved class performance.

Hence the surveillance of nutritional status of children and the preventive measures and treatment of malnutrition are undoubtedly important in developing countries. After implementing any kind of programme in order to check whether that programme is reaching the target group and having an positive impact or not and to know if the objectives are being met ,it is essential to evaluate it. With the above rationale the present study was undertaken to study the impact of MDM on the nutritional status of children in Palghar and Wada taluka, Thane district. It was felt necessary to evaluate to find out the acceptability of the programme among the target group of children. Evaluation of this kind will certainly provide some feedback and the findings and recommendations of the study will help towards the improvement of the programme and hence it becomes imperative that a comprehensive evaluation of the programme be undertaken to judge its efficacy.

### **AIMS & OBJECTIVES**

1. To assess and compare the nutritional status of primary school children covered by an NGO based MDM in Palghar taluka with a government based MDM in Wada taluka.
2. To assess nutritional status of primary school children before and after supplementation in terms of:
  - Anthropometric measurements (height for age, weight for age, mid upper arm circumference (MUAC) for age, skinfold thickness for age, BMI for age) and compare it with NCHS standards
  - Nutrient intake of macronutrients (carbohydrates, proteins, fat) and energy and micronutrients (Beta-carotene, iron and calcium) and compare it with RDA
3. To estimate the nutrient content of the supplement provided and evaluate its adequacy in terms of requirements as suggested by NNMB
4. To assess the socio-economic background of the subjects in Palghar and Wada taluka.
5. To obtain parent's feedback on the supplementation provided in both the talukas

### **MATERIALS & METHODS**

Palghar and Wada blocks of Thane district were selected for the study. 6-13 yr old school going children (both males and females) were selected for the study from a total of 11 schools from Palghar using cluster sampling method and from a total of 12 schools from Wada using convenient sampling method.

**Table 1-Gender and taluka wise distribution of the sample was as follows**

Taluka	Baseline		Follow-up(After 4 months)	
	M	F	M	F
Palghar	342	318	263	276
Wada	335	317	244	236

At baseline a total of 1312 subjects were present in the study but post intervention some of the subjects were not present on the day of the survey thus resulting in a total of 1020 subjects in the study. The duration of the study was for 4 months i.e. from June 2007-October 2007.

- **Research Tools & Techniques :** An interview schedule was used for obtaining information .This tool was selected as most of the participants were young.

An interview schedule was used for obtaining the following information:-

- a) **General information and socioeconomic status** - Data regarding the general information of the subject such as age, family background, village, school, class, education status of parents and profession of parents, commodities available was collected. Based on the commodities available with the subjects at home the socioeconomic status of the subjects was interpreted.
- b) **24- hr dietary recall** - In the present study a 24-hr dietary recall method was taken pre and post intervention. A total of 15 house visits of houses near to school areas whose children attend primary-schools were conducted in Palghar as well as Wada for standardizing the recipes to get an estimate of the portion sizes and also to double check the information collected from young children regarding their food intake. The nutrient intakes of all the subjects were also calculated in terms of % RDA and comparisons were made pre and post intervention. Intake of calories and macronutrients (carbohydrates, protein and fat) and micronutrients(betacarotene, calcium, iron) was calculated using food composition table.
- c) **Parent's feedback** - A total of 90 parents were interviewed post intervention in both the areas i.e. 40 from Palghar and 50 from Wada to get an idea of the child's daily food consumption pattern, school attendance, parent's view regarding the mid day meal provided in school and also to know about the changes which should be made in the mid day meal programme provided in the areas.
- d) **Anthropometric measurements**- Anthropometric measurements in terms of height, weight, mid-upper arm circumference (MUAC) and skin-fold thickness (SFT) were taken pre and post intervention in both the areas .

For comparison of anthropometric measurements and nutrient intakes subjects were grouped as follows

Table 2: Distribution of subjects

Age groups	Group
6-8 yrs(Boys)	1A
8-10 yrs (Boys)	2A
10-13 yrs(Boys)	3A
6-8 yrs(Girls)	1B
8-10 yrs (Girls)	2B
10-13 yrs(Girls)	3B

Statistical procedures such as percentages, frequencies, paired t-tests, Chi-square tests were used to analyze the results.

## RESULTS & DISCUSSIONS

- **School standard wise distribution of subjects**

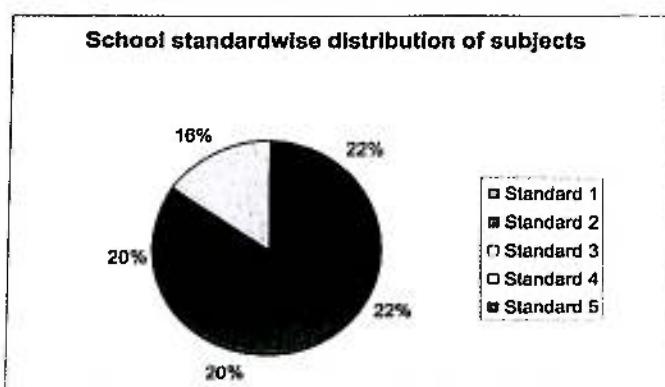


Figure 1: School standard wise distribution of subjects

From the above figure it is clear that out of 1312 subjects, 21.7% belonged to Standard 1, 22.3% to Standard 2 , 20.2% to Standard 3, 20.2% to Standard 4 and 15.6% to Standard 5.

- Age wise distribution of subjects :** Out of the total subjects , 43.7% children were 6-8yrs of age, 37.1 % 8-10 yrs and 18.9% 10-13 yrs of age at baseline and the least percentage of subjects belonged to 10-13 yrs of age.
- Socioeconomic status of subjects :** Based on the commodities available with the subjects at home the socioeconomic status of the subjects was interpreted as follows-

**Table3: Socioeconomic status of the subjects**

Classification	Commodities	Palghar	Wada
Class 1	Fan+T.V+C.D.+ Fridge	7.8%	1%
Class 2	Fan+T.V+C.D.	38.9%	34.6%
Class 3	Fan+T.V.	39.3%	30.8%
Class 4	Fan	14.0%	33.6%

It was observed that 7.8% of the subjects belonged to Class 1 in Palghar taluka whereas 1% belonged to Wada taluka. 14.0% of the subjects in Palghar and 33.6% in Wada taluka belonged to Class 4. Hence it was seen that subjects in Wada taluka belonged to a lower socioeconomic as compared to Palghar. The percentage of illiteracy was also found to be higher in Wada as compared to Palghar.

**Table 4: Nutritional content of MDM provided in Palghar and Wada**

Per serving	Palghar	Wada
Amount (gms)	150	260
Energy (kcal)	121	398
Carbohydrate (gms)	21.4	82.7
Protein (gms)	3.8	7.8
Fat (gms)	1.9	3.5
Beta-carotene (mcg)	187	-
Calcium (mg)	27.7	15.1
Iron (mg)	0.47	0.92

From the above table it can be observed that the nutritional content of the meal provided in Wada was higher in terms of calories and macronutrient content whereas in Palghar the khichdi provided was higher in terms of micronutrient content (calcium and betacarotene) because of inclusion of dudhi, tomato, cabbage, red pumpkin in the khichdi provided .

## DIETARY INTAKE

**Table 5: Mean intake of energy and protein of subjects**

Group	Palghar Mean energy (pre)kcal	Palghar Mean energy (post)kcal	Wada Mean energy (pre)kcal	Wada Mean energy (post)kcal	Palghar Mean protein (pre)gms	Palghar Mean protein (post)gms	Wada Mean protein (pre)gms	Wada Mean protein (post)gms
1A	803±163	807±185	781±151	705±121	25.1±7.3	29.1±9.3	22.1±6.6	21.6±7.6
1B	781±151	821±196	764±151	703±120	24.8±7.4	28.7±9.0	20.6±5.4	20.8±7.3
2A	781±148	860±195	872±187	727±113	26.0±7.6	27.9±9.7	25.0±7.5	22.8±7.4
2B	793±160	848±201	888±195	753±131	25.4±7.0	27.4±8.9	24.2±7.8	22.1±7.4
3A	807±162	929±192	870±174	742±140	25.3±7.3	30.4±10.5	26.3±8.1	23.2±7.4
3B	874±169	898±206	876±198	742±148	27.0±7.3	30.5±10.9	25.6±8.2	22.5±7.6

From the above table it can be concluded that there was a significant increase in the mean energy intakes across all the groups except in group 1A and 3B post supplementation in Palghar taluka. The highest increase was found in group 3A with an average increase of 122 kcal post supplementation. In Wada taluka the mean calorie intake decreased significantly across all age groups. These low energy intakes across all groups could also be because of the fact that many children reach school on an empty stomach in the morning, as early-morning breakfast is not part of the household routine and thus pupils often go hungry for a few hours and find it hard to concentrate in school. The decrease in Wada taluka could be due to a lot of factors such as inadequate food intake, substitution of home meal by the meal provided in school, low purchasing power of the subjects since majority belonged to lower socio economic groups. A study carried out by Sridhar in 2003 to study the impact of MDM on nutritional status of school children showed that income of the family had an impact on the calorie intake of the child.

The mean protein intakes significantly increased in group 1A ,1B,2B and 3A post supplementation in Palghar taluka could be due to high consumption of protein rich sources in the home diets because the school meal provided in Palghar did not contribute much to the protein intake of the subjects .It was observed that the mean protein intake across all the groups increased in terms of % RDA post supplementation. A significant decrease was observed in group 3A and 3B in Wada taluka post supplementation.

**Table 6: Mean intake of betacarotene and iron of subjects**

Group	Palghar Mean Beta carotene (pre)mcg	Palghar Mean Beta carotene (post)mcg	Wada Mean Beta carotene (pre)mcg	Wada Mean Beta carotene (post)mcg	Palghar Mean iron (pre)mg	Palghar Mean iron (post)mg	Wada Mean iron (pre)mg	Wada Mean iron (post)mg
1A	555.9±175.9	500.3±219.3	235.7±119.2	203.9±139.4	3.2±1.8	3.3±2.3	2.0±1.3	2.3±1.8
1B	539.8±177.7	485.5±233.4	214.8±128.6	196.9±140.2	3.1 ±2.0	3.4± 2.0	2.0±1.3	2.7±1.9
2A	522.7±166.9	447.6±240.3	204.6±117.6	198.0±135.1	3.1 ±1.6	3.6±2.3	2.1±1.1	2.3±1.4
2B	603.3±149.3	442.9±194.2	203.7±119.8	215.4±121.6	3.0± 1.4	3.7± 2.1	1.9±.9	2.2±1.6
3A	530.8±166.0	595.0±258.3	263.4±133.1	220.6±147.6	3.5±2.3	3.5±1.9	1.8±.7	1.9±1.2
3B	597.1±192.5	457.4±282.2	251.4±135.6	201.0±122.3	3.1± 1.4	4.0± 2.8	2.2±1.1	1.9±.91

From the above table it can be inferred that the mean betacarotene intakes was found to be <11%RDA across all the groups at baseline and post supplementation. The betacarotene content of the MDM provided at Wada was found to be negligible and hence did not contribute to the daily betacarotene intake.

The diets of the subjects in both the talukas was found to be deficient in Beta carotene probably because of lack of vegetables and fruits rich in betacarotene in the diet which could be due to inaccessibility to foods rich in betacarotene which could be either because of inability to afford or due to unavailability of rich sources of Vitamin A and hence the mean intakes were extremely low in terms of % RDA.

From the above table it can be concluded that the mean iron intakes were <22% RDA across all age groups and it was found that the mean iron intakes in terms of % RDA increased across all the age groups post supplementation in Palghar taluka. From the above table it can be seen that in Wada taluka across all the groups the mean iron intakes were found to be <12%RDA post supplementation. This shows that the iron content in the diet of these subjects is very low which could be due to inadequate intake of foods rich in iron.

Hence efforts should be made to improve the nutritional content of the meals in terms of macronutrients and micronutrients provided in schools as well as in home diets in order to improve the nutritional status of these children and efforts should also be made to educate children, parents and the school authorities regarding the importance of MDM as a supplement and not as a substitute for home

## ANTHROPOMETRIC MEASUREMENTS

**Table 7:** Mean height and weight values of subjects

Group	Palghar Mean height (pre)cms	Palghar Mean height (post)cms	Wada Mean height (pre)cms	Wada Mean height (post)cms	Palghar Mean weight (pre)kg	Palghar Mean weight (post)kg	Wada Mean weight (pre)kg	Wada Mean weight (post)kg
1A	<b>111.8±6.2</b>	<b>113.5±6.2</b>	<b>112.3±6.1</b>	<b>113.5±6.5</b>	<b>16.3±2.1</b>	<b>16.4±2.2</b>	<b>15.2±2.4</b>	<b>15.5±2.5</b>
1B	<b>110.9±6.7</b>	<b>112.7±6.6</b>	<b>112.9±6.0</b>	<b>113.9±6.2</b>	<b>16.1±2.4</b>	<b>16.1±2.2</b>	<b>15.1±2.1</b>	<b>15.4±2.2</b>
2A	<b>122.4±6.5</b>	<b>124.0±6.2</b>	<b>123.3±7.2</b>	<b>124.3±7.2</b>	<b>19.7±2.9</b>	<b>19.8±3.0</b>	<b>18.9±3.2</b>	<b>19.3±3.4</b>
2B	<b>121.9±6.7</b>	<b>123.8±6.8</b>	<b>123.8±6.6</b>	<b>124.6±6.7</b>	<b>19.7±3.4</b>	<b>19.7±3.5</b>	<b>19.1±3.3</b>	<b>19.3±3.5</b>
3A	<b>130.2±8.3</b>	<b>131.4±8.3</b>	<b>130.3±7.6</b>	<b>131.2±7.8</b>	<b>22.2±4.0</b>	<b>22.8±4.6</b>	<b>22.0±4.0</b>	<b>22.7±4.5</b>
3B	<b>127.3±9.8</b>	<b>129.6±10.1</b>	<b>131.0±8.9</b>	<b>131.9±9.0</b>	<b>21.6±4.7</b>	<b>21.4±4.8</b>	<b>21.5±4.1</b>	<b>22.0±4.3</b>

From the above table it can be seen that there has been a significant increase in the mean height values across all groups in Palghar and Wadataluka post supplementation ( $p<0.05$ ). This increase could be possibly due to the fact that there are increments in height measurements during the school age as this phase involves rapid growth and development of the child.

A significant increase in the mean weight values in group 1A in Palghar taluka post supplementation has been observed and a significant increase in the mean weight values across all age groups except in 2B in Wada taluka. This increase in Wada taluka could be due to the fact that the nutritional content of the meal provided in Wada is higher than that provided in Palghar. Hence the caloric content of the meal in Palghar needs to be increased since it provides only 121 kcal whereas the recommended value is 450 kcal.

In a study carried out by Devadas and Rajamal in 1973 on school children proved that when longitudinal records on heights and weights of children participating in the school lunch programme over a period of five years was taken , it was seen that children participating in the well organized lunch programme recorded significantly greater heights and weights over the control group.

**Table 8:** Mean MUAC and SFT values of subjects

Group	Palghar Mean MUAC (pre)cms	Palghar Mean MUAC (post)cms	Wada Mean MUAC (pre)cms	Wada Mean MUAC (post)cms	Palghar Mean SFT (pre)mm	Palghar Mean SFT (post)mm	Wada Mean SFT (pre)mm	Wada Mean SFT (post)mm
1A	<b>15.1±1.3</b>	<b>15.0±1.1</b>	<b>14.5±1.2</b>	<b>14.3±1.1</b>	<b>6.0±1.2</b>	<b>5.5±1.3</b>	<b>6.0±1.5</b>	<b>5.1±1.4</b>
1B	<b>15.2±1.2</b>	<b>15.1±1.0</b>	<b>14.6±1.1</b>	<b>14.4±1.0</b>	<b>6.5±1.3</b>	<b>6.2±1.7</b>	<b>6.5±1.6</b>	<b>5.6±1.4</b>
2A	<b>16.0±1.3</b>	<b>15.8±1.3</b>	<b>15.7±1.3</b>	<b>15.4±1.34</b>	<b>6.4±1.5</b>	<b>5.5±1.8</b>	<b>6.9±2.3</b>	<b>5.5±2.3</b>
2B	<b>16.5±1.7</b>	<b>16.0±1.6</b>	<b>15.8±1.5</b>	<b>15.7±1.3</b>	<b>7.2±2.1</b>	<b>6.8±2.0</b>	<b>7.5±2.4</b>	<b>6.6±2.3</b>
3A	<b>16.7±1.6</b>	<b>16.4±1.8</b>	<b>16.3±1.7</b>	<b>16.3±1.7</b>	<b>6.8±1.4</b>	<b>5.4±1.8</b>	<b>7.1±2.3</b>	<b>5.9±2.6</b>
3B	<b>16.6±2.0</b>	<b>16.4±1.9</b>	<b>16.3±1.63</b>	<b>16.2±1.5</b>	<b>6.8±2.2</b>	<b>6.6±1.8</b>	<b>8.0±3.0</b>	<b>7.1±2.6</b>

From the above table it can be seen that there has been a significant decrease in the mean MUAC measurements in the 2B group post supplementation in Palghar taluka. In Wada taluka there was a significant decrease in the mean MUAC measurements across all the age groups except in group 3A and 3B. The reason for this decrease could be related to the health problems that occurred in the subjects during the period of supplementation such as fever illness, diarrhoea, inadequate food intake and could also be due to the fact that since the nutritional content of MDM provided in the taluka is below the recommended values for these subjects, the meal is not adequate enough to supplement their home diets and hence such a decrease is observed.

There has been a significant decrease in the mean skin fold thickness in all the groups in Wada taluka post supplementation and in Palghar taluka a significant decrease has occurred across all the groups except in 1B and 3B post intervention. The decrease shows that wasting is prevalent in these areas and could be due to improper compliance with the MDM or due to health complications which could have occurred during the phase of supplementation such as fever, diarrhea etc.

## CONCLUSION

The nutritional content of the meals provided in both the areas was inadequate in terms of calories, macronutrient and micronutrient content and hence it needs to be enhanced by inclusion of green leafy vegetables, sprouts, soy granules, milk, and provision of fish or chicken more frequently for MDM along with variations in the menu. Nutrition education should also be imparted for better functioning of MDM and it should be explained to the parents that supplementation should never be treated as substitution for increasing the effectiveness of this supplementary programme.

## RECOMMENDATIONS

1. A follow up after a longer duration (6 months -1 year) of intervention could have yielded better results.
2. Assessment of clinical signs can be carried out.
3. School authorities and parents need to be provided with nutrition education for better results

\**Palghar and Wada are names of talukas in Thane district of Maharashtra*

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## Impact of Nutrition Education in Obese Adolescents

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### ABSTRACT

*Adolescent obesity is an emerging problem in Indian children and it may be major contributors to the adult obesity epidemic. Thus, identifying potential risk factors for childhood obesity and formulating early intervention is crucial in the management of the obesity epidemic. To impart nutrition education to the obese adolescents in order to improve their dietary habits and to know the effect of nutrition education. Cross sectional evaluation of anthropometric parameters in Salem school children (10 – 16 years). Government school and Private school in Salem. 998 children, 649 (322 boys, 327 girls) from government school and 349 (146 boys, 203 girls) from private school. Subjects underwent assessment of height and weight and calculation of BMI. Children were classified as normal, overweight and obese as per James et al classification. The nutrition education was imparted to overweight and obese adolescents by using software twice for a period of one month. The scores gained by the adolescents before and after nutrition education were collected, the quantum improvement was calculated and the effect of nutrition education was analyzed using paired sample 't' test. Out of 649 adolescents 77 (12 per cent) were obese. The private school obese adolescents had high knowledge scores before (6.08) and after (17.00) nutrition education than the government school obese adolescents (5.15, 13.64). The difference in mean score increase between before education and after education was significant at 1% level in both government and private school obese adolescents. The quantum improvement was higher in private school obese adolescents (2.79) than government school obese adolescents (2.64). Adolescent obesity is a global epidemic. This study confirms the importance of interventional strategies to reduce the prevalence of adolescent obesity.*

### INTRODUCTION

Many developing countries including India today face the dual burden of diseases of poverty as well as diseases of affluence. Some of the reasons for this change among many are urbanization and adoption of westernized life style. World children suffer from protein energy malnutrition and UNICEF (WHO, 2000) reported that one – third of children were stunting in developing countries in 2000. Obesity is another health problem in world. Several studies in different countries showed that obesity trend increases. At the community level, obesity prevention should be based on nutrition education and the enhancement of physical activity in different settings, such as schools and workplaces, and should enlist the involvement of families as well. Nutrition education is a key element to promoting life long healthy eating and exercise behaviours and should start from the early stages of life. The goal of nutrition education is to teach children to eat a well-balanced diet that contains a wide variety of foods, and that children learn to make wise food choices independently. Nutrition education which can encourage healthy eating habits can play an important role in controlling various diseases. Kalpana and Divya (2008) said that nutrition education is one of the best methods by which awareness can be created among women and children to modify their dietary pattern. Nutrition education focusing adolescents help to bring down

the prevalence of disease. Computer-tailored nutrition and physical activity education is an innovative, promising and cost-effective tool to motivate people to make healthy dietary and physical activity changes (Bakker *et al*, 2003). The present study was carried out to impart nutrition education to the obese adolescents in order to improve their dietary habits and to know the effect of nutrition education.

## **AIMS & OBJECTIVES**

The present study was carried out to impart nutrition education to the obese adolescents in order to improve their dietary habits and to know the effect of nutrition education.

## **MATERIALS & METHODS**

The present study was conducted at Salem district. Totally 149 private and 162 Government schools are located in Salem Educational District. For the present study Salem Block was selected. Salem Block comprised 67-high /higher secondary school. Thirty-six schools are Government schools and thirty-one schools belong to matriculation school. From this, one government and one matriculation schools were selected by random sampling technique are as follows.

- Government High School, Azaghapuram, Salem.
- Bala Bharathi Matriculation Higher Secondary School, Maraveneri, Salem.

A total of 649 and 349 adolescents from government and matriculation school respectively in the age group of 10 to 16 years were included in the study. Prevalence of overweight/obesity was assessed in both sexes of government and private school. The screened obese (N=77) adolescents were included for conducting the nutrition education. A well-formulated and standardized questionnaire cum interview schedule was used to elicit information on knowledge on nutrition. Based on the collected data, software was developed and it was used as a Computer Aided Instructional (CAI) package in the schools. The software implementation was given to the obese adolescents from the selected schools. Nutrition knowledge (pre – test) of the obese adolescents was assessed by the questionnaire method. Questionnaire of 20 questions which included in the schedule for measuring the knowledge about general diet, balanced food, food pyramid, Recommended Dietary Allowance (RDA), questions related to obesity. On the basis of the overall performance of the selected obese adolescents in pre – test, concepts such as components of obesity, basic information about role or functions of foods, nutrients, quality foods (mixed cereals & cereal pulses combinations), preservation (fermentation & sprouts), fresh whole fruits & vegetable intake and ill effects of fast foods and complication of childhood obesity were prepared. The intensive dietary counseling on above stated topics was imparted to the selected obese adolescents twice for a period of one month through lecture by using the developed software and Microsoft PowerPoint. To study the impact of nutrition education of obese adolescents, post test scores were collected. Based on the collected data, their awareness level was ascertained. The results were statistically analyzed and nutrition knowledge scores were assessed using the formula:

$$\text{Gain in scores} = \text{Post test scores} - \text{Pre test scores}$$

$$\text{Quantum of improvement} = \frac{\text{Post test scores}}{\text{Pre test score}}$$

Mean and standard deviation were computed for variables. To test the significance of difference of two mean values of before and after nutrition education paired t-values were worked out.

## **RESULTS & DISCUSSION**

Forty seven and thirty obese adolescents were screened from government and private school respectively to impart nutrition education twice for a period of one month. The evaluation of impact of nutrition education was done through pre and post test of obese adolescents.

Table 1 presented the scores obtained by the obese adolescents and the gain in knowledge through the education.

**Table 1: Scores gained by the obese adolescents before and after education (N=77)**

Type of Schools	't' test	Mean Score Value		Gain in Scores	't' Value
		Before Education	After Education		
Government School	Paired	5.15±2.4	13.64±1.2	8.49±1.3	35.69**
Private School	Paired	6.08±3.1	17.00±1.8	10.92±2.1	40.13**
Government vs. Private	Independent	8.49±1.3	10.92±2.1	2.43± 0.8	6.73**

\*\* P (< 0.01)

Statistical analysis revealed that government school obese adolescents obtained a mean score of 5.15 and private school obese adolescents had a mean score of 6.08 before education. However, the post education scores were found to be 13.64 and 17 for government and private school obese adolescents respectively. A significant increase in ( $P < 0.01$ ) in nutritional knowledge was observed in both government and private obese adolescents. When the outcome of the two school obese adolescents was compared, government school obese adolescents had registered a mean increase of 8.49 and private school obese adolescents had a mean increase of 10.92. The difference in mean score increase between before education and after education was significant at 1% level in both government and private school obese adolescents.

Kalpana et al (2008) also found that computer education obtained a mean score of 5.2 and classroom education had a mean score of 5.2 before education. However, the post education scores were found to be 14.3 and 12.1 for computer education and classroom education respectively.

**Table 2: Quantum improvement by the obese adolescents**

Type of Schools	Mean Score Value			Quantum of Improvement
	Pre test	Post test	Gain in Scores	
Government School	5.15	13.64	8.49	2.64
Private School	6.08	17	10.92	2.79

The table - 2 depicted that the mean knowledge score of the government school obese adolescents improved from 5.15 to 13.64 after nutrition education with gain of 8.49 scores. The quantum of improvement was 2.64 times. In the case of private school obese adolescents improved from 6.08 to 17 after nutrition education with gain of 10.92 scores. The quantum of improvement was 2.79 times.

Kalpana et al (2008) also stated that the mean knowledge score of the parents of the male subjects improved from 3.47 to 5.43 after nutrition education with gain of 1.96 scores. The quantum of improvement was 1.56 times. The mean lifestyle score improved from 2.33 to 4.83 after nutrition education with gain of 2.5 scores. The quantum of improvement was 2.07 times.

## CONCLUSION

Adolescent obesity today is an issue of concern even to an III world developing country like India. Interventional strategies are more easily acceptable when implemented at school level. Such school based interventional strategies by way of nutrition education could contribute significantly towards curbing this prevalence of childhood obesity. The present study concluded that nutrition education was effective in obese adolescents.

## RECOMMENDATIONS

Regular and repeated personalized and long term interaction with the adolescents and their parents could help to manage the obesity right in the childhood.

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## Efficacy of Dark Chocolate on Lipid Profile of Cardio Vascular Patients

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### ABSTRACT

*CVD is one of the most costly and burdensome chronic disease of our time and is a condition that is increasing in epidemic proportions in the U.S and throughout the world. Hyperlipidemia refers to increased levels of lipids in the blood including cholesterol and triglycerides. Although hyperlipidemia does not cause a person to feel bad, it can significantly increase the risk of cardio vascular disease. Blood cholesterol (lipid) reduction can be achieved by dietary modification as well as by drugs. Essential antioxidant mainly high amount of flavonoid that has been linked to cardio vascular health. Chocolate found to be a good source of such antioxidant called catechins and phenols which have the ability to protect the body from major health issues, including stroke, heart failure, cancer and diabetes. The present study was aimed to study the efficacy of dark chocolates on lipid profile of the selected hyperlipidemic patients. Dark chocolates were procured from local manufacturer in Salem district, Tamil Nadu. Catechin content of dark chocolates was analyzed using spectrophotometer. A number of 22 hyperlipidemic subjects from each gender (56 male and female) in the age group of 40-60 years were selected from Guru Hospital, Mettur taluk, Salem district by simple random sampling technique. Subjects who have LDL Cholesterol > 100, Triglycerides > 150, Total Cholesterol > 200 were selected and grouped as Control (without supplementation) and experimental (supplemented with 100grams dark chocolates) for a period of 40 days. The blood lipid profile was assessed by enzymatic method in both control and experimental groups during supplementation and analyzed statistically. Results showed that TC (14.77%), LDL (36.62%), Triglycerides (21.4%) and VLDL (21.4%) reductions were observed with 44.08 percent increase in HDL level at the end of study period. However, statistical analysis states that there is no significant reduction in lipid levels except TG levels. Hence, it is concluded that the flavanol-containing chocolate bar has the potency to lower blood lipid levels.*

### INTRODUCTION

CVD is one of the most costly and burdensome chronic disease of our time and is a condition that is increasing in epidemic proportions in the U.S and throughout the world. Hyperlipidemia refers to increased levels of lipids in the blood including cholesterol and triglycerides. Although hyperlipidemia does not cause a person to feel bad, it can significantly increase the risk of coronary heart disease. Blood cholesterol reduction can be achieved by dietary modification as well as by drugs. Drugs are less preferred due to their side effects and are prescribed only in treating severe cases. Hence, dietary modifications are the first in the line of treating hypercholesterolemia. A healthy diet that can be recommended for all healthy people over 2 years of age is low in total fat, saturated fat and cholesterol and that is moderate in sodium. Fat intake should be lowered to not more than 30% calories, while limiting saturated fat intake to less than 10% calories. Cholesterol intake is limited to not more than 300mg per day for persons who have already been diagnosed with some form of CVD. A number of specific foods or food components have blood cholesterol lowering effects and may, therefore, be useful in reducing risk of CVD. Essential antioxidant mainly high amount of flavonoid that has been linked to cardio vascular health, chocolate found to be a good source of such antioxidant flavonoids may have the ability to protect the body from

major health issues, including stroke, heart failure, cancer and diabetes. Chocolates contain antioxidants called catechins and phenols. The present study was aimed to study the efficacy of dark chocolates on lipid profile of the selected hyperlipidemic patients.

## AIMS & OBJECTIVES

The present study was aimed to study the efficacy of dark chocolates on lipid profile of the selected hyperlipidemic patients.

## METHODOLOGY

Dark chocolates were procured from local manufacturer in Salem district, Tamil Nadu. Catechin content of dark chocolates was analyzed using spectrophotometer. A number of 22 hyperlipidemic were selected from each 56 male and female subjects in the age group of 40-60 years from Guru Hospital, Mettur taluk, Salem district by simple random sampling technique. Selected subjects were grouped as control ( $n=10$ ) and experimental ( $n=12$ ). Subjects who have LDL Cholesterol  $> 100$ , Triglycerides  $> 150$ , Total Cholesterol  $> 200$  were selected and grouped as Control groups (without supplementation) and experimental groups (supplemented with 100grams dark chocolates) for a period of 40 days. The blood lipid profile such as Total cholesterol (TC), low Density Lipoprotein (LDL), High Density Lipoprotein (HDL), Triglycerides (TG) and Very Low Density Lipoprotein (VLDL) was analyzed by enzymatic method in both control and experimental groups during supplementation period(0<sup>th</sup>, 15<sup>th</sup>, 30<sup>th</sup> and 40<sup>th</sup> days). The data was analyzed statistically by two ways ANOVA and were compared.

## RESULTS & DISCUSSION

Dark chocolate thus prepared had 7.1 mg of catechins per 100gm. The mean lipid profile of the selected hyperlipidemic subjects in 0<sup>th</sup>, 15<sup>th</sup>, 30<sup>th</sup> and 45<sup>th</sup> days of the study period was taken and is given in the table. Mean total cholesterol levels (mg/dl) of selected control and experimental group were taken on 0<sup>th</sup>, 15th, 30<sup>th</sup> and 40<sup>th</sup> days were ( $226.7 \pm 30.2$ ,  $219 \pm 26.6$ ,  $216.3 \pm 21.7$ ,  $210.7 \pm 21.9$  in the control group and  $243.2 \pm 28.1$ ,  $236.4 \pm 21.9$ ,  $220.8 \pm 20.1$ ,  $211.9 \pm 14.9$  in the experimental groups respectively. Seven point six percent and 14.77 percent reduction was observed in control and experimental groups respectively but, there was no significant difference observed between control and experimental group. Allen et al., (2008) reported that regular intake of plant-sterol-containing chocolate bar reduced total cholesterol 2.0% and LDL cholesterol 5.3%, both significantly( $P < 0.05$ ). This reduction was on top of the 7% reduction in total cholesterol that occurred during the two-week dietary run-in phase.

Low density lipoprotein level (mg/dl) of the selected control and experimental group were about  $142.3 \pm 23.1$ ,  $133.8 \pm 21.8$ ,  $129.9 \pm 19.2$ ,  $121.1 \pm 20.7$  and  $157.8 \pm 30.7$ ,  $150.4 \pm 23.1$ ,  $127.7 \pm 26.3$ ,  $115.5 \pm 24.9$  respectively. Similar effect as that of TC was noticed in LDL also. Control group has showed 17.5 percent reduction whereas experimental had 36.62 percent reduction from initial to end of the study period. Statistically significant difference was not seen between the groups. Baba and co-workers randomly assigned the subjects to receive containing low-polyphenolic compounds (placebo-cocoa group) and three different levels of cocoa powder - 13, 19.5, and 26 grams per day - for four weeks. In all three high-polyphenol cocoa groups, blood levels of oxidised LDL concentrations decreased compared with levels observed at the start of the study. Separate analysis using data from 131 subjects who had elevated LDL cholesterol levels of 3.23 mmol/L at baseline - the normal/desirable LDL level is reported to be less than 2.6 mmol/L (100 mg/dL) were selected. In these subjects, blood levels of LDL cholesterol, oxidized LDL, and Apo B concentrations decreased, while levels of HDL cholesterol increased, relative to baseline levels in all three cocoa groups.

HDL level (mg/dl) was measured for both control and experimental group at their 0<sup>th</sup>, 15, 30<sup>th</sup> and 40<sup>th</sup> day they were about  $23.7 \pm 6.6$ ,  $25.9 \pm 7.1$ ,  $28.9 \pm 6.6$ ,  $32.7 \pm 9.7$  and  $26 \pm 7.9$ ,  $29.5 \pm 5.9$ ,  $38 \pm 3.6$ ,  $46.5 \pm 10.1$  respectively. An HDL level of control has risen by 27.5 percent and 44.08 percent in experimental groups. There is no significant increase seen in both the groups. Triglycerides (TG) level (mg/dl) were noted on supplementation of dark chocolates, had about  $303.1 \pm 67.1$ ,  $296.3 \pm 67$ ,  $287.2 \pm 63$ ,  $264.5 \pm 93.1$  and  $297.1 \pm 78.7$ ,  $281.8 \pm 78.9$ ,  $274 \pm 75.7$ ,  $244.7 \pm 1.6$  of control and experimental groups respectively. Significant reduction

in TG was observed and significant difference found between groups. An analysis of data from the Framingham prospective study suggests that decreased levels of triglycerides are associated with decreased CHD risk in the presence of increased HDL level that is about  $>1$  mmol/l (Charlotte, 2008). VLDL levels were noted on both control and experimental groups about  $60.6 \pm 13.4$ ,  $59.2 \pm 13.4$ ,  $57.4 \pm 12.6$ ,  $56.9 \pm 13.3$  and  $59.4 \pm 15.7$ ,  $56.3 \pm 15.7$ ,  $56.3 \pm 15.7$ ,  $55 \pm 14.9$ ,  $48.9 \pm 14.3$  respectively. There was no significant difference between both groups. Large quantities of LDL are reduced as a result of a reduction in very low density lipoprotein, which in turn may be due to a reduction in the rate of synthesis of apolipoprotein B (Editorial, 1998). When triglycerides decreases VLDL also gets decreased, because 60% of the VLDL particle is triglycerides (NCEP, 2001)

**Table 1: Mean blood lipid profile levels (mg/dl) of the selected hyperlipidemic subjects (N=22)**

Criteria	Day's	Total Cholesterol	F 'value'	LDL	F 'value'	HDL	F 'value'	TG glycerides	F 'value'	VLDL	F 'value'
Control	0 <sup>th</sup>	$226.7 \pm 30.2$	(NS)	$142.3 \pm 23.1$	(NS)	$23.7 \pm 6.6$	(NS)	$303.1 \pm 67.1$	22.1*	$60.6 \pm 13.4$	(NS)
	15 <sup>th</sup>	$219 \pm 26.6$		$133.8 \pm 21.8$		$25.9 \pm 7.1$		$296.3 \pm 67$		$59.2 \pm 13.4$	
	30 <sup>th</sup>	$216.3 \pm 21.7$		$129.9 \pm 19.2$		$28.9 \pm 6.6$		$287.2 \pm 63$		$57.4 \pm 12.6$	
	40 <sup>th</sup>	$210.7 \pm 21.9$		$121.1 \pm 20.7$		$32.7 \pm 9.7$		$264.5 \pm 93.1$		$56.9 \pm 13.3$	
Experimental	0 <sup>th</sup>	$243.2 \pm 28.1$	(NS)	$157.8 \pm 30.7$	(NS)	$26 \pm 7.9$	(NS)	$297.1 \pm 78.7$	22.1*	$59.4 \pm 15.7$	(NS)
	15 <sup>th</sup>	$236.4 \pm 21.9$		$150.4 \pm 23.1$		$29.5 \pm 5.9$		$281.8 \pm 78.9$		$56.3 \pm 15.7$	
	30 <sup>th</sup>	$220.8 \pm 20.1$		$127.7 \pm 26.3$		$38 \pm 3.6$		$274 \pm 75.7$		$55 \pm 14.9$	
	40 <sup>th</sup>	$211.9 \pm 14.9$		$115.5 \pm 24.9$		$46.5 \pm 10.1$		$244.7 \pm 71.6$		$48.9 \pm 14.3$	
F 'value'		(NS)		(NS)		(NS)		46.4*		(NS)	

\* Significant at 5% level, (NS) - Not Significant

## CONCLUSION

Results showed that TC (14.77%), LDL (36.62%), Triglycerides (21.4%) and VLDL (21.4%) reductions were observed with 44.08% increase in HDL level from the initial period. Hence, it is concluded that the flavanol-containing chocolate bar has the potency to lower blood lipid levels.

## RECOMMENDATIONS

Proper standardized techniques need to be identified which can retain the catechin or total flavonol content. As we continue to learn more about individual flavonoids, we may be able to develop diet strategies that result in the most potent antioxidant effects *in vivo* and thereby further reduce the risk of chronic disease.

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## Women Empowerment through *Pleurotus Sajor-Caju* Supplemented Biscuit Enterprise

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### ABSTRACT

*Female labour is an integral part of the total labour force in every country. The socioeconomic programme for women should create employment potential for women are areas in which they can prove to be better workers than man. Among all, mushroom cultivation is one activity where 70 percent women are involved in the production, harvesting, packaging and processing. Considering growing popularity of mushroom among consumers, due to its flavour, nutrition, medicinal attributes, *P. Sajor Caju* is suitable income generating activity for women). *P. Sajor Caju* is gaining popularity due to its diversability of growth at a wide range of temp. 10-30°C, biological efficiency [40-125%], simple cultivation technology at a nominal capital investment can be grown on various kinds of agricultural by product and decreases environment pollution. During peak period, it grows in flushes but being a perishable gets spoiled easily. So present study was carried out with the objectives to develop and test the acceptability of *P. Sajor Caju* supplemented biscuit and also to test the economic feasibility as a small scale enterprise. Citric acid treated hot air oven dried powder was used at 5 and 10% level for incorporation. Both biscuit were liked moderately on all sensory attributes and stored up to 3 month without significant change in free fatty acid and fat acidity contents of composite biscuit. Cost benefit analysis was done to assess the profitability. Initial cost and net return of 750 kg composite biscuit were Rs. 33310 and Rs. 41602/month respectively. Profit came out to be Rs. 18.52/kg. It showing that investment on this enterprise is profitable.*

### INTRODUCTION

Oyster mushroom is the third largest cultivated mushroom in the world and contributes approximately 16 percent to the total world mushroom production<sup>1</sup>. It is gaining popularity due to its diverse ability of growth at a wide range of temperature (10-30°C) biological efficiency (40-125%) simple cultivation technology at a nominal capital investment, can be grown on various kinds of agricultural byproduct and decrease the environmental pollution by recycling the agro and industrial wastes<sup>2</sup>. Similarly, it is lignicolous fungi which have capabilities to fight against hunger malnutrition prevalent among vulnerable group by producing protein rich foods. It is one of the highest proteins prouder per unit area and time from the worthless agro wastes and fit in well to fight the malnutrition<sup>3</sup>. So present study was undertaken with the following objectives:

1. To develop technology for *Pleurotus sajor caju* powder.
2. To find out the organoleptic acceptability of value added biscuits.
3. To calculate the cost benefit ratio of supplemented biscuits.

### AIMS & OBJECTIVES

Present study was undertaken with the following objectives:

1. To develop technology for *Pleurotus sajor caju* powder.

2. To find out the organoleptic acceptability of value added biscuits.
3. To calculate the cost benefit ratio of supplemented biscuits.

## MATERIALS & METHODS

The process for preparation of mushroom powder was standardized. Six types of powders from each sun dried ( $T_1$ ) blanched and sun dried ( $T_2$ ), treated with citric acid and sun dried ( $T_3$ ), oven dried ( $T_4$ ), blanched and oven dried ( $T_5$ ) and treated with citric acid and oven dried ( $T_6$ ). The most acceptable powder was selected through organoleptic acceptability of various parameters i.e. colour, aroma, texture and the powder was incorporated in biscuit at 0.5 and 10 per cent levels and were evaluated for their acceptability on nine point hedonic scale. Economic feasibility of value added biscuits were also calculated to find out its suitability for manufacturer. Cost was calculated on fixed and variable cost to calculate the cost benefit ratio.

## RESULTS & DISCUSSIONS

- **Powder formation :** Among all pretreated powders,  $T_6$  powder had significantly ( $P<0.05$ ) higher mean scores of colour (5.49), aroma (5.10), texture (5.40) and overall acceptability (5.33). These powders were also analyzed for physico-chemical properties viz. yield, non-enzymatic browning, swelling index, water retention, dispersibility and water absorption (Table 1&2). Data reveals that  $T_6$  powder (steeped in citric acid and oven dried) was observed higher values for physico-chemical properties.
- **Acceptability of value added biscuits :** Colour score of the composite biscuit decreased non-significantly up to 10 percent level of substitution. Colour score of the control biscuits was 7.80 which decreased non-significantly with 10 percent level of substitution in wheat flours. Appearance score of control biscuit was 7.80. At 10 per cent level of supplementation in wheat flour caused non significant reduction in appearance score. Similar trend was also observed in aroma and texture of supplemented biscuits. With regard to taste, score of control biscuit was 7.80 whereas it increased non-significantly with supplementation of 5 percent and decreased significantly with supplementation of 10 percent level of mushroom powder. Overall acceptability was higher in case of control as compare to value added biscuits. Biscuits made by addition of 5 and 10 percent levels of powder were found in the category of 'liked moderately' (Table 3).

- **Cost benefit analysis**

**Fixed cost :** Amongst the fixed cost, the depreciation on oven constituted maximum share (5.70%) whereas weighing balance shared minimum (0.30%) contribution to the total cost. However, dough maker and grinder constituted the equal share to the total cost i.e. 1.50 percent for each. With regard to utensils and spoons, contribution was 0.90 percent (Rs 300.00) of total cost. Moreover, interest on fixed cost @ 10 percent per annum for one year was observed to be 9.90 percent of total cost (Table 4).

**Variable cost :** Vanaspati ghee accounted for highest share (25.21%) of total cost. It might be due to the fact that rate of ghee was maximum among other food ingredients used for biscuit preparation. The expenditure on mushroom powder, refined flour and sugar were the other major items which accounted for 8.85, 8.10 and 14.86 percent, respectively. Share of ammonia powder, packaging and labour contributed 2.40, 4.80 and 7.50 percent, respectively of total cost. Similarly, salt, transportation and miscellaneous expenses shared between 1 to 2 percent of total cost. Interest on variable cost @ 10 per cent per annum for 3 months accounted for 3.82 percent of total cost. The total cost of biscuit production was Rs 33,318.00. The proportion of fixed cost was low as compared to variable cost to total cost. Total fixed and variable cost was Rs. 6600 and Rs. 26718 which constituted about 19.8 and 80.20 percent of total cost (Table 4).

- **Results from value added biscuits :** Total quantity of prepared product was 750 kg & selling price Rs. 44.42 was calculated for one kilogram biscuit. Similarly gross returns and net return were Rs. 75000 and 41682 net returns for three month was Rs. 13894. Manufacturer received Rs. 18.52 as a profit on one kilogram biscuit. Initially the selling price of biscuits kept low to make it popular among consumers (Table 5).

**Table 1: Organoleptic acceptability of *Pleurotus sajor-caju* fresh powder**

Substrate / Treatment	Colour	Aroma	Texture	Overall acceptability
T <sub>1</sub>	3.20 ± 0.10	4.10 ± 0.11	5.00 ± 0.17	4.10 ± 0.15
T <sub>2</sub>	5.00 ± 0.26	3.20 ± 0.01	4.50 ± 0.26	4.23 ± 0.20
T <sub>3</sub>	5.39 ± 0.10	4.90 ± 0.25	5.20 ± 0.10	5.16 ± 0.17
T <sub>4</sub>	3.80 ± 0.35	4.20 ± 0.34	5.10 ± 0.10	4.37 ± 0.11
T <sub>5</sub>	5.30 ± 0.10	3.90 ± 0.01	4.70 ± 0.05	4.63 ± 0.25
T <sub>6</sub>	5.60 ± 0.15	5.20 ± 0.10	5.40 ± 0.20	5.40 ± 0.01
CD (P<0.05)	0.36	0.33	0.29	0.29

Values are mean ± SD of ten panelists  
T<sub>1</sub> = Sun dried, T<sub>2</sub> = Blanched Sun dried, T<sub>3</sub> = Steeped in citric acid and Sun dried  
T<sub>4</sub> = Oven dried, T<sub>5</sub> = Blanched and oven dried, T<sub>6</sub> = Steeped in citric acid and oven dried

**Table 2: Physico-chemical properties of *Pleurotus sajor-caju* fresh powder**

Substrate / Treatment	Yield (%) browning	Non-enzymatic	Water retention (ml/g)	Swelling index (ml/g)
T <sub>1</sub>	8.30 ± 0.08	0.14 ± 0.01	2.30 ± 0.15	0.33 ± 0.05
T <sub>2</sub>	6.67 ± 0.13	0.05 ± 0.00	1.10 ± 0.28	0.56 ± 0.05
T <sub>3</sub>	8.30 ± 0.10	0.10 ± 0.00	3.86 ± 0.11	0.00 ± 0.00
T <sub>4</sub>	8.76 ± 0.10	0.12 ± 0.00	2.90 ± 0.01	0.00 ± 0.00
T <sub>5</sub>	6.76 ± 0.07	0.04 ± 0.00	1.30 ± 0.17	0.26 ± 0.05
T <sub>6</sub>	9.00 ± 0.10	0.08 ± 0.01	4.10 ± 0.10	0.53 ± 0.11
CD (P<0.05)	0.83	0.01	0.29	0.11

Values are mean ± SD of ten panelists

T<sub>1</sub> = Sun dried, T<sub>2</sub> = Blanched Sun dried, T<sub>3</sub> = Steeped in citric acid and Sun driedT<sub>4</sub> = Oven dried, T<sub>5</sub> = Blanched and oven dried, T<sub>6</sub> = Steeped in citric acid and oven dried**Table 3: Organoleptic acceptability of Biscuits supplemented with *Pleurotus sajor-caju* powder**

Suppln. level	Colour	Appearance	Aroma	Texture	Taste	Overall acceptability
Control (W)	7.80 ± 0.10	7.80 ± 0.10	7.70 ± 0.11	7.80 ± 0.10	7.80 ± 0.10	8.00 ± 0.30
95:5	7.80 ± 0.10	7.80 ± 0.57	7.80 ± 0.10	7.80 ± 0.01	7.80 ± 0.01	7.80 ± 0.34
90:10	7.60 ± 0.15	7.40 ± 0.150	7.00 ± 0.51	7.20 ± 0.10	6.80 ± 0.34	7.20 ± 0.01
CD (P<0.05)	0.24	0.64	0.85	0.16	0.32	0.52

Values are mean ± SD of ten panelists W = Wheat flour

**Table 4: Cost component of *Pleurotus sajor-caju* powder supplemented biscuit**

Items	Amount (Rs)	%age
<b>Fixed cost (6 months)</b>		
Dough maker	500.00	1.50
Oven	1900.00	5.70
Grinder	500.00	1.50
Weighing balance	100.00	0.30
Utensils and spoons etc.	300.00	0.90
Interest on fixed cost @ 10% per annum for one year	3300.00	9.90
<b>Total</b>	<b>6600.00</b>	<b>19.80</b>
<b>Variable cost</b>		
Mushroom powder	2950.00	8.85
Refined flour	2700.00	8.10
Sugar	4950.00	14.86
Vanaspati ghee	8400.00	25.21
Salt	329.00	0.99
Ammonia powder	1600.00	4.80
Packing roll	800.00	2.40
Labour	2500.00	7.50
Transportation	600.00	1.80
Miscellaneous (2.5%)	620.00	1.86
Interest on variable cost @ 10% per annum for 3 months	1272.00	3.82
<b>Total</b>	<b>26718.00</b>	<b>80.20</b>
<b>Grand Total</b>	<b>33318.00</b>	<b>100.00</b>

**Table 5: Cost and return of *Pleurotus sajor-caju* cultivation**

Items	Amount (Rs)
Total quantity of prepared product (kg)	750
Total cost (Rs)	33318
Cost/ kg (Rs)	44.42
Gross returns (Rs)	75000
Net returns (Rs)	41682
Net returns/month	13894
Net returns/kg	18.52

Average production of mushroom/bag = 1.60 kg

Average production of mushroom/bag = 1.60 kg

**Table 6: Cost and return from *Pleurotus sajor-caju* biscuits**

Particulars	Cost
Total quantity of prepared product (kg)	750

## CONCLUSION

Blanching treatment to the mushroom adversely affected the texture<sup>4</sup> where as steaming in citric acid and even drying significantly improved the overall quality of mushroom when they were compared with other pre treatments. It might be because of the preservative action of citric acid which prevents the activity of peroxidase and catalase enzymes prior to dehydration which prevents darkening in the powder<sup>5</sup>. Loss of weight after blanching may be due to removal of water soluble substances<sup>6</sup>. Water retention was lower due to damage of cell structure. Steamed powder showed highest water absorption capacity due to positive effect on interstitial spaces of cells<sup>7</sup>. The colour of biscuit is a result of maillard reaction between sugars and proteins<sup>8</sup>. Biscuits were liked very much by the panel member food processing activities are traditional women<sup>9</sup> and can be beneficial enterprise. Development and consumption of such value added products claiming health benefits can go a long way in improving the nutritional status of the population especially those suffering from protein malnutrition and degenerative diseases associated with today's changing life style and environment.

## RECOMMENDATIONS

Development and consumption of such value added products claiming health benefits can go a long way in improving the nutritional status of the population especially those suffering from protein malnutrition and degenerative diseases associated with today's changing life style and environment.

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## Impact of an Intervention Based on Pearl Millet Ladoo on Hemoglobin Status of Adolescent Girls

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### **ABSTRACT**

*Nutritional hassles especially "Anaemia" affecting the general masses of the developing countries since years. More than thousands of wisely conducted intervention program for number of times could not even improve the scenario. Youth are the future holders of any nation, so healthier growth of them means better development of the nation, but in Rajasthan the condition of children and youngsters are dismal, more affected are the females. Therefore the present study was conducted among the three groups of anaemic adolescent girls'. Each group consists of 10 girls, with the mean haemoglobin status of group A as 9.81g/dl; group B as 9.65g/dl; and group C as 9.39g/dl. Pearl millet based Ladoo was developed, standardized and administered to the A group which provided 15mg of Iron, supporting 1/3<sup>rd</sup> of days requirement of an adolescent girls. While the B group was supplemented with IFA tablets providing 60mg of elemental iron and Control (C) group received no intervention. The intervention program was scheduled for 45 days and Hemoglobin estimation exercised at every 15<sup>th</sup> day during the intervention program.*

*The results after 45 days of intervention depicted that mean haemoglobin status of group A hiked to  $11.82 \pm 0.56$ g/dl; group B raised to  $11.85 \pm 0.71$ g/dl of mean Hemoglobin, whilst the mean Hb status of group C rendered as  $9.39 \pm 0.51$ g/dl. In terms of statistical analysis group A and B shows highly significant increase in Hemoglobin levels while the C-group possessed non-significant rise in the values. Pearl millet based Ladoo could be an efficient and promiscuous vehicle for reducing the prevalence and mortality stats due to Anaemia, as it is comparable to the elemental tablets which are generally disliked by the adolescent girls and other rural sector. Dietary iron is more closely linked with people's life hence could be a great weapon for eradication of anaemia.*

### **INTRODUCTION**

A recent survey by the State Department of Medical Health and Family Welfare, Rajasthan revealed that 1.84 Lacks Students Are Anaemic and About 70,000 Are under Weight.

Anaemia is a major global problem affecting between 20-70% of the population in various countries. In India, it is an important nutritional problem affecting all segments of the population especially infants, adolescents and pregnant women. In earlier stages, anaemia impairs scholastic performances and in young women the reproductive performances. The "term nutritional anaemia" defined by WHO encompasses all pathological condition in which the blood haemoglobin concentration drops to an abnormally low level owing to a deficiency of one or several essential nutrients regardless of the cause of this deficiency.

Cereals including millet are consumed in India as a staple with wide variety of pulses and vegetables in varying proportions. In spite of various efforts in the past, nutritional deficiencies could not be corrected to the sufficient levels. Although efficient scientific endeavours might not be underestimated.

In the beam of the above scientific proceedings, present research has been propelled towards correcting iron deficiency anaemia via vastly available, immensely nutritional and inexpensively affordable cereal of Rajasthan state- Pearl Millet. The product developed with pearl millet, other iron rich foods had been planned to supplement

the diet of iron deficient subjects, along with a glass of lemon water (250ml), which essentially enhance the absorption of non-heme iron, and impact analysis was exercised. This dietary iron had been compared with the elemental iron in order to signify the magnitude of dietary iron versus the elemental one. Thus the present study knocks iron deficiency anaemia among the undergraduate girls of College of Home Science, SKRAU, Bikaner with the locally available dietary ingredients.

## **AIMS & OBJECTIVES**

Present study has the following objectives:

1. To develop and standardize pearl millet based iron rich *Ladoo*
2. To evaluate impact of feeding the pearl millet based iron rich *Ladoo* and iron folic acid tablet on the haemoglobin status of the subjects

## **MATERIALS & METHODS**

- **Selection of Subjects:** All the subjects were randomly selected from the campus of College of Home Science, SKRAU, Bikaner, to find out their nutritional status with special reference to their haemoglobin status in order to assess the prevalence of anaemia.
- **Assessment of Nutritional Status:** HEMOGLOBIN ESTIMATION- Hemoglobin level of the selected subject was estimated by Sahli's method before and after the intervention.
- **Interpretation:** based on haemoglobin level, the subjects were classified as normal, mild, moderate or sever anaemic (WHO, 1989) as shown in Table-1.
- **Development & Standardization of Pearl Millet Based Iron Rich Ladoo:** Pearl millet is a staple food for arid zone people and economically weaker section in India. In spite of greater availability, low cost and comparatively good nutritive value, use of pearl millet in food industry is very low because of some major constraints act as obstacles in its wide spread diversification and acceptability (Sehgal and Kwatra, 2006). However, this millet is immensely nutritious with a high content of iron it is not utilized by the body due to the presence of phytic acid and polyphenols. This bane of pearl millet can be booned by germination process, as there is good correlation between anti nutritional factors reduction and the increment in extractable mineral with germination time. Thus, the pearl millet based iron rich *ladoo* was developed with addition of other iron rich foods. Amount of each ingredient was standardized while developing most acceptable and feasible form of product.
- **Intervention Programme :** The intervention program was commenced in the month of July, which lasts for September 2009, in which 45 moderately anemic girls with the hemoglobin level 8.0 g/dl – 10.9 g/dl aged 17-19 years were selected for the intervention program. Subjects were divided into three groups (15 each)
  - a) **Experimental group (A)** received pearl millet based iron rich product for 100g per day regularly for 45 days.
  - b) **Experimental group (B)** received iron folic acid tablets containing of 200mg (60 mg elemental iron) each every day for 45 days.
  - c) **Control group (C)** received no supplementation
- **Impact Analysis:** The hemoglobin level was measured in all the groups at an identical period of time i.e. initially and after intervention.

Impact analysis was exercised based on statistical calculations and general responses of the subject, in order to observe every minute difference due to intervention program. Subjects were even asked for their experiences regarding the intervention at the time of feeding, related to their menses, acne, pimples and other usual complications of female adolescents. These observations were carefully noted and been taken care by the researcher during the study.

## RESULTS & DISCUSSIONS

The present investigation reports that the mean Hemoglobin levels after 45 days of intervention in group A hiked to  $11.82 \pm 0.56$  g/dl; group B raised to  $11.85 \pm 0.71$  g/dl of mean Hemoglobin, whilst the mean Hb status of group C rendered as  $9.39 \pm 0.51$  g/dl. In terms of statistical analysis group A and B shows highly significant increase in Hemoglobin levels while the C-group possessed non-significant values. Although elemental iron reports better increments in Hemoglobin but with comparison to the dietary iron, it is non-significantly different, values shown in Table 2.

Table 1: Classification of Hb levels

Hemoglobin Levels (G/dl)	Grades of Anaemia
< 8.0 g/dl	Severe
8.0 – 9.9 g/dl	Moderate
10.0 - 11.9 g/dl	Mild
> 12g/dl	Normal

Table 2 : Mean Hemoglobin levels of the subjects before and after intervention

0 Days	45 Days
A $9.81 \pm 0.62$	A $11.85 \pm 0.71$
B $9.65 \pm 0.64$	B $11.82 \pm 0.56$
C $9.39 \pm 0.56$	C $9.93 \pm 0.51$

## CONCLUSION

Pearl millet based *Ladoo* could be an efficient and promiscuous vehicle for reducing the prevalence and mortality stats due to Anaemia, as it is comparable to the elemental tablets which are generally disliked by the adolescent girls and other rural sector. Dietary iron is more closely linked with people's life hence could be a great weapon for eradication of anaemia as it not only conquers over deficiencies but also take cares of the overall health pattern of the population.

## RECOMMENDATIONS

1. Assessment of impact of the iron rich *ladoo* among different age groups particularly population at risk
2. Commercialization of the product to improve the over all health development of needy groups.
3. Analysis of different aspects of the developed product using better methodological techniques.

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## Effect of Growth Performance and Certain Blood/Biochemical Constituent of Mice Raised on Different Levels of Non-Conventional Dietary Protein

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### ABSTRACT

*Eri Pupe a potential source of protein about 55-58% is a waste by- product after reeling the silk. The increasing cost of animal feed has made it obligatory to depend more on unconventional food for future protein requirements. Therefore, the present study was an attempt to use unconventional mixtures replacing fish meal graded at (0, 50, 75 and 100%) levels of incorporation in a standard diet of mice. Twenty four weaned mice were distributed into four groups of six animals on randomized block design. The experimental feeding was continued for 28 days after which a digestibility trial was conducted for 3 days. Certain Biochemical profiles viz. blood glucose, serum cholesterol; blood urea nitrogen and total serum protein were also studied. Average weekly gain in body weight, feed conversion efficiency, protein efficiency ratio were significantly ( $P<0.05$ ) higher in control and E1 groups. Except crude protein no significant differences were observed in respect of digestibility of organic nutrients. The level of blood glucose, serum cholesterol, blood urea nitrogen and total serum protein varied slightly within normal range and statistically no difference was observed. It is thus concluded that eri pupae meal can be included upto 50 percent level (4% W/W) replacing fish meal in the diet of mice.*

### INTRODUCTION

Eri silk worm (*Philosamia ricini*) is prevalent in the Brahmaputra Valley and the adjoining hills which is an important source of protein (55-58%). It appears that silkworm pupae have a high dietary value, much more than fish and other animal proteins and at par with meat from various animal sources. After reeling silk fibre from cocoons, some pupae are consumed as delicacy by the tribal communities and a large quantity are thrown away as wastes. Hence, a potential source of protein is wasted regularly.

The blood profile reflects the nutritional adequacy of the diet as well as the nutritional status of the animal. Many workers had also reported the haemato -biochemical picture of mice and rats on a non-conventional dietary protein. Therefore, the present investigation was an attempt to evaluate the quality of protein and also to study certain bio-chemical constituents of albino mice fed on eri pupae meal as a replacement of fish meal.

### AIMS & OBJECTIVES

1. To study the growth performance of mice raised on rations containing various levels of eri pupae meal as replacement of fish meal.
2. To determine digestibility coefficient of different nutrients.
3. To study certain blood-biochemical constituents in mice.

## MATERIALS & METHODS

Twenty four weaned albino mice 21d old were divided randomly into 4 groups viz. Control (C), Experimental-1 ( $E_1$ ), Experimental-2 ( $E_2$ ) and Experimental-3 ( $E_3$ ) on the basis of similar body weights. Four isonitrogenous rations were prepared as per NRC (1978) for growing mice. Control ration was prepared with conventional ingredients i.e. maize, wheat bran, de-oiled groundnut cake and fish meal. However in experimental rations viz.  $E_1$ ,  $E_2$  and  $E_3$  fish meal was replaced by dried eri pupae meal at 50, 75 and 100 percent levels. These rations were fed to respective groups of animals C,  $E_1$  and  $E_2$  for a period of 4 weeks. The feed was offered ad. libitum to all the animals equally half in the morning at 9 AM and half in the afternoon at 3 PM and water was made available all the time. The feed residues were collected and weighed next day morning before offering concentrate mixture. A digestion trial was conducted for 3 days on three animals from each group to assess the digestibility of nutrients. During the feeding trial weekly feed intake, weekly gain in body weight, total gain in body weight, protein efficiency ratio and feed conversion efficiency were recorded.

Blood was withdrawn by cardiac puncture under diethyl anesthesia at the beginning and at the end of the experimental period. Serum was separated by centrifugation and stored at -20°C and analyzed for blood glucose total serum protein; blood urea nitrogen and serum cholesterol. All the data were statistically analyzed.

## RESULTS & DISCUSSIONS

The feed intake, growth rate, feed conversion efficiency, protein efficiency ratio and nutrient digestibility are shown in Fig 1. The average weekly dry matter intake was almost similar in all the groups and no significant differences were observed.

**Table 1:** Average feed intake, growth rate, protein efficiency, food conversion efficiency and nutrient digestibility on feeding diets containing different levels of eri pupae meal

Parameter	Groups			
	C	$E_1$	$E_2$	$E_3$
Initial body weight(g) <sup>NS</sup>	20.80±1.14	20.80±1.43	20.69±1.10	20.82±1.60
Weekly feed intake(g) <sup>NS</sup>	39.27±1.59	38.51±1.58	37.54±1.67	39.06±1.31
Weekly gain in body weight*(g)	15.50±0.88 <sup>a</sup>	16.05±0.82 <sup>ab</sup>	11.92±0.65 <sup>c</sup>	8.59±0.82 <sup>d</sup>
Total gain in body weight(g)*	63.68±2.04 <sup>a</sup>	64.62±2.37 <sup>ab</sup>	47.68±1.63 <sup>c</sup>	43.02±2.01 <sup>cd</sup>
Feed conversion efficiency*	2.59±0.06 <sup>a</sup>	2.44±0.05 <sup>ab</sup>	3.24±0.11 <sup>c</sup>	3.87±0.21 <sup>d</sup>
Protein efficiency ratio*	1.81±0.04 <sup>a</sup>	1.84±0.03 <sup>ab</sup>	1.49±0.06 <sup>c</sup>	1.00±0.07 <sup>d</sup>
<b>Nutrient Digestibility (%)</b>				
Dry matter <sup>NS</sup>	83.44±2.60	81.81±0.83	80.41±1.21	79.18±2.34
Organic matter <sup>NS</sup>	83.63±2.57	81.93±0.82	80.31±1.22	79.08±2.35
Crude protein*	58.82±0.69 <sup>a</sup>	57.27±0.62 <sup>ab</sup>	53.77±0.69 <sup>c</sup>	50.46±1.07 <sup>d</sup>
Ether extract <sup>NS</sup>	76.20±3.82	77.08±1.11	77.74±1.40	78.52±2.38
Crude fibre <sup>NS</sup>	53.23±7.38	53.62±2.05	53.09±2.89	55.63±5.05
Nitrogen retention *	58.84±0.65 <sup>a</sup>	57.22±0.62 <sup>ab</sup>	53.72±0.69 <sup>c</sup>	50.59±0.99 <sup>d</sup>
Nitrogen freeExtract <sup>NS</sup>	79.33±2.81	78.17±0.67	75.60±1.51	74.06±2.92

\* Significant ( $P<0.05$ ) NS > Non significant abcd > Means with different superscripts differ significantly

The average weekly gain and total gain in body weight showed significant differences in  $E_2$  and  $E_3$  groups. The decrease in weight gain in  $E_2$  and  $E_3$  groups could be due to imbalanced amino acid composition and lower protein utilization. Secondly, another important factor might be due to the presence of tannin in eri silk worm pupae since these pupae were grown in castor leaves which contain appreciable quantity of tannin. Reed (1995) opined that tannins react with protein and form tannin protein complex which is resistant to enzyme degradation, thereby reducing digestibility of nutrients. The FCE and PER was significantly lower in  $E_2$  and  $E_3$  groups which may be due to the presence of anti-nutritional factor like tannin in eri pupae which increased with increase amount of eri pupae in the diets.

The digestibility of dry matter, organic matter, crude protein, nitrogen free extract and nitrogen retention decreased along with the level of incorporation of eri pupae in the diet. On statistical analysis, significant differences were observed in digestibility of crude protein and nitrogen retention in E<sub>2</sub> and E<sub>3</sub> groups which may be due to higher fibre concentration of the diets.

The mean values of blood glucose total serum protein, blood urea nitrogen and serum cholesterol of different groups before feeding experimental diets and at post feeding are presented in Table-2. Statistically, no difference was observed among the groups both at initial and post feeding. The values of blood glucose, total serum protein, blood urea nitrogen and serum cholesterol were within the normal range. Similar values have also been reported by Sharma (2000).

**Table 2:** Average blood glucose, total serum protein, blood urea nitrogen and serum cholesterol on feeding different levels of eri pupae meals

Blood constituents	Dietary treatment			
	C (0% EPM)	E <sub>1</sub> (50% EPM)	E <sub>2</sub> (75% EPM)	E <sub>3</sub> (100% EPM)
Blood glucose (mg/100ml of blood)				
Initial <sup>NS</sup>	109.53±0.49	109.73±0.77	109.63±1.29	109.30±0.67
Post-feeding <sup>NS</sup>	112.60±0.26	112.16±1.05	111.07±0.57	109.96±1.36
Total serum protein (mg/100ml of blood)				
Initial <sup>NS</sup>	6.04±0.08	6.10±0.26	6.07±0.43	6.19±0.32
Post-feeding <sup>NS</sup>	6.13±0.14	6.15±0.04	6.01±0.13	5.76±0.34
Blood urea nitrogen (mg/100ml of blood)				
Initial <sup>NS</sup>	17.85±0.88	17.73±0.39	17.53±0.39	17.19±0.51
Post-feeding <sup>NS</sup>	18.56±0.73	19.96±0.20	19.37±0.45	20.39±0.44
Serum cholesterol (mg/100ml of blood)				
Initial <sup>NS</sup>	56.20±0.52	56.14±0.98	56.29±0.62	56.28±0.62
Post-feeding <sup>NS</sup>	63.55±0.87	64.61±0.92	65.37±0.78	65.43±0.58
NS: non-significant				

## CONCLUSION

Eri silk worm pupae meal has a good potential as a protein source and can be supplemented in the diet of mice upto 50% level (4%W/W) without any adverse effect on gain in body weight, food conversion efficiency, protein efficiency ratio, nutrient utilization and blood bio-chemical constituents. As eri pupae can be procured in fresh condition there is also a scope to prepare protein rich food from eri pupae for human consumption.

## RECOMMENDATIONS

Experiments will have to be performed for studying the effect of fat and tannin free eri pupae meal. The fat free eri pupae becomes rich in protein content and may be a better source of animal protein in the preparation of diets. Lipids may be extracted for utilization in other fields like production of soap, detergents paints and varnishes etc.

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## Development and Nutritional Analysis of Spirulina Incorporated Biscuits

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### **ABSTRACT**

*Spirulina* is a nutrient rich super food for super health. Super foods can be defined as foods that have health promoting benefits and disease preventing properties over and above their usual nutritional value. *Spirulina* is the common name for human and animal food supplements produced primarily from two species of cyanobacteria, i.e. *arthrospira platensis* and *arthrospira maxima*. *Spirulina* have many therapeutic properties such as hypocholesterolemic, immunological, antiviral and antiglutagenic effects. *Spirulina* is the excellent source of protein. The present study was undertaken to assess the nutritional composition of *Spirulina* powder, to develop value added products and their nutritional analysis and to study the effect of storage on value added products using *Spirulina*. Value added Biscuits were prepared by using refined wheat flour, sugar powder, ghee, milk, ammonia, baking powder, custard powder, milk powder, vanilla & pineapple essence and 10 per cent level of *Spirulina* powder. The mean score for sensory evaluation of developed value added Biscuit was 7.5 against the control sample 7.9 on nine point hedonic ranking scale. The developed value added Biscuit contained 2.95 per cent moisture, 19.6g protein, 26.71g fat, 2.08g crude fiber, 1.83g ash, 46.83 g carbohydrate and 506.11 kcal energy per 100g on dry weight basis. In developed sample  $\alpha$ -carotene, vitamin c, iron and potassium content were observed 349.75  $\mu$ g/100g, 2.75 mg/100g, 17.62 mg/100g and 292 mg/100g respectively. Fat acidity revealed satisfactory quality of the value added Biscuit at the end of three months storage period. Thus, better quality of value added Biscuit brings considerable advantages among the community.

### **INTRODUCTION**

Today food is lower in essential nutrients than foods produced 50 years ago. Farming practices have been depleted our soil fertility (<http://www.spirulinasource.com>). Stress from environmental pollutants and life style demands have increased our dietary requirements for certain essential nutrients. To overcome these problems, some super foods like Aloe Vera, Garlic, Tomato, Walnut, blue green algae (*spirulina*) are introduced. *Spirulina*, Blue green algae (*fusiformis*) is being used as nutrient dense food materials in natural and health food. It also has some potent nutrients and probiotic compounds that enhance health condition. Interest in food application of micro algae has its origin on three counts. Firstly, in certain countries a small section of the population have been eating naturally grown algae harvested from lakes etc. without ill effects for centuries. Secondly, the focus on protein calorie malnutrition in the third world countries was drawn by the FAO in sixties, which lead to identification of newer protein source particularly algae. Thirdly, *spirulina* has been proposed by both NASA and the European space agency as one of the primary foods to be consumed during long stay in space. *Spirulina* is the nutrient dense food. It is particularly rich in protein and also contains carotenoids, vitamins, minerals and essential fatty acids. It contains 55-70 per cent protein, 15-25 per cent carbohydrates, 6-7 per cent moisture and 8-13 per cent minerals, 3-7 per cent fat and 8-10 per cent fiber.

## MATERIALS & METHODS

- **Procurement of spirulina powder:** Spirulina powder was purchased from "Manjul Spirulina Samvardhan Sansthan", Jaipur.
- **Development of value added Biscuit:** Most acceptable value addition level of spirulina powder i.e. 10 per cent was incorporated into the recipe with other ingredients.
- **Organoleptic evaluation:** The Developed value added *Biscuit* was standardized using organoleptic evaluation technique with the help of 10 panel members using 9-point hedonic ranking scale. The developed value added *Biscuit* along with control sample served to the panel members for organoleptic evaluation.
- **Nutritional evaluation:** Prepared *Biscuit* were analyzed for moisture, crude protein, crude fat, crude fiber, ash, Vitamin C,  $\alpha$ -carotene, iron and potassium contents along with total carbohydrate and energy contents.

## RESULTS & DISCUSSION

**Organoleptic evaluation:** Table 1 reveals that the calculated overall mean organoleptic scores for the control sample of *biscuit* was to be ranging between 7.8 to 8.0 against 7.3 to 7.7 scores for develop value added *biscuit* on nine point hedonic ranking scale. The statistical analysis also showed non significant difference between the control and developed samples of biscuits.

**Nutritional evaluation:** Table 2 unfolds the data of nutritional contents of control and developed *biscuit*. Moisture content of control and developed sample was analyzed as 2.57 per cent and 2.95 per cent, respectively. Crude protein content was observed lower (13.01%) in control sample whereas higher value (19.06%) was observed in developed sample. Data from the table depicts that 28.11 per cent and 26.71 per cent crude fat found in control and developed sample, Crude fiber content of control and developed *biscuit* was 1.28 per cent and 2.08 per cent respectively, indicating higher crude fiber in the developed sample than its control counterpart. whereas ash content was 1.13 per cent and 1.83 per cent respectively.

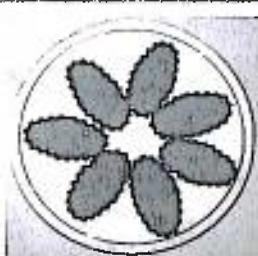
In control *biscuit* total carbohydrate was calculated 53.81 per cent whereas in developed sample 46.83 per cent. Total energy content of control sample was 520.06 kcal/100 g whereas in developed *biscuit* it was noted to be 506.11 kcal/100 g (Table 2). Crude protein, crude fat, crude fibre, total carbohydrate and total energy content of developed *biscuit* were found to be higher and significantly differ at 1 per cent of the control sample. In control sample,  $\beta$ -carotene, vitamin c, iron and potassium content were 335.75 mg/100 g, 1.75 mg/100 g, 2.62 mg/100g and 152 mg/100 g respectively whereas in developed *biscuit* values were recorded 349.75 mg/100 g, 2.75 mg/100 g, 17.62 mg/100 g and 292 mg/100 g  $\beta$ -carotene, vitamin C iron and potassium respectively (Table 3). The values were found to differed significantly at 1 per cent level in developed than that of control sample.

Table: 1 Organoleptic acceptability of value added *Biscuit*

Sr. No.	PRODUCT	Mean Scores Of Sensory Characteristics On Nine Point Scale					
		Colour	Appearance	Aroma	Texture	Taste	Overall Acceptability
1	<b>Control</b>	7.8 ??0.22	7.8 ??0.12	7.9 ??0.61	8.0 ??0.37	8.0 ??0.12	7.9 ??0.48
2	<b>Developed</b>	7.4 ??0.66	7.7 ??0.78	7.7 ??0.90	7.6 ??0.80	7.3 ??0.64	7.5 ??0.60
3	't' value	NS	NS	NS	NS	NS	NS

Values are mean  $\pm$ SD of three replicates

NS = Non significant



Spirulina Based Biscuits

**Table: 2 Proximate composition of value added Biscuit (on dry weight basis)**

biscuit	Moisture	Crude protein (%)	Crude fat (%)	Crude fiber (%)	Ash (%)	Carbohydrate (%)	Energy (kcal) (%)
<b>Control</b>	2.57 ± 0.01	13.1 ± 0.16	28.11 ± 0.01	1.28 ± 0.67	1.13 ± 0.02	53.81 ± 0.05	520.6 ± 0.07
<b>Developed</b>	2.95 ± 0.58	19.6 ± 0.02	26.71 ± 0.24	2.08 ± 0.45	1.83 ± 0.54	46.83 ± 0.22	506.11 ± 0.02
't' value	3.12**	48.20*	9.70*	10.39*	3.32**	32.67*	178.25*

Values are mean ±SD of three replicates  
\*significant at 1% significant  
\*\*significant at 5% significant

**Table: 3 Vitamin and mineral content of value added Biscuits**

Biscuit	Vitamins		Minerals	
	-Carotene(mg/100 g)	Vitamin C (mg/100 g)	Iron (mg/100 g)	Potassium (mg/100 g)
Control	335.75 ± 0.43	1.75 ± 0.45	2.62 0.09	152 ± 0.77
Developed	349.75 ± 0.78	2.75 ± 0.34	17.62 ± 0.11	292 ± 0.26
't' value	5.89*	22.20*	28.16*	78.74*

Values are mean ±SD of three replicates  
\*significant at 1% significant  
\*\*significant at 5% significant

## CONCLUSION

On the basis of present study it can be concluded that spirulina has a great scope in the field of product development and can be utilized for achieving food and nutritional security for nation.

## RECOMMENDATIONS

Therefore, results suggest that there is a great scope for use and marketing of value added products using spirulina. Since the scope of M.Sc. research is limited, it is suggested that the present investigation may be continued for following:

1. To study the microbial levels of value added products.
2. To estimate the cost variable of developed value added products.
3. To study commercial aspect of the value added products using spirulina.

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## Trends in Breast Feeding practices among Missing Tribes of Jorhat District, Assam

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### ABSTRACT

*The practice of breast feeding is almost universal. The present investigation was an attempt to evaluate the prevalent breast feeding practices in relation to nutritional status of infants and the impact of nutrition education on the mothers belonging to Missing Tribes of Jorhat district, Assam. Information on prevalent breast feeding practices were obtained from the mothers of selected 120 infants (1-12 months) by using pre-tested interview schedule. The feeding practices were co-related with anthropometric variables (length and weight) with co-relation co-efficient “r”. The impact of nutrition education was recorded before and after the session with a pre-tested check list. Initiation of breast milk within 1 hour of birth as per Global recommendation was practiced by only 16.67% mothers. About 60% newborn received colostrums. Exclusive breast feeding was found among 33.33% infants. Partial breast feeding practice was highly co-related with good nutritional status of the studied population. The impact of nutrition education on mothers was very encouraging in understanding the importance of proper breast feeding practice in such community.*

### INTRODUCTION

Breast feeding is an universal process. Initiation of breast feeding within one hour of birth is critical for newborn health and wellbeing<sup>1</sup>. Colostrum – “the first milk” is must for baby<sup>2</sup>. prelacteal feeds in the form of jaggery, water, honey etc. to the newborn hampers the practice of exclusive breast feeding for 6 months is still prevailing in these communities<sup>3</sup>. In recent years, there has been a global decline in the number of breast feeding mothers. The present investigation was an attempt to evaluate the prevalent breast feeding practices in relation to nutritional status of infants and the impact of nutrition education on the mothers belonging to Missing Tribes (Plain Tribe) of Jorhat district, Assam.

### AIMS & OBJECTIVES

1. To evaluate the prevalent breast feeding practices in relation to nutritional status of infants.
2. To record the impact of nutrition education on the mothers of the infants.

### METHODOLOGY

The present study was carried out in Jorhat district of Assam. Six villages belonged to Kaliapani Developmental Block under Teok revenue circle of Jorhat were chosen as venue for the study. 120 infants (1-12 months) from 120 households were selected purposively. Information on prevalent breast feeding practices were obtained from the mothers by using pre-tested interview schedule. The nutritional status in terms of length and weight were assessed with standard procedures and compared with corresponding NCHS standards. The impact of breast feeding practices was determined by calculating correlation co-efficient “r”. Nutrition education was imparted to the mothers to determine the impact of nutrition education. A checklist was developed and administered to the mothers at the beginning and at the end to assess their changes in knowledge and awareness of breast feeding practices.

## RESULTS & DISCUSSIONS

The socio-economic back ground information of the families such as occupation, education and income status of the parents, religion, type and size of the family was primarily assessed.

- Initiation of breast feeding and colostrums feeding :** The early initiation of breast milk within 1 hour of birth of the child as per Global recommendation was done only by 16.67 and 11.66 percent mothers while 31.67 and 11.66 percent mothers started to initiate breast milk at least within 6 hours and 6-8 hours respectively. 60 per cent of the mothers fed colostrum to their infants. Majority of the mothers (79.16%), who fed colostrum to the new borns reported colostrum to be nutritious and good for the health of the baby, while the rest (20.83%) reported that colostrum was fed only as per elders advice without knowing the health benefits of colostrum. On the other hand, 40 per cent mothers discarded the colostrum and considered it as impure, dirty and harmful for the health of the baby which may cause stomach problem. Therefore, discarding colostrum by the mothers at large was due to a number of misconceptions. This practice was still rampant in the society and thus depriving a large number of new born from getting the benefits of colostrum.
- Exclusive breast feeding :** WHO (2002) defined exclusive breast feeding as “ the practice of feeding only breast milk excluding water, breast milk substitutes, other liquids or solid foods till 6 months of age”.

Table 1 represents the exclusive breast feeding status of the infants.

**Table 1: Percentage distribution of infants according to breast feeding status**

Breast feeding status	% of infants N = 120
Exclusive breast feeding upto 6-months	33.33 (40)
Exclusive breast feeding beyond 6 months(7-8 months)	40.83 (49)
Partial breast feeding below 6 months	25.83 (31)
Figures in parenthesis indicate number of infants	

Although the rate of exclusive breast feeding was low ( 33.33 % ), it was indeed an encouraging factor which was possibly due to the influence of post-natal advices by Doctor, ANM and ASHA workers.

- Impact of infant feeding practices on nutritional status of the target population:** The anthropometric indicators (weight and length) are considered as an index of child's health. The mean anthropometric profile of the infants according to breast feeding practices such as Initiation of breast feeding, colostrum feeding, exclusive breast feeding and partial breast feeding are presented in table 2

**Table 2: Nutritional status (weight & length) of studied population in relation to breast feeding practices**

Infant Feeding Practices(IFP)	Total N=120	Nutritional Status			
		Weight		Length	
		Underweight	Normal	Stunted	Normal
<b>Initiation of BF</b>					
Within 1 hour	16.66 (20)	90.00 (18)	10.00 (2)	50.00 (10)	50.00 (10)
Within 6 hours	31.66(38)	97.36 (37)	2.63 (1)	84.21 (32)	15.78 (6)
After 6-8 hours	11.66 (14)	92.85(13)	7.14(1)	57.14(8)	42.85(6)
After 2-3 days	40.00 (48)	83.80 (40)	16.60 (8)	95.80 (46)	4.16 (2)
<b>Colostrum Feeding</b>					
Yes 60.00 (72)	94.40 (68)	5.50 (4)	69.44 (50)	30.50 (22)	
No 40.00 (48)	83.30 (40)	16.60 (8)	95.80 (46)	4.16 (2)	
Exclusive Breast feeding (upto 6 months)	33.33 (40)	100.00 (40)	0	95.00 (38)	5.00 (2)
Partial Breast feeding (below 6 months)	25.83 (31)	90.30 (28)	9.67 (3)	77.40 (24)	22.50(7)
Figures within parenthesis indicates no. of infants					

Table 2 depicts the nutritional status of studied population in relation to different breast feeding practices.

The correlation co-efficient "r" was analyzed to determine whether the breast feeding practices were correlated with the anthropometric variables and are presented in table 3.

**Table 3: Correlation co-efficient "r" between breast feeding practices and anthropometric variables of infants belonging to Missing Tribes of TRC, Jorhat, Assam**

Breast feeding practices	Anthropometric variables	
	Length (cm)	Weight (kg)
Colostrum feeding	r=0.07	r=0.18
Initiation of breast feeding	r=0.05	r=0.24
Exclusive breastfeeding	r=0.11	r=0.31
Partial breast feeding	r=0.45**	r=0.64**

\* Correlation is significant at the 0.05 level \*\* Correlation is significant at the 0.01 level

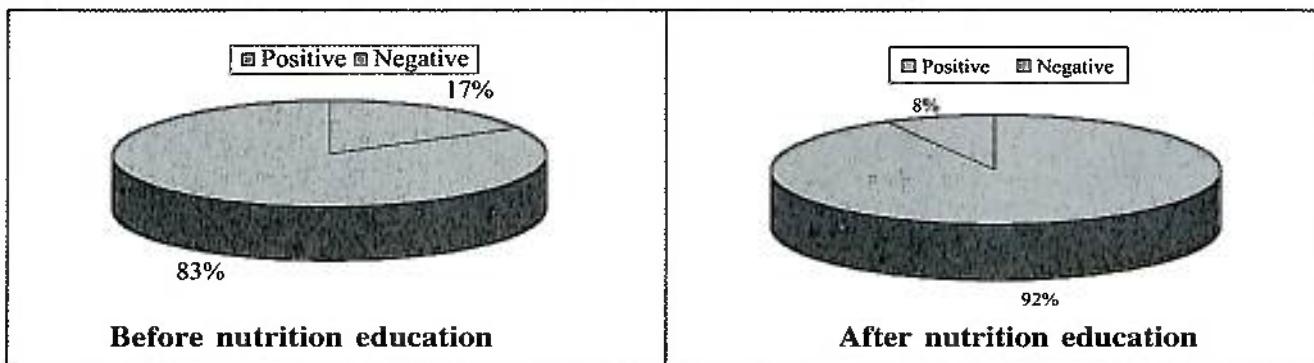
The proceeding analysis verifies positive impact of partial breast feeding on nutritional status, which was highly positively significant with both length and weight.

These findings is in conformity with the data drawn from NFHS – 2 (2006), that breast feeding with supplements (partial breast feeding) is more beneficial than exclusive breast feeding even for the children below 4 months.

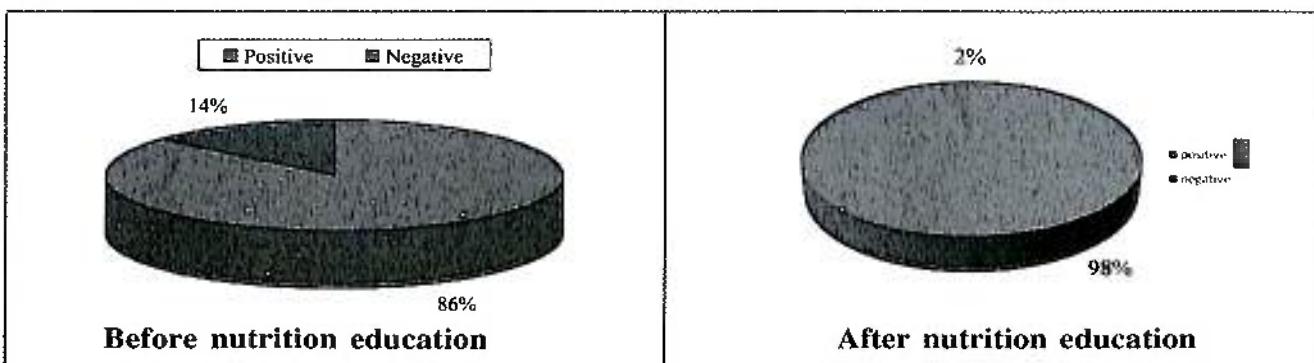
- **Nutrition education :** Nutrition education programme was organized for the mothers in small groups at local primary schools and Anganwadi centres. Lectures and method demonstrations with different teaching aids (leaflet, folder, chart and poster) were adopted on areas like balanced diet Nutritional care during pregnancy and lactation, Importance of breast feeding and supplementary feeding, Locally available, low cost and nutritious supplementary foods and importance of immunization.
- **Impact of nutrition education**

**Fig.1: Awareness of the respondents about infant feeding practices before and after nutrition education**

- i) Importance of early initiation of breast feeding and colostrums feeding.



- ii) Importance of exclusive breast feeding



On the whole, the situations were indicative of accepting viable nutrition intervention programs particularly nutrition education as the mothers were found to be very receptive.

## CONCLUSION

The breast feeding practices among the Missing mothers were not optimum as per global recommendation. However, prevalence of colostrum feeding (60%), exclusive breast feeding (33.33%), were healthy signs observed among the community. The nutrition education session sensitized the mothers to understand the importance of this pivotal period of life. So further attempt should be made in such communities through nutrition intervention programs for adolescent girls, pregnant and lactating mothers and also elderly women for promotion and protection of optimal breast feeding practices in future days.

## RECOMMENDATIONS

- Attempt could be made to create awareness and implement knowledge for educating adolescent girls, pregnant and lactating mothers and also elderly women for promotion and protection of optimal breast feeding practices in order to make mothers understand the rationale of the practices so that good feeding practices are sustained for better health and nutritional status of the children.
- Existing health and nutrition intervention programmes in the community aiming at the improvement and well being of the infants and young children, instituted by the government could be strengthened by ensuring active participation of the community based workers such as trained volunteers, member of community based organizations, anganwadi workers, ANM, ASHA, who could guide with appropriate practices and the community as a whole.

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## Dietary Practices and Knowledge System about Health Care, Hygiene, Morbidity Patterns And Superstition of Tribal Children: A Case Study of Koraput, Orissa

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The tribal Children constitute about half of total tribal population. The present study was undertaken on a group of 209 school going children between the age group of 6-14 years. Keeping in view the backwardness of the tribal population, in the present study, attempt has been made to assess the prevalence of malnutrition, hygiene, dietary practices and health related problem among the school going children of tribal community of Koraput district. The objective of the study is to assess the health profile, knowledge, attitudes and practices (KAP) regarding nutrients and hygiene, intake of tribal school going children of Koraput district of Orissa, to impart nutritional education to the children of target group. A rapid survey was undertaken to investigate the extent of the problem of tribal children. All subjects were surveyed for their health, hygiene, dietary intake, and anthropometry. A pre tested questionnaire was used. The data on dietary intakes of children were obtained from their mother and child's age was recorded from the school records. The questions were divided into five sections: Family and general demographic information, Anthropometric information, Dietary intakes, other health related knowledge and practices.. Data were collected with the cooperation of school authorities. It was observed that 48 percent of children were malnourished. 12.5% children had angular stomatitis, 34% of fathers were working as labourers. Dry and rough skin was found in 28.5% children.

## Nutritional Status and its Implications on Health: A Prevalence Study on BPO Workers of Kolkata

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Over the last 40 years, major changes have taken place in the workplace. The growth in the use of information technology at work, the globalization of many industries, organizational restructuring, changes in work contracts and work time scheduling have radically transformed the nature of work in many organizations which in turn have led to lot of lifestyle disease majorly the non communicable diseases (NCDs). The present study discusses the impact of these workplace transitions on the nutritional status of BPO workers and its implications on their health. 70 customer care executives working in different BPO organizations in the city of Kolkata were interviewed by the questionnaire method. The study showed that the prevalence of obesity, overweight, central adiposity - all risk factors for lifestyle diseases & non communicable diseases (NCDs) was negligible among the employees irrespective of the stressful work pattern. The nutritional intake when looked into was found to be inadequate in both male and female respondents. Though no major findings came across during the study but the very high prevalence of non communicable disease (NCD) risk factors in an industrial productive population shows an urgent need to initiate lifestyle modification and nutrition and health promotion programs in industries to curtail the rising epidemic of non communicable disease.

## Dietary Factors and Vulnerable Population for Gallbladder Diseases

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Gallbladder disease prevalence is increasing in developing as well as in developed countries. Women are more prone in comparison to men in both the developing as well as developed countries. The aforementioned epidemiology of gallstones needs a thorough study of the etiological or the predisposing factors responsible for the high prevalence of the gallstones in urban community. Present study has been conducted to observe the dietary factors among subjects, and to identify the at-risk groups of the population regarding gallbladder diseases. A cross sectional random sampling was carried out to select the study population from a multi-specialty hospital. The information regarding disease history was collected through pre-tested, pre-designed Questionnaire cum Interview Schedule. Results revealed that the prevalence of gallstone was highest in the age group of 40-50 (28%) and lowest in the age group of 60-70 (4%). Then present with decreasing order in the age of 50-60>20-30>30-40 (26%, 22%, 20%) respectively. Non-vegetarians, obese, female, middle income groups were found to be more prone to cholelithiasis ( $\chi^2 = 4.2583$ ). The study concluded that eating habit, higher BMI, consumption of non-vegetarian food and high fat food are important risk factors for gallbladder diseases. Furthermore detailed investigations may be done in the above mentioned area.

## Value Added Ethnic Weaning Food of Madhya Pradesh - A Systematic Approach to Attain Nutritional Security

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Attainment of nutritional security is going to be the biggest challenge for the country. The problem of malnutrition and under nutrition of weaning children is admittedly of alarming nature & dimensions. The significance of ethnic weaning foods to meet the nutritional needs of children is well recognised. Hence an effort was made to develop value added weaning foods for vulnerable group. Five popular ethnic weaning foods chapatti, pej, panjiri, sattu & vermicelli were enriched with malted lentil, sesame and carrot powder. Organoleptically these products were well occupied with 15-20 malted lentil flour and 5% both sesame and carrot powder supplementation. Quite good amount of protein (13.09 to 18.72), Carbohydrates (28.58 - 69.32), ash (2.18 - 3.92%), energy (340.60 - 416.00 Kcal/100 g.), phosphorous (205.00 - 354.00 mg./100g.), calcium (96.00 - 160.00 mg./100g.), iron (4.00 - 9.00 mg./100g.), Zinc (3.54 - 5.70 mg./100g.) and higher amount of P-carotene (160-354 ?g./100g.) content were present in improved weaning foods. These food products with imposed quality characteristic such as nutrition, easily chewable and digestible would greatly contribute better nutrition to vulnerable population and suggested to be taken up as an educational tool for on going nutrition intervention programme for mass popularization and public sensitization.

## Comparative Study of Food Pattern of Working Women among Different Income Groups

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This paper deals with the comparative study of food pattern among working women of three income groups (i.e. high, middle and low). 225 working women were selected from five wards under Patna Municipal Corporation (PMC) through stratified sampling random method for the study. 24 hours recall method was used to study the meal pattern of the sample women. The analysis revealed that consumption of beverages, fruit juice, milk, horlicks, etc was highest among high income group followed by medium and low income group women. Similarly there was positive correlation between income and preparation of food according to meal planning, taking meal at par with men, consumption of fruits, milk products, coffee, jam / jelly and canned food and salad. Consumption of pickles, tea was prevalent equally among women of all income groups. The dietary pattern and nutrient intake seemed to improve with the rise in economic status of the working women.

## Quality Evaluation of Spirulina Based 'Khakra'

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Khakra is a form of dried thin spicy chapatti. Spirulina is a nutrient rich super food for super health. Super foods can be defined as foods that have health promoting benefits and disease preventing properties over and above their usual nutritional value. Spirulina have many therapeutic properties such as hypocholesterolemic, immunological, antiviral and antiglutagenic effects. The present study was undertaken to assess the nutritional composition of spirulina powder, to develop value added products and their nutritional analysis and to study the effect of storage on value added products using spirulina. Value added khakra were prepared by using wheat flour, Bengal gram flour, oil, salt, red chili powder, coriander seeds (dry), water for making dough and 10 per cent level of spirulina powder. The mean score for sensory evaluation of developed and control sample of khakra were 7.9 and 7.6 respectively on nine point hedonic ranking scale. The developed value added khakra contained 21.10 per cent moisture, 25.6g protein, 11.95g fat, 2.92g crude fiber, 4.25g ash, 33.18 g carbohydrate and 346.67 kcal energy per 100g on dry weight basis whereas control sample contains 21.8 per cent moisture, 19.6g protein, 12.12g fat, 2.45g crude fiber, 3.85g ash, 40.18g carbohydrate and 348.2 kcal energy per 100g on dry weight basis. In developed samples  $\alpha$ -carotene, vitamin c, iron and potassium content were observed 1226.08  $\mu$ g/100g, 0.48 mg/100g, 19.45 mg/100g and 947.5 mg/100g respectively while in control sample  $\alpha$ -carotene iron and potassium content were observed 202.50  $\mu$ g/100g, 11.95 mg/100g, 877.5 mg/100g respectively. Thus, better quality of value added khakra brings considerable advantages among the community

## Development of Value Added Products from Nutricereals and the Effect of Packaging and Storage on their Shelf Life

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In the shelf life study of value added products developed out of nutricereals stored in different packaging for varying period, the microbial quality of developed products like improved flour of wheat, Quality protein maize dalia, Quality protein maize processed flour and Health mix Super was tested for total viable count. The products were studied for bacterial, fungal, *Actinomycetes* and *E.Coli* colony count. Absence of fungus and *Actinomycetes* colonies improved the shelf life of the products as both are major decomposers of food products. Bacterial colonies were observed during the experimental period. It ranged from 2 to 21 TVC/ml/g in improved flour of wheat, 2 to 22 TVC/ml/g in Quality Protein Maize dalia and 2 to 22 TVC/ml/g in Quality Protein Maize Processed flour and 3 to 25 TVC/ml/g in Health Mix super at  $10^{-6}$  dilution in the different packaging for varying periods of storage. Vacuum packaging samples showed that lowest counts while highest counts were observed in earthenware pack samples.

## Mahrashtrian Snacks: Traditional Rice Delight

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Our health depends on what we eat daily. The ever growing menace of 'easy way out' has become the mantra of life for more and more people today. Desire to have a break from traditionally home cooked food has created a great market for readymade foods or 'junk food'. It is a kind of eatable with very less or no nutritive value, overdone with fat, sugar, sodium and a few chemicals, just crunching hunger and leading to serious health problems. The junk food has entered the Tiffin box replacing traditional snacks. The changed life-style, time paucity, Media etc. has lead to the McDowell culture discarding nutritious traditional snacks. The situation is truly alarming and needs attention. The solution for nutritional drain lies in our age-old tested recipes. India has many different styles, diversified multi-cuisine that varies from region to region and are absolutely lip smacking. The present study was designed to document, standardize, enrich, simplify and assess the Nutritive value and cost of the Maharashtrian customary snacks prepared from rice, superseded in the modern era. The documented dish Dadpe Pohe and Ubje are good nutritive snacks, cost-effective, time and energy saving and is an universal snack as the ingredients used are easily available in any region.

## Enhancing Availability of Vegetables in Diet through Nutritional Kitchen Gardening: A Study on Tribal of MP

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Nutritional Kitchen gardens, employing traditional land-use systems but underutilized production systems, are the major sources for supplying such diversified food. These are also rich in species diversity. Many uncultivated and underutilized species supplying dietary diversity and micro-nutrients are found in such kitchen gardens. Baseline study carried out in four ecologically and socio-economically diverse sites of Nepal revealed that contribution of fruit and vegetables to the total meal of a household is about 44%. Home gardens supply 60% of the household's total fruit and vegetable consumption. Yet, these gardens are not fully developed in structure and function to maximize their potential in catering to demands of households. To identify the actual gap in supply of different nutrition-rich species in Nutritional Kitchen gardens, nutritional calendars were developed for each season, family and nutritional requirement. Baseline survey and situation analysis of Front line demonstration have come up with an inventory of plant species available in home gardens. The availability of different nutrients from the species grown in the home gardens were estimated through literature review. Distribution of the improved variety of vegetables seeds over the year. Nutritional calendars were derived from the data on nutrition availability and distribution of the vegetables. Nutritional calendar provided the basic information on the status of Kitchen gardens with respect to the availability of diversified diets in different agro-ecology and socio-economic settings. Nutritional gap analysis, farmers' demand and ecological suitability are the basis to determine the composition of diversity kits for improved Kitchen gardens. Awareness raising, local food diversification and promotion of diversity kits in Kitchen gardens are important strategies for improving family nutrition of rural poor households.

## An Appraisal of Noon Meal Programme in Tamil Nadu

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The problem of malnutrition affects not only the health of children, but also their attendance and performance in schools. As one of the strategies to combat malnutrition among school children, the government of Tamil Nadu adopted the noon meal programme on 1<sup>st</sup> July 1982. Under this programme 120 million children in two age categories (5-9 yrs and 10-15 yrs) are receiving a meal supplying 500kcal and 15 g protein per meal. An evaluation of this programme was carried out in eight schools in three districts of Tamil Nadu namely Tiruchirapalli, Thanjavur and Coimbatore. All the school meal beneficiaries (No. 3479) and 50 per cent of the non beneficiaries (No.1634) were selected and their height and weight were recorded. Details on the quantity of food served through the school meal programme were collected and the nutrient content of the meal was calculated. The mean height and weight of all the beneficiary and non beneficiary male and female children was less than that of the NCHS standards. Inclusion of more vegetables and greens is required to meet the gross deficiency of micronutrients. Use of precooked fortified rice as a measure to save fuel and labour will be a boon to fight the long standing problem of micronutrient deficiency among growing children.

**Influence of Changing Food Pattern on Childhood Obesity in the Cities: Jodhpur and Kolkata****Dr. Raka Srivastava<sup>1</sup> & Prachee Baid<sup>2</sup>**

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A study on prevalence of childhood obesity in relation to food preferences was carried out in the cities of Jodhpur and Kolkata. A total of 120 subjects in the age group of 9-12 years of both the sexes were purposively selected for the study. The prevalence of obesity was assessed by BMI and the food frequency questionnaire was developed to take note of the food preferences and pattern. Comparison of BMI and age among Jodhpur and Kolkata boys indicated no significant difference at the ages of 9 and 12 years but significant difference was observed for the 11 and 12 year olds. The trend changed with the girls of the two cities where there was no significant difference between the BMI and age of the girls aged 9, 10 and 12 years but at the age of 11 years significant difference was found. The major contributors of obesity were found to be the irregular dietary pattern with an enormous intake of "empty calorie" and rich food containing low nutritive portions like fried foods, fast foods, sweets and cola. The prevalence and food pattern contributing to obesity in children remained the same irrespective of the cities and sexes, as all the subjects enrolled belonged to the affluent segment of the society, although, there being a difference in their choice of food items.

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*“Books are the carriers of civilization.  
Without books, history is silent,  
literature dumb, science crippled,  
thought and speculation at a standstill.”*

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*“A room without books  
is like a body without a soul.”*

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**FAMILY RESOURCE MANAGEMENT**  
**(Oral & Poster Presentation)**



## Utilization of Abilities of Elders in the Changed Social Context

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### ABSTRACT

*In view of the alarming increase in the population of the elderly persons about 77 millions in 2007 and possibility of further increase, the problem of aging needs immediate attention. Indian culture insists on graceful treatment to elderly and regards them as a valuable human resource. Our traditional "extended family" provided them protection and a strong psychological support. In such traditional societies the seniors enjoyed unparallel sense of honor. With the explosion in the transmission of Scientific & technological knowledge and advent of materialist western culture, the Indian societies started experiencing micro & macro structural changes in its forms and functions. It is passing through the transitory phase from "extended family based society" to "nuclear family based society". Although the structure of joint family is still wide spread and the sentiments of joint-ness continues to be stronger, the intrinsic psycho structure of the family is being disturbed. It is high time now that we should change our approach towards elderly. If we utilize properly their wisdom, experience and expertise, they will not be a burden to the family. This paper intends to examine the role of the elders in the new changing context.*

### INTRODUCTION

In view of the alarming increase in population of the elderly persons, about 77 millions in 2007 and possibility of its further increase which is likely to be doubled in 2026, the problem of aging needs immediate attention.

Indian Culture insists on graceful treatment to the elderly. They should be considered as a valuable human resource and their reach experience; residual capacities should be put to optimum use for the benefit of the Society at large.

It was the primary responsibility of the traditional joint families to protect its dependant members like elderly and disabled and provide them a strong psychological support.

Particularly, the aged in the traditional societies enjoyed unparallel sense of honor, legitimate authority in family, had decision-making responsibilities and were treated as repositories of experience and wisdom.

With the explosion in the transmission of scientific and technological knowledge and advent of western culture, the Indian societies started experiencing micro & macro structural changes in its forms and functions.

It is passing through the transitory phase from "Extended or Joint Family based society" to "Nuclear Family based Society". Fortunately the pace of this transition seems to be slow and Family jointness still continuous to be a major sociological phenomenon in the Indian Social structure.

In spite the acceptance of modern technology and the cognitive elements of western culture such as individualism and democracy, the Indian mind seems to be reluctant to abandon the concept of "Joint Family".

Although the structure of Joint Family is still wide spread and the sentiment of joint-ness continuous to be stronger, the intrinsic psycho structure of the family is being disturbed.

In modern materialistic society where usefulness is measured by the economic yardstick the aged are being regarded as liability.

This has seriously affected their status marked by a shift in their position from active participation to passive membership in the family resulting in their moral degradation.

This is the matter of concern to all the Social activists confronting with the problems of aged.

It is a high time now that we should change our approach towards the elderly. If we utilize properly the fund of knowledge they have by virtue of their long experience, maturity and wisdom, they will not be a burden. On the contrary, their valuable guidance, nurturing and educating the family children, participating in housework and sharing various responsibilities should be regarded as significant resources.

## **AIMS & OBJECTIVES**

This paper aims at identifying the qualities and abilities of elder persons and judges their relevance in the changing social context.

It also intends to discover latent forces responsible for creating Family disturbances.

Conforming to the above purpose, following objectives were in view.

1. To identify the useful services rendered by the elders.
2. To judge their relevance in the changed social context.
3. To find out the factors responsible for creating inter generational gaps.
4. To examine whether there is any co-relation between the factors like education, age and the approach of the elders towards their Families.
5. To know the reasons for the conflicts and psycho disturbances in the families if any.
6. To suggest proper policies for encouraging the active role of the seniors.

## **MATERIALS & METHODS**

A group of 156 Senior Citizens (above 60 Years of age) of Aurangabad City in Maharashtra coming from lower middle income Families was randomly chosen for detailed enquiry.

The Group consisted of 87 male and 69 Female members.

Each member was interviewed with the help of a questionnaire for eliciting the reliable information pertaining to the objective of the study.

The data thus collected was systematically processed and analyzed to arrive at proper conclusions.

## **RESULTS & DISCUSSIONS**

The observations of this study have been presented in the following tables.

Table 1 shows the education level of the sample elders. Illiteracy is conspicuously absent. Except 11 females (16%) almost all the members have crossed the primary level. Majority of the Female members (nos. 53 i.e. 61%) are graduates followed by those who have attended Secondary standard (nos. 20 i.e. 23%). Majority of ladies (nos. 42 i.e. 60.9%) are Matriculate. 14 Ladies (20.3%) have done their Post Graduation. 14 Males (16.1%) and 2 Females (2.8%) are Post Graduate.

Table 2 depicts economic status. 67 male members (77%) and 13 Female members (18.9%) are pension earners. Other income sources are insignificant.

Table 3: indicates the range of age. Majority of members fall in the range of 60 to 75 years.

Table 4: shows activities performed by the elders. 70 males (80.4%) and 12 Females (17.4%) guide the younger members. The most important job of educating, disciplining and providing strong moral support is performed by almost all the Grand Parents. The information also reflects that the seniors actively participate in sharing domestic work, businesses and financial responsibilities. 15 males (17.2%) and 7 Females (10.2%) shows active interest in social work.

Table 5 reveals number of activities performed by the sample members. Everyone seems to perform at least 2 activities. Majority of male members (41 i.e. 47%) perform as many as 4 activities. followed by 54 Female members doing 2 jobs. 10 Men (11.5%) and one woman (1.4%) get themselves busy in more than 4 activities.

Table 6 data about stresses and strains are given from the Table; it becomes evident that main reason for psychological disturbances affecting seniors is generation gap. 17 male (19.6%) and 34 Female members (49.1%) are sufferers of inter generational disturbances.

Table 7 reflects health problems of elders. According to the Table, a makeable number of seniors, 70 males (80.4%) and 58 Females (84%) have the trouble of vision loss. 44 men (50.6%) and 30 women (43.4%) suffers from asthmatic troubles. The informants also reported about other physical and mental disorders like heart problem, Parkinson's disease, Alzheimer's disease and mental stress.

**Table 1: Educational Level of Elders**

Sl. No.	Education Level	Males (87)		Females (69)	
		No.	Percentage (%)	No.	Percentage (%)
1	Illiterate	-	-	-	-
2	Primary	-	-	11	16
3	Secondary	20	23	42	60.9
4	Graduate	53	61	14	20.3
5	Post Graduate	14	16	02	2.8

**Table 2: Economic Status of Elders**

Sl. No.	Source of Income	Males (87)		Females (69)	
		No.	Percentage (%)	No.	Percentage (%)
1	Family Pensions	67	77	13	18.9
2	Business	3	3.5	-	-
3	Agriculture	-	-	-	-
4	House Rent	7	8	-	-
5	Interest	2	2.3	4	5.8
6	No Source of Income	8	9.2	52	75.4

**Table 3: Range of Age**

Sl. No.	Range of Age	Males (87)		Females (69)	
		No.	Percentage (%)	No.	Percentage (%)
1	60 to 65	58	66.6	49	71
2	65 to 75	25	28.7	19	27.5
3	75 to 80	03	3.5	01	1.4
4	Above 80	01	1.1	-	-

**Table 4: Activities Performed by the Elders**

Sl. No.	Activities	Males (87)		Females (69)	
		No.	Percentage (%)	No.	Percentage (%)
1	Guide the young	70	80.4	12	17.4
2	Disciplining & providing moral support to grand children	81	93.1	10	14.5
3	Taking care of grand children cleanliness, diet, rest & sleep	12	13.8	58	84
4	Teaching & helping in grand children studies	75	86.2	7	10.2
5	Participating in domestic/house work	27	31	64	93
6	Sharing business & other responsibilities of Family	13	15	-	-
7	Share the financial burden to the possible extent	53	60	03	4.2
8	Social Work	15	17.2	07	10.2
9	Others	-	-	-	-

**Table 5: No of Activities performed by the Elders**

Sl. No.	Number of Activities Performed	Males (87)		Females (69)	
		No.	Percentage (%)	No.	Percentage (%)
1	One	-	-	-	-
2	Two	20	23	54	78.2
3	Three	16	18.4	10	14.5
4	Four	41	47	04	5.8
5	More than Four	10	11.5	01	1.4

**Table 6: Stresses and strains in the Joint Families**

Sl. No.	Reason for Stress & Strain	No of elders disturbed			
		Males (87)		Females (69)	
		No.	Percentage (%)	No.	Percentage (%)
1	Family members behaves in insulting manor	10	11.5	14	20.3
2	Physical disorder	10	11.5	12	17.4
3	Physical dependency	-	-	-	-
4	Economic dependency	8	9.2	47	68
5	Generation Gap	17	19.6	34	49.1

**Table 7: Health Problems**

Sl. No.	Health disorders	Males (87)		Females (69)	
		No.	Percentage (%)	No.	Percentage (%)
1	Psychological stress	10	11.5	12	17.4
2	Alzheimer's disease	3	3.5	19	27.5
3	Parkinson's disease	1	1.1	1	1.4
4	Heart problems	13	15	11	16
5	Asthmatic trouble	44	50.6	30	43.4
6	Vision Loss	70	80.4	58	84

## CONCLUSIONS

On the basis of the information collected, following inferences can be arrived at....

- Almost all the sample seniors seem to be thoughtful, holding liberal views and prepare to adjust with all odds.
- Barring few exceptions, they exhibit positive attitude while compromising with the other family members to avoid the conflicts.
- Few informants have reported incidence of family disagreement mainly arising out of egos of certain members disturbing their mental peace.
- Quarrels between mothers & daughters- in-law have been reported to be the prominent factor responsible for breaking the quite families.
- All informants want to keep themselves actively and constructively engaged. They specially preferred to perform various duties relating to the family children from educating them to giving them moral support.
- They do other family jobs also with equal enthusiasm.

With the advancing age, their ardent zeal gradually goes on declining and they start facing certain physical and mental disorders, resulting in the weakening of their abilities.

## **RECOMMENDATIONS**

Rise in the incidence of break-ups of families due to intergenerational conflicts resulting in the degradation of elders is a concern of all.

While suggesting measures for graceful and peaceful leaving of elders one cannot forget complex city of the problem. It relates with the tender inter relationship involving emotional bonds.

The genesis of most of the problem concerning to seniors, being socio-cultural, solutions too have to be sought in the wider social milieu.

It is evident that the elders need moral and emotional support, which they get in “togetherness”. They want to leave in family environment where bonds of attachments are many fold and the emotional universe in which they can move is vast.

Confirming to the inferences drawn, following measures can be suggested.

1. Family counseling centre formulated by the Indian Government can play a crucial role in strengthening the social fabric by preventing families from breaking up.
2. Considering the complex emotional nature of the issue, solutions cannot be found in legal measures or any other type of compulsions.
3. Providing financial assistance to aged is not enough. They need moral and emotional support from their kin's.
4. The elders themselves also can play a very important role in consolidating the family and social structure. They should not undermine themselves. They should awaken their inner soul and recognize their own potential for the benefit of entire mankind.
5. Last but not least, according to our ancient philosophy, which advocates four ASHRAMS, the elders with spiritual awakening can accept and bring in practice, the concept of “WANPRASTHA”, and reduce attachment to family and wealth that are the main culprits causing family disintegration.

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## Micro Level Study of Ozone Centrifugal Aerated Technology in Treating the Sewage Water

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### **ABSTRACT**

*Fresh water resources are considered as vital life-giving and life supporting constituents. Resource Management, a specialized course of study in Home Science, focuses water resource since it has been one of the challenging priority areas of research gaining national significance. The investigator with keen interest in attempting to study the pollutants affecting the major surface water reservoir, the Singanallur Lake the water source and the effect of Ozone treatment in rejuvenating the water body, designed a research study entitled "Micro Level Study of Ozone Centrifugal Aerated Technology in Treating Sewage Water" with the following objectives to find out the nature and extent of pollutants present in the water and to find out the efficiency of Ozone treatment in treating sewage water. The water samples from the canal and nearby bore well were taken and analyzed. The polluted water was subjected ozone treatment. It was found that the surface water and bore well water analysis reported the presence of pollutants (TDS, TSS, BOD, COD, Nitrate, TPC and Nitrate) above the prescribed water standards. The ozone treatment significantly decreased the TDS, TSS, BOD and COD. The ozone treatment further improved the quality of water by increased the DO level. By further increasing the percentage of ozone and aeration time the values can be brought to nil. Ozone is the only environmentally friendly and completely ecological way to produce a healthy chemical free environment in an economical and efficient way.*

### **INTRODUCTION**

Water plays a versatile role in the functioning of the biosphere. Life and water have a very close relation and are inseparable. Water resources hold the key for socio-economic development of any country. Fresh water resources are considered as vital life-giving and life supporting constituents.

### **AIMS & OBJECTIVES**

Home Science Education aims at a healthier, happier and richer family and community life. Resource Management, a specialized course of study in Home Science, focuses on resource use, augmentation, conservation and management with a futuristic vision to enrich the quality of life of people. Water being the basic resource for all human activities has been one of the challenging priority areas of research gaining national significance. There has been no in depth study conducted so far to base any planned developmental project in the wake of high concern on the sewage water polluting the major surface water reservoir, the Singanallur Lake. Hence, the investigator with keen interest in attempting to study the pollutants affecting the water source and the effect of Ozone treatment in rejuvenating the water body, designed a research study entitled "Micro Level Study of Ozone Centrifugal Aerated Technology in Treating Sewage Water" with the following objectives to:

1. Find out the nature and extent of pollutants present in the water.
2. Find out the efficiency of Ozone treatment in treating sewage water

## MATERIALS & METHODS

Singanallur Lake has a place in the hearts and minds of all the people who resided along the banks. This emotional link needs to be recognized. The effort is to see the lake as an ecological entity with special effort related to quality of water. The design formulated for the study consisted of the following main phases.

### • Water Quality Analysis and Ozone Treatment of the Selected Water Samples

The standards for water quality by no means are static; they are constantly under review in the light of new knowledge. The analysis required for water samples on the intended use should meet certain quality criteria, with respect to appearance, potability, health and toxicity. These criteria are established by health regulating agencies to ensure that the water quality in a resource is suitable for the proposed use.

Water quality of natural resources has deteriorated to a very great extent. Modern civilization with its rapid increase in population and industrialization has led to an accelerated degradation of the fresh water systems says, Kumar (2004). Rivers and lakes have been used as grounds for dumping human sewage and industrial wastes of every conceivable kind, many of them being highly toxic. In order to study the extent of pollution and the possibility to treat the sewage water, samples were collected, analyzed and the methodology of the study followed is presented in Figure 1

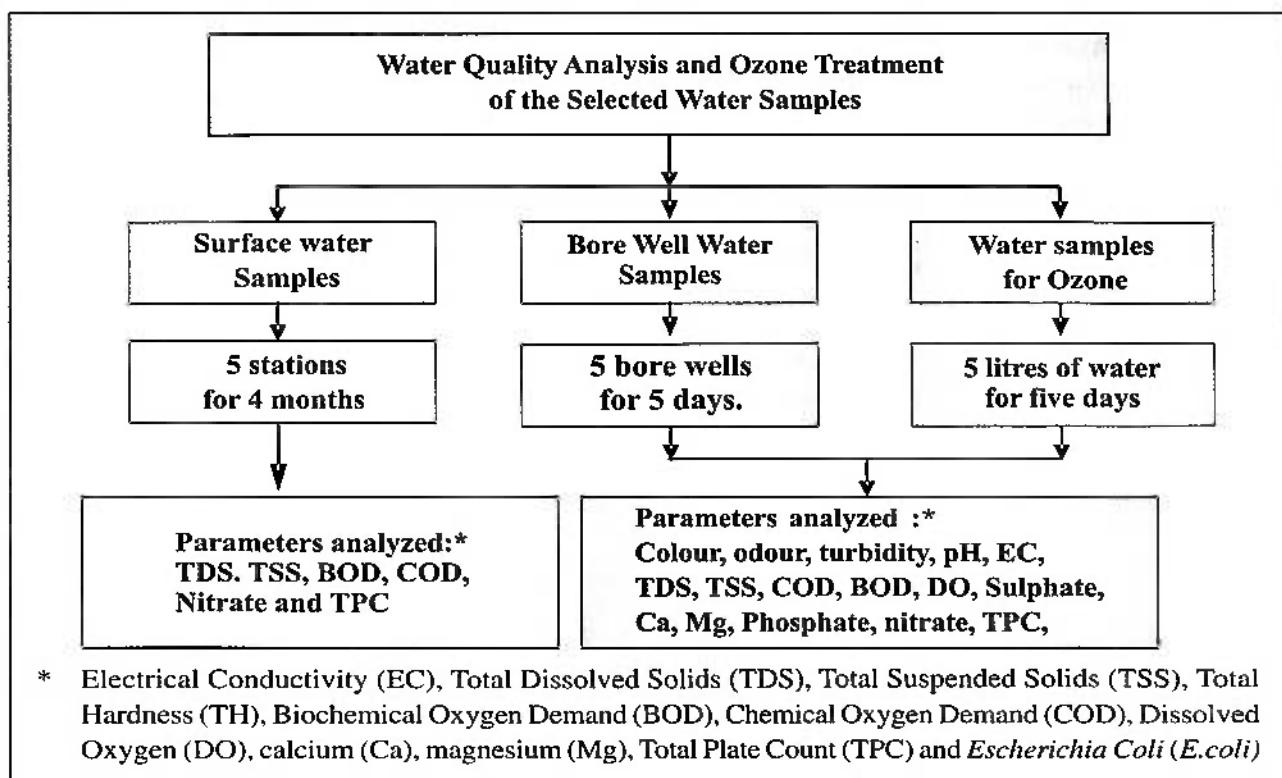


Fig 1: Design of the Study

It is difficult to obtain a representative sample of a heterogeneous and variable material such as wastewater. In order to find out the pollutants present in the water draining into the lake, water samples were collected from five specific areas (for four Months) by grab sampling method (Mettupalayam Road, Sathyamangalam Road, Avinashi Road, Trichy Road, Singanallur).

## RESULTS & DISCUSSION

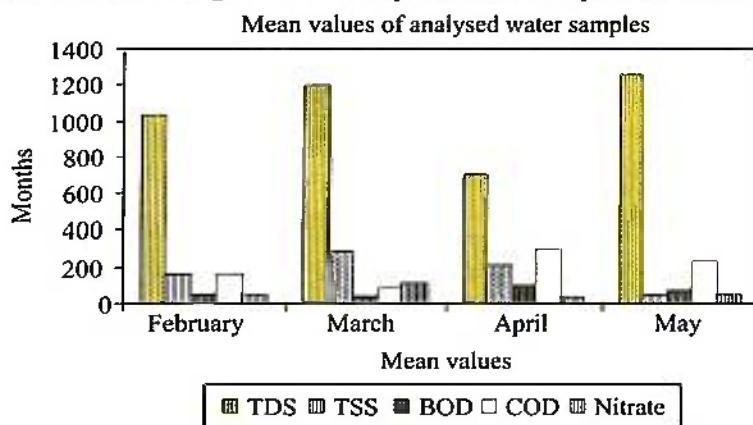
The outcome of the analysis of the selected water samples before draining into Singanallur Lake are discussed under the following headings:

### 1. Result of the analysis of the selected water samples

- May month sample recorded te highest mean TDS level (1250 mg/l) and April, the least mean TDS level (700 mg/l).

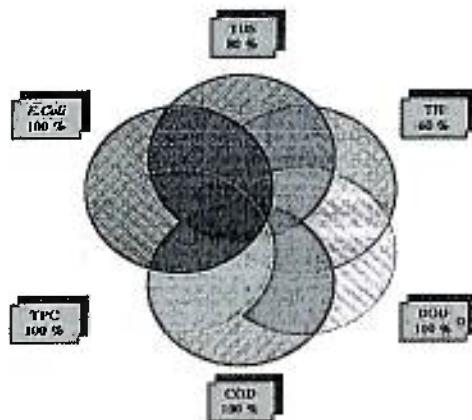
- March month sample recorded the highest mean TSS (279 mg/l) while May month had minimum mean TSS level (43 mg/l).
- April month recorded the highest mean BOD level (96 mg/l) and March month lowest mean BOD level (34 mg/l).
- April month showed a maximum mean COD value of 291 mg/l and March month showed a minimum mean value of 90 mg/l.
- March month samples indicated higher mean nitrate level (108 mg/l) and April month indicated least mean Nitrate level (33mg/l).

The analysis exhibited the presence of pollutants above the prescribed limit (BIS and WHO Standards). Proper measures if taken at the right time to expose facts can prevent further pollution.



## 2. Result of the analysis of the bore well water

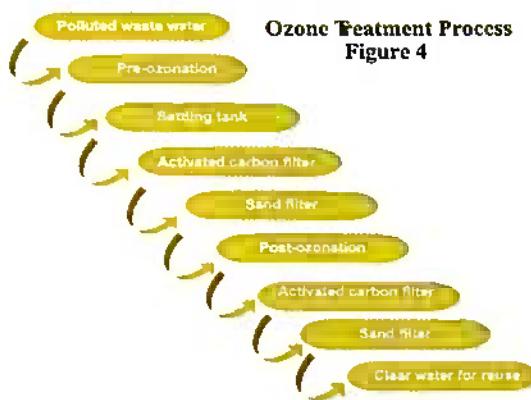
The colour, odour and turbidity, pH, TSS, DO, Sulphate, Calcium, Magnesium, Phosphorus and Nitrate of the selected bore well water samples were within the permissible limits of drinking water standards (BIS and WHO). Figure 3 shows the parameters (TDS, BOD, COD, TPC and *E.Coli*) and the percentage that has exceeded the drinking water standards.



**Fig 3: Parameters exceeding drinking water standards in selected bore well water**

## 3. Result of the ozone treated water samples

Water treatment is a multi-ranged process, which either removes or destroys the contaminants (Narain and Saha, 2008). At present the ozone treatment is getting into vogue. Ozone is used in gaseous form, which is faintly blue in colour with pungent odour. Ozone ( $O_3$ ), is a powerful disinfecting, deodorizing element which has high oxidizing potential (2.07). The oxidizing potential of ozone has the advantage of reducing the time normally required for sterilization. Ozone is highly unstable hence; it is generated on site for immediate use. Ozone dissolves over 12 times more readily into water than pure oxygen, then reverts to oxygen, providing hundreds of times more dissolved oxygen in water ([www.tripleo.com](http://www.tripleo.com)). This method was found to be the best alternative since; little sludge is formed at the end of the treatment (Kannan, 2005). Step by step



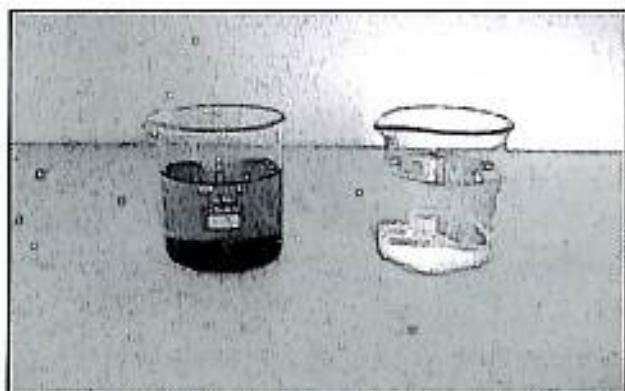
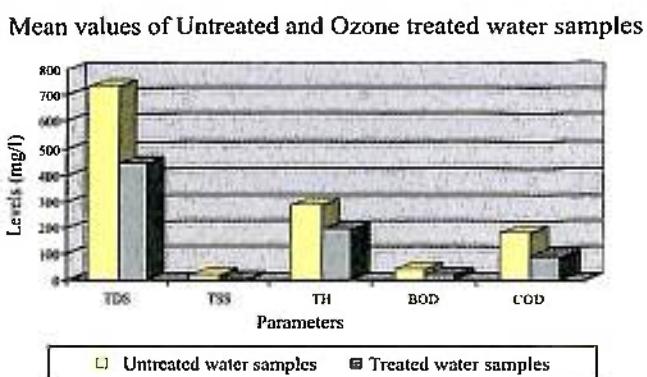
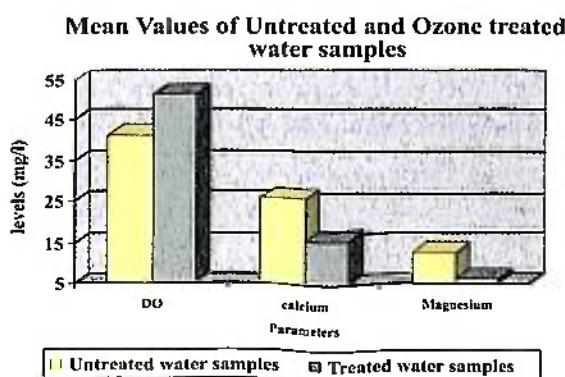
process of the treatment procedure includes pre-ozonation, settling tank, activated carbon filtration, sand filter, post-ozonation, activated carbon filtration, and sand filter.

#### 4. Result of the analysis of the ozone treated water

The colour, odour, turbidity and EC of the selected water samples turned out to have agreeable after the ozone treatment. The ozone treatment significantly decreased the TDS at 1 per cent level and TSS, BOD and COD at 5 per cent level and TH with no significance in the selected samples.

The ozone treatment further improved the quality of water and has significantly increased the DO level at 5 per cent level. The ozone treatment simultaneously has decreased the calcium and magnesium level at 1 per cent level. There is no significant difference between the phosphate and nitrate level in the water samples before and after ozone treatment. The bacteriological tests for Total Plate Count and E-coli showed a level of Too Numerous to Counts (TNTC) before and after ozone treatment in the selected water samples. These two parameters should be nil for potable water. By further increasing the percentage of ozone and aeration time the values can be brought to nil.

It is necessary to allay the fears that people associate with using recycled potable water. Reducing pollution of water can bring measurable health gain, besides lengthening life expectancy.



## **5. Operating cost of ozone technology**

The initial capital cost for the ozone plant is Rs 20,000/- . The operational cost is mainly towards power consumption by the equipment. The total approximate cost for ozone treatment for treating 25 litres of polluted water is Rs. 40 and six paise only (Rs. 40.06).

## **CONCLUSION**

Ozone is the only environmentally friendly and completely ecological way to quit all the polluting factors, the microbes and all pathogenic agents without producing toxic and dangerous scum, thus producing a healthy chemical free environment in an economical and efficient way.

## **RECOMMENDATIONS**

1. User friendly ozone treatment to be opted for a save environment right from the grass root level.
2. Government and Non Governmental organizations to take necessary steps to improvise and popularize the ozone treatment process.
3. Implementation of legislation and regulations to prevent unauthorized dumping of solid and liquid waste into fresh water sources.
4. Research to be carried out at a large scale in treating the polluted water bodies by ozone treatment and documenting and creating awareness on the benefits of ozone treatment

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## Creating Awareness about Recycling of Kitchen Waste

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### ABSTRACT

*Waste material is produced as a result of human activity. Over a period of time the quantity of waste generated has grown significantly due to increasing population and consumerist nature of the people. The objectives of the study were to gather information about the different types and quantity of waste generated the methods of waste disposal, to create awareness about recycling of bio-degradable waste. It was hypothesized that the intervention program has positive impact on the home makers. The research design was divided into two parts. In the first part household survey was conducted to know the existing household waste management practices before creating awareness and post survey to know the impact of awareness programme. Interview schedule was used on thirty families from Balepura village of Devanahalli taluk. The vermicomposting technique was explained through posters, lectures and demonstration. The major findings of the study are a majority of the families followed incineration method of waste disposal in the pre demonstration survey in comparison to 83 percent of the families who sorted their waste before disposal in the post demonstration. Throwing the waste outside the house was almost stopped and using dust bins and plastic covers increased in the post awareness survey. Cent percent of the homemakers were self motivated, for sorting the waste before disposal and post awareness programme, 17 percent of the homemakers have started composting their waste. The percentage of the families who recycle their waste increased from 26 percent to 53 percent in the post awareness survey. The waste was recycled into decoration items, cloth bags, mats, children's Bed, pillows etc. Thus, it can be concluded that, post awareness a small percentage of homemakers started composting organic waste and using it for their kitchen garden and household plants.*

### INTRODUCTION

Waste is defined as any solid of semisolid, liquid or contaminated gaseous materials discarded from industrial, commercial, mining or Agricultural operations or community household activities. Rising quality of life, high rate of resource consumption patterns have had an unintended and negative impact on the environment. Generation of waste far beyond the handling capacities of the government agencies requires drastic measures. The current emphasis on waste disposal is focused on the community and private sector participation involving behavior change and creating awareness.

### AIMS & OBJECTIVES

Objectives of the study were to gather information about the different types and quantity of waste generated in the kitchen, to gain knowledge on the methods adopted for the disposal of waste, to educate about reuse or recycling of bio-degradable waste and to know the outcome of awareness programme conducted.

### MATERIALS & METHODS

The study was limited to 30 home makers belonging to Balepura village of Devanahalli taluk of Bangalore district. The research design for the study is done in two parts:

1. Household survey to find out the existing household waste Management practices followed in the selected households.
2. Creating awareness on safe and hygienic methods of disposing Household organic waste through vermicomposting was demonstrated to the selected women folks.

An interview schedule was prepared and used as a tool in order to conduct the survey to elicit the necessary information. The result of the study is presented below.

**Table 1: Capacity of the Household Waste Generated**

Sl No	Type of Waste	Pre-awareness Percentage	Post-awareness Percentage
1	Kitchen waste		
	<1K G	30	30
	1-2 K G	40	40
	>2 KG	30	30
2	Cow dung		
	<10 K G	30	30
	>10 K G	70	70
3	Plant Waste		
	<2 K G	30	30
	>2-5 K G	40	40
	5 KG	30	30

The above table reveals that each household generates different types of waste like kitchen waste, cow dung and plant waste. It was observed that there was no change in the waste generated in pre and post demonstration survey.

**Table 2: Disposal Method Adopted**

Sl. No	Disposal Method	Pre awareness Percentage	Post awareness Percentage
1	Incineration	60	0
2	Composting	0	17
3	Discarding outside the house	40	0
4	Sorting	0	83

Table 2 shows the methods of disposal adopted by the households. It was mainly through incineration in pre-awareness while in post demonstration 17 percent started composting and the remaining households sorted the waste before disposing.

**Table 3: Person in Charge of Disposal of Waste**

Sl.No	Person in Charge	Pre awareness Percentage	Post awareness Percentage
1	Home maker	46	70
2	Children	20	-
3	Paid helpers	34	30
	<b>Total</b>	100	100

It can be observed from table 3 that, in post awareness survey the majority of the home makers took personal interest in the waste disposal.

After an initial survey, an intervention program was conducted about the importance of waste segregation at household level and vermicomposting technique for converting organic waste into useful manure through lecturer and demonstrations.

**Table 4: Adoption of Composting Technique**

Sl. No	Adopt composting	Pre awareness Percentage	Post awareness Percentage
1	Yes	-	17
2	No	100	83
	Total	100	100

One major change in the post awareness survey was the change in attitude towards waste disposal and concern for the environment. This is revealed through a small, but some change i.e., vermicomposting adopted by 17 percent of the home makers.

In the post demonstration survey it was also observed that recycling was waste increased from 26 percent to 53 percent. It was basically used to create decorative items, old clothes into cloth bags and quilts.

Thus, it can be concluded that aiming at eventual minimization and decentralization of waste management requires deeper community participation, understanding the economic benefits of recovering and recycling of waste.

## CONCLUSIONS

Kitchen waste generated ranged from less than one kilogram to more than 2 kilogram.

Majority of the families followed incineration method of disposal of waste in the pre awareness survey in comparison to 83 percentages of the families who sorted their waste before disposal in the post awareness survey. Throwing the waste outside the house was almost stopped after the awareness programme. In pre survey none of the homemakers were composting, their waste. But post awareness programme, it was found that 17 percent of the homemakers have started composting their waste.

Thus, it can be concluded that aiming at eventual minimization and decentralization of waste management requires deeper community participation, understanding the economic benefits of recovering and recycling of waste.

## RECOMMENDATIONS

1. To understand the knowledge and practice of waste management at household and community level.
2. To prepare an action plan for home makers to promote healthy waste disposal technique.

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## Level of Satisfaction Gained by the Homemakers in Dual Established Families of Andhra Pradesh

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### ABSTRACT

*Marriage is one of the important social institutions around the world. Each family passes through a life cycle that begins with the marriage of two young persons, grows with the coming of children, and then again becomes a home of two persons. In India, it is not only a union of two individuals but is an alliance between two families thereby bringing about a new network of relationships. It is a threshold for family formation and family building. A successful marriage is one that fulfils the needs, goals and expectations of both the marriage partners. The young married couples go through a series of adjustments to achieve the greatest degree of satisfaction. One such adjustment is the formation of dual established families in which life partners stay apart either for short or extended periods due to various family commitments. The process of migration with its positive and negative consequences continues to be a social reality. Male migration makes its impact on female members to undertake the roles and responsibilities of male counterparts. The study was carried out in Andhra Pradesh by identifying the required sample through snow ball sampling technique. Panneerselvam (2003) describes snow ball sampling as a restrictive multi-stage sampling in which initially certain numbers of sampling units are randomly selected. Later, additional sampling units are selected based on referral process, which means that the initially selected respondents provide addresses of additional respondents to the interviewers. This technique is applied for sampling the population related to rare events in which the members of the population are not equally qualified to become the members of the sampling frame. The observations regarding the level of satisfaction on family life management revealed that the employed homemakers were fully satisfied in the aspects of clothing management (44 per cent), communication between spouses (39 per cent), and food management and decision-making (34.5 per cent each). Over 50 per cent of fulltime homemakers were fully satisfied in the activities like food management, communication between spouses and clothing management. It was assessed from the study that a majority of 56 per cent of the homemakers of dual established families derived only partial satisfaction towards family life management. There was a significant difference at one per cent level with regard to satisfaction derived between employed and fulltime homemakers against socio-economic factors such as large family size, expanding stage of family life cycle and homemakers having less than three years of experience in dual establishment and families earning above Rs. 40,000/- per month. The satisfaction perceived by the fulltime homemakers over employed homemakers in the nuclear family type indicated statistically significant at five per cent level.*

### INTRODUCTION

Marriage is one of the important social institutions around the world. Each family passes through a life cycle that begins with the marriage of two young persons, grows with the coming of children, and then again becomes a home of two persons. In India, it is not only a union of two individuals but is an alliance between two families thereby bringing about a new network of relationships. It is a threshold for family formation and family building.

In this increasing mechanical civilization, home is the only place where one can relax and be oneself. It is also a place where a family lives and brings up children. Young and old members of the family live together and learn the joys of loving, giving and doing things for each other. A happy and warm home enables them to develop understanding and tolerance, share responsibilities and stand by each other.

A successful marriage is one that fulfils the needs, goals and expectations of both the marriage partners. The young married couples go through a series of adjustments to achieve the greatest degree of satisfaction. One such adjustment is the formation of dual established families in which life partners stay apart either for short or extended periods due to migrating jobs of spouses and to fulfil various other family commitments. The process of migration with its positive and negative consequences continues to be a social reality. Male migration made its impact on female members to undertake the roles and responsibilities of male counterparts. The state of Andhra Pradesh was selected to conduct the research study as the researcher being the native of the same state. Three hundred samples were identified to collect the data. The sample was selected based on the following criteria:

- Female headed households due to male migration
- Mother tongue, Telugu speaking homemakers for better interaction.
- Seasonal migrant labourers did not constitute the chosen sample.
- Homemakers having a minimum of two years of experience in dual establishment.

Among three hundred samples identified, 200 were employed homemakers and 100 fulltime homemakers. The disparity in the sample size was due to non availability of fulltime homemakers according to the criteria laid down for the sample selection. Spouses staying apart in dual establishment are certainly a phase of sacrifice in the life cycle of couples in order to achieve common benefits and to promote welfare and happiness for the entire family. Due to male migration, the homemakers hold the total responsibility of managing all the aspects of family life management. An assessment study was made on the extent of satisfaction obtained by the homemakers on family management through Likert rating scale. Following Table 1 and Figure highlight the details regarding level of satisfaction expressed by the homemakers of dual established families.

**Table 1: Level of Satisfaction Gained by Homemakers on Family Life Management**

Aspects*	EH (N : 200)						FH (N : 100)						Total (N : 300)					
	FS		PS		NS		FS		PS		NS		FS		PS		NS	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Communication between spouses</b>	78	39.0	105	52.5	17	8.5	53	53.0	44	44.0	3	3.0	131	43.7	149	49.7	20	6.7
<b>Realization of values</b>	66	33.0	113	56.5	21	10.5	44	44.0	49	49.0	7	7.0	110	36.7	162	54.0	28	9.3
<b>Achievement of goals</b>	48	24.0	122	61.0	30	15.0	31	31.0	63	63.0	6	6.0	79	26.3	185	61.7	36	12.0
<b>Decision making</b>	69	34.5	111	55.5	20	10.0	38	38.0	52	52.0	10	10.0	107	35.7	163	54.3	30	10.0
<b>Food management</b>	69	34.5	116	58.0	15	7.5	58	58.0	38	38.0	4	4.0	127	42.3	154	51.3	19	6.3
<b>Clothing management</b>	88	44.0	103	51.5	9	4.5	50	50.0	46	46.0	4	4.0	138	46.0	149	49.7	13	4.3
<b>Time management</b>	66	33.0	117	58.5	17	8.5	37	37.0	56	56.0	7	7.0	103	34.3	173	57.7	24	8.0
<b>Money management</b>	67	33.5	112	56.0	21	10.5	41	41.0	54	54.0	5	5.0	108	36.0	166	55.3	26	8.7
<b>Energy management</b>	58	29.0	125	62.5	17	8.5	38	38.0	55	55.0	7	7.0	96	32.0	180	60.0	24	8.0
<b>Stress management</b>	35	17.5	123	61.5	42	21.0	31	31.0	57	57.0	12	12.0	66	22.0	180	60.0	54	18.0
<b>Household responsibilities</b>	56	28.0	115	57.5	29	14.5	49	49.0	45	45.0	6	6.0	105	35.0	160	53.3	35	11.7
<b>Use of community facilities</b>	45	22.5	125	62.5	30	15.0	34	34.0	58	58.0	8	8.0	79	26.3	183	61.0	38	12.7
<b>Safety and security</b>	47	23.5	120	60.0	33	16.5	37	37.0	49	49.0	14	14.0	84	28.0	169	56.3	47	15.7
<b>Educational guidance for children</b>	56	28.0	119	59.5	25	12.5	36	36.0	56	56.0	8	8.0	92	30.7	175	58.3	33	11.0
<b>Care of children</b>	51	25.5	123	61.5	26	13.0	43	43.0	46	46.0	11	11.0	94	31.3	169	56.3	37	12.3

<b>Religious / spiritual practices</b>	56	28.0	115	57.5	29	14.5	38	38.0	53	53.0	9	9.0	94	31.3	168	56.0	38	12.7
<b>Acquisition of assets</b>	40	20.0	123	61.5	37	18.5	25	25.0	55	55.0	20	20.0	65	21.7	178	59.3	57	19.0
<b>Cultural events</b>	33	16.5	121	60.5	46	23.0	19	19.0	59	59.0	22	22.0	52	17.3	180	60.0	68	22.7
<b>Sexual relationship</b>	52	26.0	110	55.0	38	19.0	36	36.0	50	50.0	14	14.0	88	29.3	160	53.3	52	17.3
<b>Societal relationship</b>	43	21.5	134	67.0	23	11.5	34	34.0	61	61.0	5	5.0	77	25.7	195	65.0	28	9.3
<b>Recreation</b>	36	18.0	121	60.5	43	21.5	26	26.0	58	58.0	16	16.0	62	20.7	179	59.7	59	19.7
<b>Care of sick / aged</b>	30	15.0	126	63.0	44	22.0	34	34.0	48	48.0	18	18.0	64	21.3	174	58.0	62	20.7
<b>Self sickness</b>	37	18.5	126	63.0	37	18.5	23	23.0	58	58.0	19	19.0	60	20.0	184	61.3	56	18.7
<b>Family relationship</b>	59	29.5	122	61.0	19	9.5	46	46.0	43	43.0	11	11.0	105	35.0	165	55.0	30	10.0
<b>Social activities</b>	42	21.0	125	62.5	33	16.5	27	27.0	63	63.0	10	10.0	69	23.0	188	62.7	43	14.3
<b>Average</b>		26.5		59.4		14.1		37.1		52.6		10.3		31.8		56.1		12.1

EH – Employed Homemakers; FH – Full time Homemakers

FS – Fully satisfied; PS – Partially satisfied. \* Multiple responses

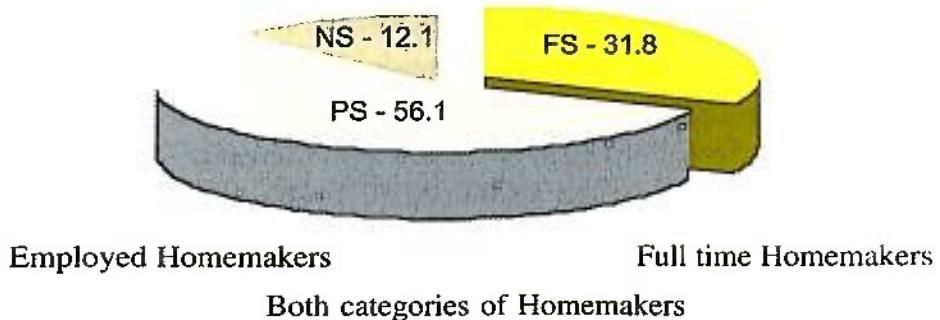
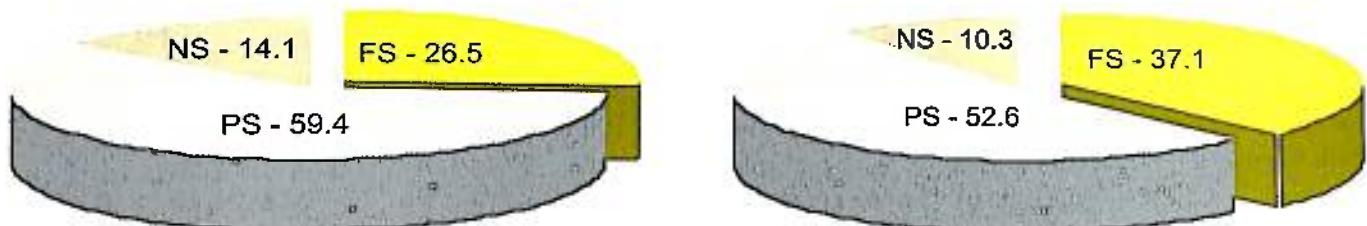


Figure 1: Level of Satisfaction Gained by Homemakers on Family Life Management



The observations on the level of satisfaction of family life management between the two categories of employed and full time homemakers revealed that the employed homemakers were fully satisfied in the aspects of clothing management (44 per cent), communication between spouses (39 per cent) and decision making and food management (34.5 per cent each), but one fifth of them were not satisfied in cultural events, care of sick / aged, recreation and stress management.

Over 50 per cent of the full time homemakers were fully satisfied in the activities like food management, communication between spouses and clothing management followed by household responsibilities, family relationship and care of children by 43 to 49 per cent of them whereas one fifth of them were not satisfied with cultural events and acquisition of assets.

It was assessed from the study that on an average the partial satisfaction towards family life management was obtained by the majority of employed and full time homemakers (59.4 and 52.6 per cent) followed by full satisfaction by 26.5 and 37.1 per cent and not satisfied by 14.1 and 10.3 per cent respectively.

It was concluded from the observations that a majority of 56.1 per cent of the homemakers of dual established families derived only partial satisfaction in the aspects of family life management.

**Satisfaction derived by the homemakers on dual establishment versus socio-economic variables**

The homemakers of dual established families showed their degree of satisfaction on family life management against socio-economic variables as depicted in Table 2.

It was found through statistical analysis using t-test that there was a significant difference at one per cent level with regard to satisfaction derived between employed and full time homemakers on family life management against socio-economic factors such as medium family size of four to six members, expanding stage of family life cycle, homemakers having less than three years of experience in dual establishment and families earning above Rs.40000/- . The satisfaction perceived by the full time homemakers over employed homemakers in the nuclear family type indicated statistically significant at five per cent level. It was observed from the analysis that education did not influence on the degree of satisfaction of homemakers as statistical analysis showed no significant difference.

**Table 2: Satisfaction Derived by Homemakers Versus Socio-economic Variables**

Variables		EH (N : 200)		FH (N : 100)			't' value	
		Overall satisfaction score						
		N	Mean	S.D.	N	Mean		
<b>Type of family</b>	Nuclear	151	29.2	9.1	82	31.7	9.3	1.979*
	Joint	49	24.9	9.9	18	31.9	8.6	2.677 <sup>NS</sup>
<b>Family size</b>	1 – 3 members	86	29.1	9.2	37	31.7	10.3	1.419 <sup>NS</sup>
	4 – 6 members	106	27.6	9.6	60	31.6	8.5	2.689**
	> 6 members	8	25.1	10.6	3	34.0	7.0	1.321 <sup>NS</sup>
<b>Family life cycle</b>	Beginning stage	11	30.7	9.6	8	32.6	6.7	0.477 <sup>NS</sup>
	Expanding stage	171	27.7	9.3	79	31.5	9.7	2.977**
	Contracting stage	18	30.9	10.7	13	32.5	6.6	0.492 <sup>NS</sup>
<b>Educational level</b>	High school / intermediate	7	32.7	8.7	45	33.2	8.4	0.148 <sup>NS</sup>
	Graduates	42	28.0	9.6	32	29.8	11.0	0.750 <sup>NS</sup>
	Post graduates / professionals	151	28.0	9.5	23	31.5	7.2	1.723 <sup>NS</sup>
<b>Experience in dual establishment (years)</b>	< 3	118	27.7	9.3	62	32.7	8.6	3.536**
	3 – 6	46	29.6	9.0	24	28.8	10.3	0.360 <sup>NS</sup>
	> 6	36	27.8	10.5	14	32.4	8.3	1.479 <sup>NS</sup>
<b>Total family income per month (Rs.)</b>	< 20,000/-	59	28.8	7.4	39	30.2	7.7	0.931 <sup>NS</sup>
	20,001/- – 40,000/-	80	27.3	11.2	41	31.2	10.3	1.876 <sup>NS</sup>
	> 40,000/-	61	28.7	8.9	20	35.8	8.1	3.175**
All respondents	200	28.1	9.5	100	31.7	9.1		3.135**

EH – Employed Homemakers; FH – Full time Homemakers.

\*\* Significant at one per cent level ;

\* Significant at five per cent level ; NS – Not Significant

It was inferred from the assessment of level of satisfaction against socio-economic variables that there was a significant difference at one per cent level between the full time homemakers and the employed homemakers on dual establishment.

## **CONCLUSIONS**

The homemakers of Dual Established Families were exposed to changing trend of family living. Any change is inevitable in the present global scenario, the homemakers should be able to adjust to the existing circumstances and tune their minds towards happy family life.

## **RECOMMENDATIONS**

The recommendations emerged from the research study are enumerated beneath:

1. Seminars / workshops / conferences should be conducted for the homemakers of dual established families to get empowered and to deal with management practices for better family living.
2. Provision should be made to establish crèches and play schools at the work spot by public and private organizations for the benefit of employed mothers of dual established families.
3. Family counselling centres should be run by the home scientists in order to deal with issues and problems of spouses in dual establishment and provide proper counselling and guidance in a scientific way.
4. Yoga and meditation centres should be established especially for women group to strengthen body and mind, free from stress, strain and tensions.
5. Government should formulate a special programme to women and children of dual established families for development of quality of life and upliftment of standard of living.

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## Types of Electrical Home Appliances used by Women and its Impact on Her Life Style with Special Reference to Middle Income Group in Sangli City

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### ABSTRACT

*The aim of this paper is to evaluate the effect of use of electrical home appliances on family life of women in Sangli City. Women being a home maker have a dual role to play in the family viz. She is a wage earner as well as She is the backbone of family life. She has to play numerous roles as a wife, a mother and a sister in law and in order to justify all these versatile roles. She has to make use of all available human or non-human resources. In this paper, an attempt has been made in evaluate the role of electrical home appliances on standard of living of woman as well as their leisure time and its use.*

### INTRODUCTION

Woman and household work pattern is mainly life of considered for as granted way in family life of Indian women. In society, women's identification is like a home maker. But at this fast life with the help of advanced and well developed Home Appliances, women have made a great change in normal family life. Basically Advanced Home Appliances are used by the High Middle Income group women and for them these appliances may be a status symbol.

But for middle income group family where the woman work as a Home maker as well as a wage earner, the use of these advanced equipments become necessity. Electrical home appliances are generally used by women to save their time and energy. They do not only simplify the routine work of the house hold but can at times improve the Quality of work and its nature. More work can be done within the given time and the dependence of the house wife on family members for domestic help is reduced to a greater extent.

While studying the types of Electrical Home Appliances used by women from middle income group of Sangli City, It is seen that usage of these Home appliances is limited because women feel that it is not necessary to use all types of home appliances to make work easy. These women use some home appliances which have been following characteristics.

- Low cost.
- Do not require much maintenance.
- Are easy to operate.

### AIMS & OBJECTIVES

The objectives of this study are:

1. To know why and which Home appliances are used by the women.
2. To understand their attitude towards using electrical home appliances.
3. To evaluate effect of the electrical home appliances on health, time for relaxation and use of leisure time they got by use of home appliances.
4. To suggest way for maintaining family and social relationship.

## **MATERIALS & METHODS**

Sample survey of 100 house wives whose annual income is Rs.2, 00,000/- to Rs.5, 00,000/-.

Standard questionnaire was used to collect the details of electrical home appliances used by women and its impact on her life style.

The observation was limited to those families that had only 4 members.

## **RESULTS & DISCUSSIONS**

- Figure No.1 expresses the types of electrical home appliances used by women from middle income group having annual income 2 lakh to 5 lakh. The values of individual item are the mean of the data collected for this is taken from 100 House wives.
- Figure No.2 expresses that what types of effect occurs on family budgets due to using of electrical home appliances.
- Figure No.3 informs that women agree that by using electrical home appliances they can save their energy.
- Figure No.4 describes that using electrical home appliances is Status Symbol.
- Figure No.5 expresses that how many women get leisure time after using electrical home appliances.
- Figure No.6 expresses the Percentage of family members who help the women operating electrical home appliances.
- Figure No.7 informs how many they utilize their leisure time which is saved after usage of electrical home appliances.
- Figure No.8 describes necessity of electrical home appliances.

Above figures are in terms of percentage. It is significant to note that women use Mixer and Fridge commonly. Mixer is basically used to save energy and time and Fridge is used to keep food commodities, Specially Perishable foods in good condition or increase their shelf life after these two electrical home appliances Water Purifier and Washing Machine are used by 40-50% women and rest of electrical home appliances are rarely used by women of middle income group in Sangli City.

Sangli is a small developing city in Maharashtra State. People are aware of their progress with the help of various human and non-human resources. Women are trying to achieve their family goals, fulfill the demand of family members, develop easy working method with the help of non-human resources such as earning wages, saving money, electric non electric home appliances.

From the Questionnaire we found that electrical home appliance affect their budget example increasing electricity bill, maintenance and cost of the Home Appliances Some women says that using of these home appliances save their human resources such as time and energy.

Lots of women thought that there appliances did not affect their social states because they feel that using of these appliances become a necessity of their life. It seems that it is a wrong opinion.

Woman get more leisure time. They use to this leisure time to fulfill their hobbies, like reading, watching T.V. or movies, participating in social work, give more attention to children study, for marinating good health some women did exercise.

Some get help from their family member to operate these equipments.

We studied about – “How does these equipment affect their health. Many women said that there is no effect on their health but when we studied about their height and weight we find that 65% women are obese. That means they are not agree that use of Electric Home Appliance they save energy and its affect on their health and they became obese. 15% women find that they are normal weight and 20% women are having low weight. The reason of their low weight is nothing but hereditary.

Some women try to create new recipes with the help of these equipments.

In Sangli water born disease affect public health specially the health of the children. So women cautious about their kid's health they have the solutions that to use boiling water or water purifier or water filter. 65% Women use electric water purifier, 20% use boiled water and reaming 15% use normal water.

We find that Women get more time to look after their family as well as their work even though she is a house wife. She uses all her human and non human resources, to fulfill the desire or goals of family. She gets mental satisfaction, physical rest. So she is able to give satisfaction to all her family members mentally, socially, emotionally and also physically.

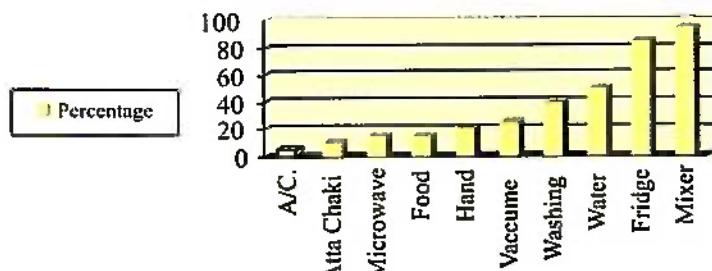


Fig. 1: Electrical Home Appliances used by MIG Women

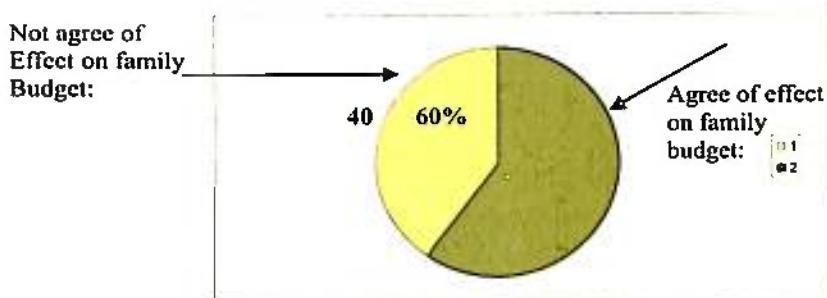


Fig. 2: Effect on family budgets

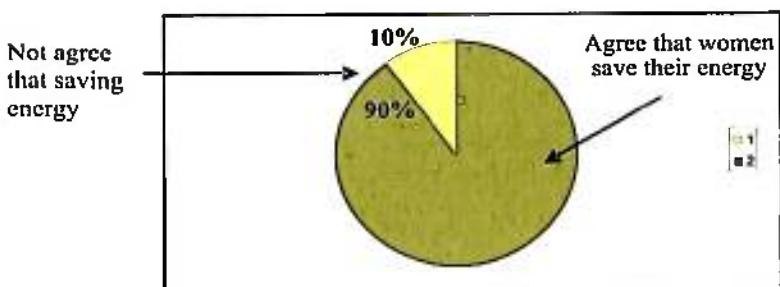


Fig. 3: Women save their energy due to electrical home appliances

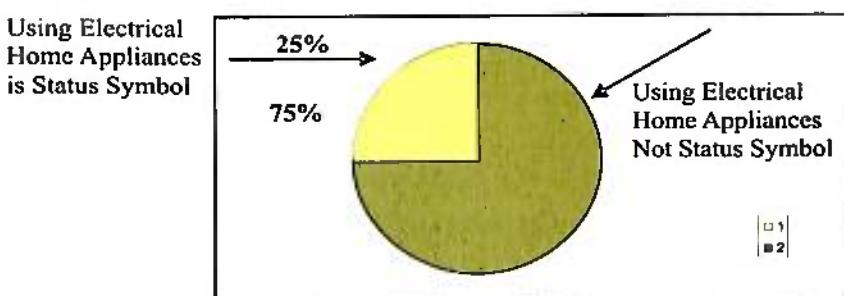


Fig. 4: Status Symbol

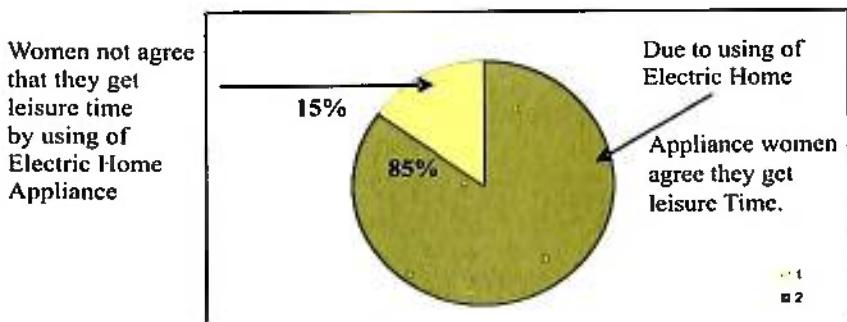


Fig. 5: Leisure Time

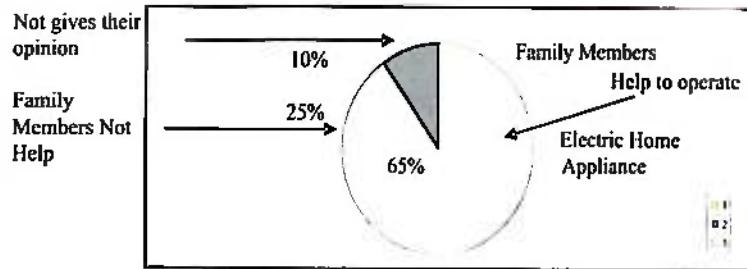


Fig. 6: Help of Family Members to operate the Electrical Home Appliances

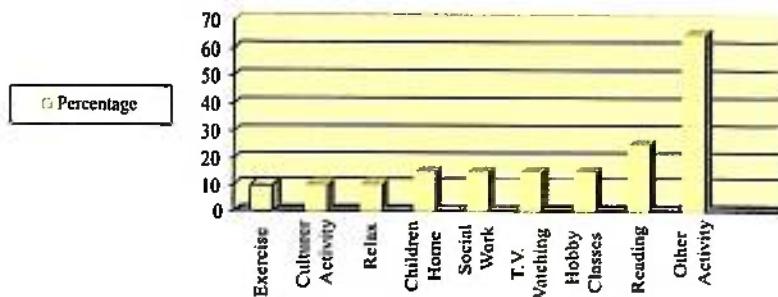


Fig. 7: Uses of leisure time

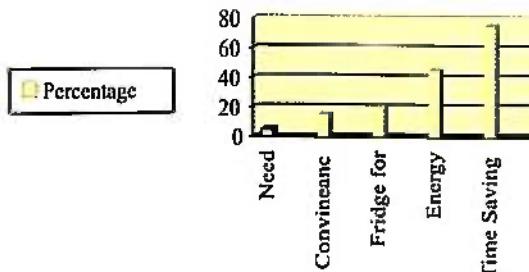


Fig. 8: The reason of uses of Home appliance

## CONCLUSION

Many women get leisure time but they do not know about the productive ways to make use of that. They should be given proper training and Education in this respect. They should accept the fact that they are obese due to use of appliances as these appliances have reduced their physical exercise.

## RECOMMENDATIONS

1. The women should be properly trained to make economical use of electrical home appliances.
2. It is necessary to impart training about preparing the nutritious food with the help of electrical home appliances.
3. They should make use of appliances to get more leisure time and should utilize that for improving the standard of living of family members.

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## Quality of Life of Older Adults through the Eyes of Youth

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### ABSTRACT

*The main aim of this study was to investigate the attitudes of youth towards older adults living in extended families (permanently or occasionally) and ascertain their perception about the quality of life of older adults. Ninety young adults from Kolkata; staying in extended families were purposely selected. Kogan's attitude scale towards older adults was used to assess attitude, and a checklist with a Likert type of scaling was developed to ascertain quality of life in the home regarding involvement in family affairs.*

*It was found that the respondents had a positive attitude towards older adults; maternal grandparents were more involved in household activities; more so when the stay was occasional. The elderly were involved in family decision making to some extent; this was significantly felt more by young females. Paternal grandparents were given more assistance by the family. Conflicts were more when both paternal and maternal grandparents stayed together in the same house. Older adults were well treated. Location of the house was not a problem and few designing interventions had been undertaken. The study endorsed the fact that accepting ageing was not a lesson that can be taught but rather a belief, wisdom, a consciousness that can be developed and valued over the growing up years in young adults in extended families.*

### INTRODUCTION

Generation gap in human adjustment has invited world wide attention. However; the aged in India have traditionally enjoyed a high status and respect, they occupied a revered position in the family and in society. The consideration of the elderly and the ageing process should include the feelings and attitudes of young people towards older adults, since these feelings are likely to influence future roles. To improve the quality of life of our older citizens, it's important to inculcate positive attitudes in the young and make them sensitive to the quality of life of older adults. After all; it is the society and family (of which the young adults are a huge segment) who decide how the older adults will be treated. These issues need to be brought center-stage for discussion and debate in society and help find effective solutions. This study is an attempt to find out whether the values, attitudes and beliefs internalized in the era bygone are still inculcated in children growing up with older adults. The main aim of this study was to find out the attitude of the youth towards older adults in extended families (i.e. grand children who have grown up living with grand parents) and ascertain their views on the quality of life of older adults who live with them.

### AIMS & OBJECTIVES

1. To assess the attitude of youth towards older adults.
2. To verify youth's perception about quality of life of older adults living in families.
3. To ascertain the need felt for designing interventions for older adults in residences.

### MATERIALS & METHODS

A descriptive research design was adopted for the present study in the city of Mumbai. The sample comprised

of ninety young adults aged between 17-25 years, staying with older adults permanently or occasionally in their homes. A purposive sampling technique was used to get respondents who fulfilled the sample structure and were willing to participate in the study. Kogan's attitude scale towards older people with a Likert type scaling technique was used on a six point scale; representing responses from "strongly disagree to strongly agree". To find out the quality of life of the older adults in homes, their involvement in various household activities, family decisions, conflicts, type of treatment they received were ascertained through a checklist. The data were coded and tabulated in terms of mean scores. T-test and One-way Anova were used for statistical significance among variables of gender, education, type of relationship and length of stay.

## RESULTS & DISCUSSION

**Table 1: Distribution of young adults according to Attitude and Quality of Life (N=90)**

Attitude of Youth and Quality of Life of Older Adults	N	Minimum	Maximum	Means Score	Std. Deviation
Attitude of young adults towards older adults.(6 point scale)	90	2.91	5.00	3.7124	.38419
Involvement of older adults in household activities.(4 point scale)	90	1.13	3.38	2.0569	.46664
Involvement of older adults in family decision making.(3 point scale)	90	1.25	2.63	2.1278	.30097
Assistance required by older adults living in families(3 point scale)	90	1.25	3.00	2.2611	.44408
Conflicts in the home with older adults (3 point scale)	90	1.00	2.57	1.6762	.33024
Treatment received by older adults (3 point scale)	90	1.72	2.89	2.5198	.22934
Need for designing intervention	90	1.00	2.00	1.5333	.23342
Problems faced by older adults because of location	90	1.00	2.00	1.3381	.23986

Table 1 indicates that most of the participants had developed a positive attitude towards older adults. Involvement of older adults in household activities was 'only when necessary'. Participation of older adults in family decision making was 'sometimes', assistance required by older adults living in families was 'occasional'. Conflicts with older adults happened 'sometimes'. Most of the older adults were well treated. Need for designing interventions were felt by all; half of the homes had done some designing interventions like provision of grab bars, Provision of easy reach shelf, provision of adequate natural and artificial light, provision of elevated toilet, provision of special chair and temperature control system. Problems faced by older adults because of location of the house were 'negligible'.

**Table 2: Distribution of young adults according to gender (N=90)**

Attitude of Youth and Quality of Life of Older Adults	Sex	n	Means score	Std. Deviation	Std. Error Mean	Sig. (2-tailed)
Attitude of young adult's towards older adults.(6 point scale)	Male	36	3.7100	.45706	.07618	.961
	Female	54	3.7141	.33150	.04511	
Involvement of older adults in household activities. (4 point scale)	Male	36	2.0278	.46972	.07829	.631
	Female	54	2.0764	.46797	.06368	

Involvement of older adults in family decision making. (3 point scale)	Male	36	2.0451	.26076	.04346	*.033
	Female	54	2.1829	.31540	.04292	
Assistance required by older adults living in families. (3 point scale)	Male	36	2.2326	.42274	.07046	.622
	Female	54	2.2801	.46068	.06269	
Conflicts in the home with older adults. (3 point scale)	Male	36	1.6627	.37897	.06316	.765
	Female	54	1.6852	.29679	.04039	
Treatment received by older adults (3 point scale).	Male	36	2.4630	.22848	.03808	.055
	Female	54	2.5576	.22404	.03049	
Need for designing intervention.	Male	36	1.4643	.22230	.03705	*.021
	Female	54	1.5794	.23121	.03146	
Problems faced by older adults because of location of the house.	Male	36	1.3095	.24744	.04124	.359
	Female	54	1.3571	.23507	.03199	

From table 2 it was found that both male and female youths residing with older adults had a positive attitude towards them. The types of house- hold activities performed by older adults/ grandparents were also similar in case of both the genders. Females living with older adults felt the involvement of older adults in family decision making more than males, this was mainly because the females were more home bound than males. There was no significant difference regarding type of assistance required, conflicts arising and type of treatment meted out to older adults in homes. There was a significant difference in the views of males and females regarding the need for designing intervention required. The females felt the difficulties of old age more than the males; they felt the need for more change to the interiors in the home to make life of older adults more comfortable as compared to the males. The type of problems faced by the older adults because of the location of the house was similar in both cases.

Table 3: Distribution of young adults according to education (N=90)

Attitude of Youth and Quality of Life of Older Adults	Age Group	n	Means score	Std. Deviation	Std. Error Mean	Sig. (2-tailed)
Attitude of young adult's towards older adults. (6 point scale)	17-21(UG)	27	3.6133	.29352	.05649	.109
	22-26(PG)	63	3.7549	.41187	.05189	
Involvement of older adults in household activities. (4 point scale).	17-21(UG)	27	2.1157	.49750	.09574	.437
	22-26(PG)	63	2.0317	.45457	.05727	
Involvement of older adults in family decision making. (3 point scale)	17-21(UG)	27	2.0694	.40182	.07733	.324
	22-26(PG)	63	2.1528	.24536	.03091	
Assistance required by older adults living in families. (3 point scale)	17-21(UG)	27	2.2361	.53297	.10257	.729
	22-26(PG)	63	2.2718	.40445	.05096	
Conflicts in the home with older adults. (3 point scale)	17-21(UG)	27	1.6772	.37712	.07258	.984
	22-26(PG)	63	1.6757	.31130	.03922	
Treatment received by older adults. (3 point scale)	17-21(UG)	27	2.4897	.24413	.04698	.419
	22-26(PG)	63	2.5326	.22348	.02816	
Need for designing intervention	17-21(UG)	27	1.5159	.22961	.04419	.645
	22-26(PG)	63	1.5408	.23645	.02979	
Problems faced by older adults because of location of the house	17-21(UG)	27	1.3492	.22530	.04336	.775
	22-26(PG)	63	1.3333	.24744	.03117	

Table 3 indicates that the older youths (age 22-26) had slightly more positive attitudes as compared to the younger (age 17-21). This difference however was not found to be significant statistically. The younger group

felt the involvement of older adults in household activities slightly more than the older group; this was possibly because their grandparents were younger and so more active than the grand parents of the older group. Contrarily, the youths of the older group felt the involvement of older adults in decision making and better treatment of older adults more than the younger group. Both these differences were not found to be significant statistically. There was no difference with regard to conflicts in the home, need for designing intervention and problem faced due to location of the house among the two groups.

**Table 4: Distribution of young adults according period of staying of grandparents. (N=90)**

Attitude of Youth and Quality of Life of Older Adults	Whether Permanently or Temporary	n	Means score	Std. Deviation	Std. Error Mean	Sig. (2-tailed)
Attitude of young adult's towards older adults. ( <i>6 point scale</i> )	Permanently	45	3.7209	.39032	.05819	.835
	Temporary	45	3.7039	.38217	.05697	
Involvement of older adults in household activities. ( <i>4 point scale</i> )	Permanently	45	1.9417	.50326	.07502	*.018
	Temporary	45	2.1722	.40001	.05963	
Involvement of older adults in family decision making. ( <i>3 point scale</i> )	Permanently	45	2.0806	.30982	.04619	.137
	Temporary	45	2.1750	.28752	.04286	
Assistance required by older adults living in families. ( <i>3 point scale</i> )	Permanently	45	2.3306	.49440	.07370	.139
	Temporary	45	2.1917	.38027	.05669	
Conflicts in homes with older adults. ( <i>3 point scale</i> )	Permanently	45	1.5968	.29100	.04338	*.022
	Temporary	45	1.7556	.35075	.05229	
Treatment received by older adults. ( <i>3 point scale</i> )	Permanently	45	2.5358	.22541	.03360	.510
	Temporary	45	2.5037	.23463	.03498	
Need for designing intervention	Permanently	45	1.5508	.25144	.03748	.481
	Temporary	45	1.5159	.21531	.03210	
Problems faced by older adults because of location of the house	Permanently	45	1.3270	.26660	.03974	.663
	Temporary	45	1.3492	.21223	.03164	

Table No 4 reveals that there was no difference in the attitude of youth towards older adults living with them permanently or occasionally, the treatment they received was also same, kind of designing intervention needed were similar as were the problems faced due to location of the house. Some differences were found regarding involvement in household activities, those who stayed temporarily were significantly more involved in household activities than those staying permanently, and this was because adjustments and arrangements of house- hold chores must have been finalized for the extra workload on a permanent basis. Slight differences were also observed in involvement in family decision making, those who stayed on a temporary basis were more involved than those who stayed permanently, however the differences were not significant.

**Table 5: Distribution of young adults according type of grandparents residing with them (N=90)**

Attitude of youth and Quality of life of older adults	Type of grand parents	n	Means score	Std. Devia-tion	Std. Error	Sig. (2-tailed)
Attitude of young adult's towards older adults( <i>6 point scale</i> )	Paternal Grand Parents	47	3.7422	.40127	.05853	.738
	Maternal Grand Parents	34	3.6747	.39579	.06788	
	Paternal as well as Maternal					
	Grand Parents	9	3.6993	.24199	.08066	
	Total	90	3.7124	.38419	.04050	

Involvement of older adults in household activities. <i>(4 point scale)</i>	Paternal Grand Parents	47	1.9734	.43531	.06350	.186
	Maternal Grand Parents	34	2.1654	.47446	.08137	
	Paternal as well as					
	Maternal Grand Parents	9	2.0833	.55902	.18634	
	Total	90	2.0569	.46664	.04919	
Involvement of older adults in family decision making. <i>(3 point scale)</i>	Paternal Grand Parents	47	2.1144	.28412	.04144	.908
	Maternal Grand Parents	34	2.1434	.32147	.05513	
	Paternal as well as					
	Maternal Grand Parents	9	2.1389	.33914	.11305	
	Total	90	2.1278	.30097	.03172	
Assistance required by older adults living in families. <i>(3 point scale)</i>	Paternal Grand Parents	47	2.3112	.45733	.06671	.537
	Maternal Grand Parents	34	2.2022	.45123	.07739	
	Paternal as well as					
	Maternal Grand Parents	9	2.2222	.34674	.11558	
	Total	90	2.2611	.44408	.04681	
Conflicts in homes with older adults. <i>(3 point scale)</i>	Paternal Grand Parents	47	1.6535	.29898	.04361	
	Maternal Grand Parents	34	1.6597	.37717	.06468	.224
	Paternal as well as					
	Maternal Grand Parents	9	1.8571	.26726	.08909	
	Total	90	1.6762	.33024	.03481	
Treatment received by older adults. <i>(3 point scale)</i>	Paternal Grand Parents	47	2.5213	.22057	.03217	.446
	Maternal Grand Parents	34	2.4951	.24442	.04192	
	Paternal as well as					
	Maternal Grand Parents	9	2.6049	.21950	.07317	
	Total	90	2.5198	.22934	.02417	
Need for designing intervention	Paternal Grand Parents	47	1.5578	.24091	.03514	.260
	Maternal Grand Parents	34	1.4832	.23199	.03979	
	Paternal as well as					
	Maternal Grand Parents	9	1.5952	.17857	.05952	
	Total	90	1.5333	.23342	.02460	
Problems faced by older adults because of location of the house	Paternal Grand Parents	47	1.3435	.24320	.03547	.976
	Maternal Grand Parents	34	1.3319	.24799	.04253	
	Paternal as well as					
	Maternal Grand Parents	9	1.3333	.21429	.07143	
	Total	90	1.3381	.23986	.02528	

Table 5 indicates that respondents who were staying with paternal grand parents showed more positive attitudes than those who were staying with maternal grandparents and those who were staying with both, but the differences were not statistically significant. Involvement of maternal grand parents in household activities was more than other grandparents. All three groups were equally involved in family decision making and they required the same amount of assistance. Conflicts was more when both paternal and maternal grandparents were staying in the family, treatment was better and more designing interventions had been undertaken when both groups were staying together. Problems faced by older adults because of location of the house were also similar in all the three groups.

**Implications of the study:** The study convincingly found that today's youth who lived and grew up with older adults in their own homes had developed a positive attitude towards ageing and had a realistic perception about ageing; thus endorsing the fact that accepting ageing is not a lesson that can be taught but rather a belief, a wisdom, a consciousness that can be developed and valued over the growing up years.

The indication is clear that youth can develop realistic perception of ageing through enriching encounters which must be more than the occasional "grandparents' day" or a visit to the old age home. Thus Parents for their own sake and for the sake of their children should encourage the older adults (grand parents) to live with them through the growing years of their children to inculcate such values. Society should re endorse the traditional concept of the extended family.

Society at large, the Government and NGO's should make special efforts to popularize the concept of the extended family and proved incentives to re- establish the extended family system.

## **CONCLUSION**

It was thus concluded from the present study that the attitude of youth, (both male and female) towards older adults was positive, more so; when paternal grand parents were staying with them and for the more mature and older group (22-26yrs). Grand parents who came to stay temporarily and when maternal grandparents stayed with families more involvement in household activities was observed. The older group and female respondents felt the involvement of grandparents in family decision making more than the younger group and males. Permanent as well as paternal grandparents required more assistance than other groups. Conflicts were more when grandparents stayed temporarily and also when both grandparents stayed together. Treatments received were also better and more designing interventions were carried out when both grandparents stayed together. Problems faced by older adults because of location of the house were negligible.

## **RECOMMENDATIONS**

'Interdependence' is the key. Steps should be taken to promote & encourage the extended family system through special offers at various levels starting from educational institutions by giving special considerations for families with grand parents. Society at large, the Government and NGO's can make special efforts to popularize the concept of the extended family and provide incentives like giving special concessions, passes, food grains, even tax benefits to help re- establish the extended family system. The traditional concept of the extended family can be endorsed by popularizing the benefits of extended families through plays, posters, hoardings etc. exactly the way the small family was promoted. Thus Parents for their own sake and for the sake of their children should encourage the older adults (grand parents) to live with them through the growing years of their children to inculcate such values.

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## Involvement of Women in Financial Decision Making Process of Rural Households, under Dispur Assembly Constituency

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### ABSTRACT

*Financial management of household is concerned with the control of family income and expenditure. It is necessary for the fullest accomplishment of satisfaction in life. It forces a person towards careful selection of goals and alternatives, which help him to satisfy his wants in order of their importance. Besides, it yields savings, which give one a feeling of security and confidence. Often this associates with happiness and determines standard of living.* **Rationale:** With the dramatic changes taking place due to Industrialization, Education and Advance technology, women have also undergone changes and have started taking part in Decision making process of the family. Therefore the present study was taken up assess the involvement of women in financial decision making. **Objectives:** a) to enquire / know about the involvement of women in financial decision making process of the family and b) to examine the impact of education and gainful employment on financial decision making process of rural household **Material & Method:** Interview schedule cum questionnaire was used for the purpose of the present study and the survey was conducted in the month of September, October during the year 2008-2009. Dispur Assembly Constituency has been selected as the study area. Nine (10%) out of 90 Polling Station of Dispur Constituency were selected randomly for the survey. Again, a sample of 10% household has been drawn from each of the 9 selected polling stations randomly and the total sample size was 194. **Findings:** a) Findings of the present study reveals that nearly in 47% (92 household), decision are taken jointly (by husband and wife) in financial matters; in 30% (58 household )the head of the family alone take decision and in 10% household, home makers alone take the decision. In remaining 13% households, other members also take part in financial Decision making; b) The study reveals that women in different occupations have varying percentage of involvement in financial decision making process. Women engaged in business and professional occupations had 100% involvement in financial decision making. Whereas, 92% of women engaged in service and other occupations were found to be involved in financial matters. Only 38% housewives took part in financial decision making. **Conclusion:** It has been found from the study that there is pre-dominance of joint decision that is decision taken by husband and wife. Further, it has been found that participation in financial decision making is relatively higher among household with earning women as compared to non earning ones. Thus, it indicates that working women are relatively more involved in financial decision making than their non-working counterparts, which may be taken as an indication of lesser degree of freedom enjoyed by non-earning women in financial decision making process.

### INTRODUCTION

Family is the primary unit of society, consisting of two or more persons living in the same household who are related to each other by blood, marriage or adoption. It is a unit where we intensify the contact of member more than any other social organization.

Today, this prime institution has undergone dramatic changes due to industrialization, mass education and advancement of technology. The role of family members, especially women has also undergone changes

because of their involvement in labour force. Equalization of educational opportunities and employment status are also responsible for this.

Regarding financial management of household it is concerned with the control of family income and expenditure. It is necessary for the fullest accomplishment of satisfaction in life. It forces a person towards careful selection of goals and alternatives, which help him to satisfy his wants in order of their importance. Besides, it yields savings, which give one a feeling of security and confidence. Often this associates with happiness and determines standard of living.

In this paper, an attempt has been made to analyze the patterns of decision making of the households regarding the use of family income on the basis of the field level data collected for the purpose.

### **AIMS & OBJECTIVES**

The study is made with the following objectives of assessing the involvement of the women in family resource management.

1. To enquire / know about the involvement of women in financial decision making process of the family.
2. To examine the impact of education and gainful employment on financial decision making process of rural household.

### **MATERIALS & METHODS**

**Research Design** - For the present study sample survey method is used:

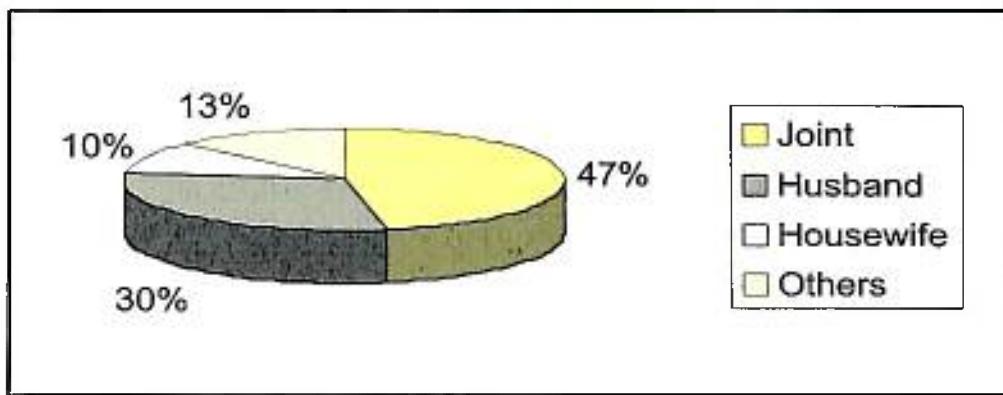
- **Selection of tools and formulation of questionnaire:** Interview technique with questionnaire is used for the purpose of the present study.
- **Survey and Reference Period:** The field survey was conducted in the month of September, October during the year 2008-2009.
- **Study Area and Size:** For the present study, Dispur Assembly Constituency has been selected as study area. A two-shaped random sampling design has been used to draw sample, using the electoral roll of 1995 collected from Election Officer (Kamrup District) as the sampling frame. In the first step, 10% that is 9 out of 90 Polling Stations have been selected at random. From the pilot study it was found that number of voters is roughly four times to the number of homemakers. On the basis of that, the number of homemakers in each polling station has been estimated by dividing the number of voters by four. In the next step a sample of 10% household has been drawn from each of the 9 selected polling stations. The final sample size works out at 194.
- **Collection of Data:** The data have been collected from the respondents personally by canvassing a structured questionnaire crosschecking was also done wherever feasible to eliminate uncertainties.
- **Analysis of Data:** For the purpose of analysis, data were reclassified into contingency table. In addition to simple percentage, Pearson's chi-square test has been used for testing the significance of data.

### **RESULTS & DISCUSSIONS**

Findings of the present study reveals that nearly in 47% (92 household), decision are taken jointly (by husband and wife) in financial matters, in 30% (58 household )the head of the family alone take decision and in 10% household, home makers alone take the decision. In remaining 13% households, other members also take part in financial Decision making.

**Table 1: Process of Decision Making**

Sl. No.	Decision taken by	Number	Percentage
1	Joint decision (husband & wife)	92	47
2	Husband	58	30
3	Wife herself	20	10
4	Other	24	13
5	Total	194	100



The reasons for predominance of joint decision by husband and wife of the family in financial matters may be attributed to rapid and radical changes taking place in the family, spread of education, and change in men's attitude which induces women to come out from their barrier and take part in decision making process of household. Moreover, interest of the family being largely dependent on crucial financial decisions, it becomes imperative for the head of the family to consult the home maker.

A number of variables are incorporated into the analysis in order to assess their impact on decision taken for financial matters. These include cultural variables such as family system, i.e., nuclear, non-nuclear and resource factors like education and employment or earning potential/capacity etc.

An analysis of the possible impact of types of family system in financial decision making process of household reveals that in nuclear families, the involvement of the women in financial decision making process is more intensive (79%) as compared to those of joint families. This may be attributed to the fact that women in nuclear families are next most responsible and active adult members after their husbands which is not the case in joint family. So, homemakers in nuclear family enjoy more authority than their counterpart of joint family.

Education and employment can be expected to exert influences on the role of the women in decision making process. Pearson chi-square test is used and it has been found that both the factors have highly significant effect on decision making household. This is because education is a tool, which encompass and makes an individual self confident enough to come forward and get involved in financial decision making process.

**Table 2: Involvement of Women o Different Occupation in Financial Decision Making**

Sl .No.	Occupation	Yes	No	Total
1	Service	22 (92%)(20%)	2 (8%)(2.43%)	24(100%)(12.37%)
2	Business	28 (100%)(25%)	0	28(100%)(14.43%)
3	Professional	01(100%)(0.9%)	0	1(100%)(0.51%)
4	Others	12(92%)(10.7%)	1(8%)(1.21%)	13(100%)(6.7%)
5	House wife	49(38.3%)(43.7%)	79(61.7%)(96.3%)	128 (100%)(66%)
6	Total	112 (58%)	82(42%)	194(100%)(100%)

Women's employment status alters her position in family decision making as she brings more resources into the family and improves family's financial position. So, working/ earning women are consulted by their husband while making decision. This may be an outcome of her ability to contribute in solving financial problems of families to some extent, in acquiring durables for families, in leading a comfortable life and raising the standard of living. This enables the women to take part in decision making process of family which in turn paves the way for them to come out of their traditional images of being submissive, shy and docile. This positive impact of personal endowment like education, employment and income upon the relative powers of individual are also highlighted in studies made by Billod and Wolfe (1960) Mahajan (1976), Mukutus and Muktas (1990). Kakali (2005). This shows that education and income have greater influence on the development of the level of aspiration and decision making both being closely associated with each other.

## **CONCLUSION**

From the findings, it has been found that there is pre-dominance of joint decision that is decision taken by husband and wife. Further, it has been found that participation in financial decision making is relatively higher among household with earning women as compared to non earning ones. Thus, it indicates that working women are relatively more involved in financial decision making than their non-working counterparts, which may be taken as an indication of lesser degree of freedom enjoyed by non-earning women in financial decision making process.

The current study is limited to the women in Dispur assembly constituency of Guwahati. But, study will be extended to other parts of the city in near future.

## **RECOMMENDATIONS**

1. Increased involvement of women in capacity building program will enhance their self confidence and empower them to create self help groups which will make them financially self sufficient to some extent.
2. Financial self sufficiency will help them in taking part in decision making process.
3. Home scientists can play a major role in this regard.

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## Empowerment of Women on Consumer Protection

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### ABSTRACT

*Empowerment of women in the field of consumerism is a tool for opening up the opportunities for women to enter the world of productive work, to participate in development and to change their lives into an educated and economically independent woman who takes all decisions in the purchasing behaviour. The advancement of technology and competition has brought in to the market a variety of food commodities. Imitation and brand infringement make it impossible for the ordinary consumer to choose the right quality of food. In short, the women consumer should be empowered with respect to rights as consumer. With increasing globalization, liberalization and harmonization of economies of various nations coming together the issues concerning consumer protection are now being accorded the top most priority by the respective Government. The growing size and complexity of production and distribution systems, the high level of sophistication in marketing and newer methods of advertising, mass marketing methods and emergence of e-commerce result in reduction of personal interaction between buyers and sellers has contributed to the increased need of consumer protection.*

### INTRODUCTION

Women's empowerment begins with the awareness about their rights and responsibilities, encompasses their political empowerment, economic independence and social upliftment. (1). Women consumers are the keystones in the economic development of a country (3). Women as consumers are powerful catalysts as individuals and in groups in creating a healthier planet 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 (7).

In the early times, consumer was considered as king in the market but in the contemporary society, consumers are no longer safe against the malpractice such as substandard goods and unsatisfactory services (2). The consumer has every right to reject any product or service rendered by any manufacturer in the market and can mould them to produce goods of their choice. Consumer in the market find themselves deceived by wrong weights and measures, adulterated and substandard products earning great damage to health (8).

The need of the hour is to educate the consumer especially women consumers to form consumer society or organization to mark it a powerful union at various levels to project their rights of privileges and safeguard themselves, against the exploitation of the fraudulent businessmen (6). Thus it is essential that women as consumers need to understand many aspects pertaining to consumer protection.

### AIMS & OBJECTIVES

The objectives of the present study were:

1. To promote general awareness of the rights to the consumer by encouraging consumer education.
2. To conscientise and exercise their laws and redressal forum.

## MATERIALS & METHODS

The household survey is to study the awareness on consumer protection among the selected middle and high income group women consumers. The study was conducted in Chennai City, a cosmopolitan capital of Tamil Nadu. The city has been divided into 155 divisions distributed over 10 zones. Among the ten zones, 3 zones were selected at random for the study. The success of any study depends on the careful selection of the sample. Weighing the merits and demerits of the sampling methods and considering the purpose and nature of the research, purposive sampling method was adopted for the study. Interview method was advocated to study the present trends in consumer protection. The method of collecting information through personal interview is usually carried out in a structured way. To enable the investigator to put forth questions in a coherent manner, an interview schedule was framed to collect the data. The investigator later explained the purpose of the study and collected relevant information from the women consumers. The collected data was systematically consolidated and analyzed.

## RESULTS & DISCUSSION

- Awareness on Consumer Rights:** Consumer rights have been drawn out to enable a human being to achieve social justice and economic equality. It was President John F. Kennedy who declared the consumer rights for the first time in 1962 American Congress (4).

Table -1: Awareness on Consumer Rights

Right	Percentage of Women *		Z value
	Middle Income (N=90)	High Income (N=90)	
Right to Safety	13	44	16.125**
Right to be Informed	33	58	
Right to Choose	66	67	
Right to be Heard	6	33	
Right to Redressal	3	24	
Right to Consumer Education	6	22	
Right to Healthy Environment	12	62	
Multiple response			
** Significant at 1% level			
'z' ~ N (0.1) (sample size = 150)			

From Table 1, it is clear that majority of high income group women (67%) and middle income group women (66%) were well aware of the right to choose. The high income group women had better awareness on the rights especially right to healthy environment(62%), right to be informed (58%) and right to safety (44%). The awareness of middle income group women consumers were low when compared to high income group women. The statistical analysis also revealed that there exists a significant difference between the middle and high income group women on the awareness of consumer rights at 1% level.

- Awareness on Legislation:** Legislation refers to the laws of the country to protect the interest of consumers. The awareness on the various laws was low among selected women consumers (5). The knowledge of high income group women consumers (40%) was higher when compared to middle income group women consumers (10%) with regard to various consumer protection laws. The extent of awareness on legislation among women consumers was analyzed and is shown in Table 2.

**Table 2: Awareness on Legislation**

Legislation	Percentage of Women		Z value
	Middle Income (N=30)	High Income (N=90)	
Agriculture Product, Act, 1937	-	5	12.076**
Prevention of Food Adulteration, 1954	20	30	
Fruit Products Order, 1955	13	20	
Monopolies and restrictive Trade Practices act, 1969	-	5	
Weight and Measures act, 1976	20	35	
Indian Standards Institution Act, 1952	40	50	
Consumer protection Act, 1986	53	60	

· Multiple response  
 · \*\* Significant at 1% level  
 · 'z' ~ N (0.1) (sample Size = 150)

Table 2 reveals that a majority of high income group women (60%) and middle income group women (53%) were aware only of the Consumer Protection act (1986). This might be because of the propaganda given by the Government and Consumer Organizations through various media.

The statistical interpretation indicated that there was significant difference between the middle and high income group women consumers on the awareness of consumer protection laws at 1% level.

- Awareness on Redressal Forum:** The Consumer Protection Act 1986 provided the right to seek redressal against unfair trade practice or unscrupulous exploitation of consumers through the forum set up under this Act (8). The awareness on the consumer redressal forum by the selected women consumers shows that only 57per cent of high income group women and 39% of middle income group women have heard about consumer redressal forum through the media but they were not aware of the objectives, proceedings and approach to redressal forum.

**Table 3: Income versus Awareness on Redressal Forum**

Awareness	Income Group	Sample Size	mean	Standard Deviation	Z value
Redressal	Middle Income	150	216	0.37	2.280*
	High income	150	234	0.48	

\* Significant at 5% level

'Z' ~ N (0.1) (Sample Size = 150)

Table 3 shows the relationship of income to the awareness of redressal forum. The result shows that there exists a significant difference between the middle and high income group women consumers at 5% per cent level. It is inferred that high income group women consumers had greater level of awareness on redressal forum than middle income group women consumers.

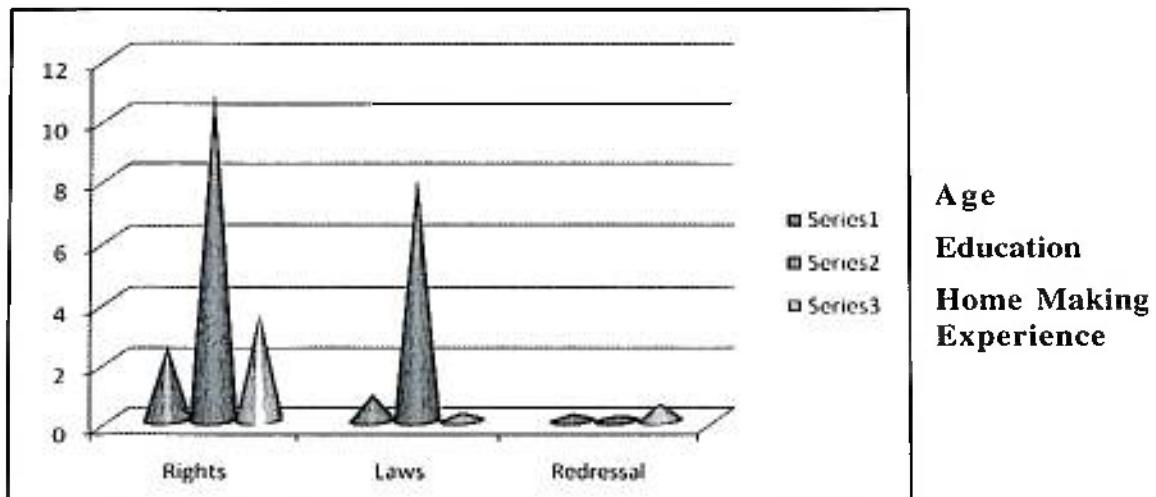
- Relationship of Selected Variables Versus Awareness on Consumer Protection Measures**

**Table 4: Selected variable versus Awareness on Consumer Protection**

Variables	F Ratio		
	Rights	Laws	Redressal
Age	2514*	0.924 ns	0.264 ns
Educational Status	10.929	8.069 **	0.201 ns
Homemaking Experience	3.632	0.303 ns	0.616 ns

\*\* Significant at 5% level  
 \* Significant at 5% level

Table 4 and Figure 1 show the relationship of selected variables with the awareness on consumer protection measures such as rights, legislation and redressal forum. The statistical interpretations indicated the role of age, education and home-making experiences in increasing the awareness on right, legislation and redressal forum. With regard to consumer rights, the education had significant influence at 1% level whereas age and homemaking experiences had significant influence at 5% level on the awareness of rights. As education increased, the awareness on the legislation also increased. Both age and homemaking experience did not have significant influence on the awareness on legislation. Age, education and homemaking experience of women consumers did not show any significant result in increasing the awareness on redressal forum. It can be concluded that the awareness of women consumers on consumer rights was satisfactory when compared to legislation and redressal forum.



**Fig. 1: Awareness on Consumer Protection**

**Need For Consumer Education:** Consumer education is one of the most important spheres of work in consumer protection. Only 80 per cent of middle income group women consumers and 40 per cent of high income group women consumers realized the need for consumer education to create awareness among women on better consumerism. The reasons for the need of consumer education as stated by the women consumers are presented in Table 5.

**Table 5:Need for Consumer Education**

Reason	Percentage of women	
	Middle Income N = 120	High Income N = 60
Make intelligent choice	65	63
Make better manager of their resources of money, goods time and energy	60	63
Increase the purchasing power of the consumer	59	61
Get maximum satisfaction from the limited resources	57	65
Compare the qualities of goods in the market	55	60
Know about laws	50	67
Improve knowledge on redressal forum	58	62

It is inferred from the study that consumer education might be a powerful tool that could take consumers from the current disadvantageous position in the market place and would help to protect themselves as well as make effective and intelligent choices.

## **CONCLUSION**

Consumers can unite together and organize themselves into a national net-work along with consumer activists to track down fraudulent practices and disseminate information to promote quality of life. In a competitive economic environment, the consumer has to exercise the choice either in favour of or against the goods and services. One would have to realize the importance and prepare to exercise their rights with responsibility. Therefore, it is essential to create awareness among women about their rights and responsibilities and the need for proper development and equal participation in social, political and economic development to enhance women's empowerment in consumer protection.

## **RECOMMENDATIONS**

1. Establish links with educational institutions like universities, colleges, high schools to emphasize the need for improving consumer education in the curriculum.
2. Women consumers should involve themselves in monitoring the quality and safety of food in strengthening consumer protection.
3. Advocate the development of consumer information programmes through mass media to reach rural and illiterate consumers.

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## Sericultural Technologies on Rural Women with Reference to Economic Status and Health Aspects

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### ABSTRACT

*Sericulture is a sustainable economic actively positively favoring the rural poor in the unorganized agricultural sector. An estimated 60 percent of the workforce engaged in sericulture are said to be women. There is a need for the farm women to adapt and use the improved implements and newer technologies, which will help them to increase their word efficiency, which in-turn improves the quality of life and drudgery alleviation. To make the women more competent in various process of sericulture production by creating awareness and imparting skills to adopt these technologies which make her life safe qualitatively and at the same time reduces health problems. Hence the present study was undertaken with the main objective of gaining insight into Seri cultural technologies on rural women with reference to economic status and health aspects. Two districts – Bangalore rural and Kolar in Karnataka state were selected for study comprising 250 households. Out of them 166 household belonged to experimental group i.e., those who practiced newer technologies for sericulture activities (Group I) and the remaining 84 households were the control group who did not practice newer technologies in sericulture enterprise (Group II). Analysis of the data revealed that women practicing newer technologies had a substantial increase in the real income, gained more time and energy to pursue other tasks and were less prone to health hazards when compared to women practicing traditional methods of silkworm rearing.*

### INTRODUCTION

Sericulture in India is as old as Indian culture, and according to the Indian legend, sericulture was introduced about 2000 years ago. India is the only country in the world which produces all the four commercial varieties of silk namely mulberry silk, tassar, muga, eri and mulberry. Silk production in India is largely confined to southern region, namely Karnataka, Tamil Nadu and Andhra Pradesh. Karnataka is leading as the premier silk state.

Sericulture is a sustainable economic actively positively favoring the rural poor in the unorganized agricultural sector. An estimated 60 percent of the workforce engaged in sericulture are said to be women. Agro based cottage industries like sericulture being labour intensive, require low initial investment and by earning foreign exchange play a vital role in rural reconstruction programs in the country.

The sericulture industry revolves around both on field and off field activities such as mulberry cultivation and silk worm rearing. At every stage, sericulture workers are confronted with one or the other health risks with the spread of sericulture activities, the number of workers prone to hazards is also on the increase.

Women in sericulture operations face quite a lot of physical and mental drudgery, characterized by long work hours, thereby spending more energy than is physically feasible, difficulties experienced at work, poor managerial skills causes fatigue. Farm women can optimize and synchronize their time in attending to their work with other household activities.

There is a need for the farm women to adapt and use the improved implements and newer technologies, which will help them to increase their word efficiency, which in-turn improves the quality of life and drudgery alleviation. To make the women more competent in various process of sericulture production by creating awareness and imparting skills to adopt these technologies which make her life safe qualitatively and at the same time reduces health problems.

The desirable social, economical, educational and psychological development can be achieved only when women at large are stimulated and motivated to accept and adopt newer technologies and thus improve their life style. Hence the present study was undertaken with the main objective of gaining insight into the Seri cultural technologies on rural women with reference to economic status and health aspects.

### **AIMS & OBJECTIVES**

1. To study the socio-economic status of sericulture women.
2. To estimate the mean time & energy expenditure by activities & groups.
3. To know the benefits of introducing newer technologies & also health hazards experienced in sericulture activities.

### **MATERIALS & METHODS**

A study was carried out on 250 households of Bangalore Rural and Kolar districts of Karnataka State. Two taluks in Bangalore district comprising of Devanahalli and Hoskote, and Two taluks in Kolar district comprising of Chikkaballapura and Siddalaghatta was selected. The study was carried out in 16 villages. All the four taluks is fairly well developed with hospitals, transportation, primary health centers, schools and banks. Most of the villages are provided with basic facilities such as electricity and water supply through installation of bore wells. The taluks have gone into both traditional and commercial cropping.

The household selected for the study were based on purposive random sampling method. Out of 250 households 166 households belonged to the experimental group i.e., those who practiced newer technologies in sericulture activities (Group-I) and the remaining 84 households were the control group who practiced traditional sericulture enterprise (Group-II).

- **Development of Tools and Data Collection:** Background information on age, type of family, family size, education and income of the respondents were gathered. Interview cum observation and questionnaire method was adopted for collection of data.

### **RESULTS & DISCUSSION**

Socio-economic status is presented in Table 1. Majority of the families in Group-I and Group-II women age was found to be 34 years. Majority of the families in Group-I (72%) and in Group-II (61%) belonged to the nuclear type of family. The average family size was found to be 5-6 members.

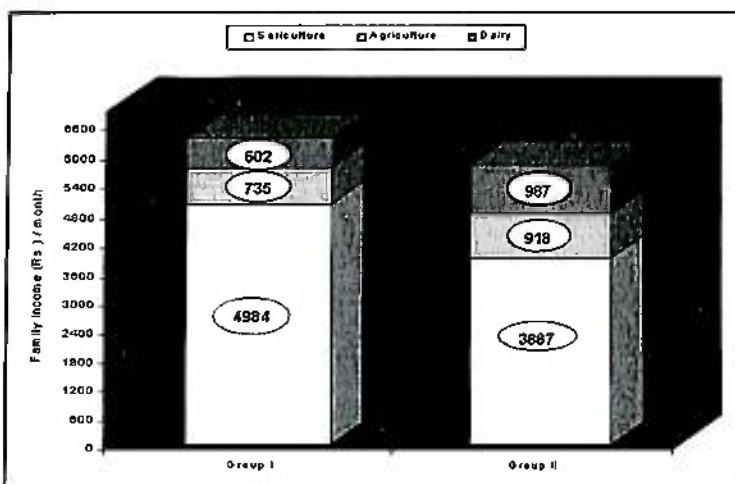
**Table 1: Socio Economic Status**

Characteristic	Category	Respondents				$\chi^2$ Value	
		Group-I (166)		Group-II (84)			
		N	%	N	%		
Age (Years)	21-30	69	42	28	33	3.04 <sup>NS</sup>	
	31-40	62	37	41	49		
	41-50	35	21	15	18		
Type of Family	Nuclear	119	72	51	61	3.09 <sup>NS</sup>	
	Joint	47	28	33	39		
Family Size	£ 4 members	59	35	29	34	1.05 <sup>NS</sup>	
	5-6 members	69	42	31	37		
	³ 7 members	38	23	24	29		
Education	Illiterate	41	25	27	32	3.15 <sup>NS</sup>	
	Primary / Middle	70	42	36	43		
	High School	55	33	21	25		
<b>TOTAL</b>		<b>166</b>	<b>100</b>	<b>84</b>	<b>100</b>		

\* Significant at 5% level

NS: Non-Significant

The level of education obtained by the respondents in both the groups revealed that majority of the women in both the groups (42% in Group-I and 43% in Group-II) were educated upto the primary and middle school level. Statistical analysis was found to be non-significant for age, type of family, family size and education between the two groups.



**Fig. 1: Average income from sericulture and subsidiary**

The average income obtained from the main and subsidiary occupation to families is presented in above figure. The findings reveal that the average income from sericulture activity is found to be Rupees. 4,984/- and Rupees. 3,887/- among Group-I and Group-II families. The average income of Group-II families was found to be higher in agriculture and dairy activities compared to Group-I families. However the statistical findings indicate the difference in the average income between Group-I and Group-II families is found to be highly significant only in sericulture and agriculture activities.

**Table 2: Information related to sericulture enterprise**

Aspects	Category	Respondents				$\chi^2$ Value	
		Group-I(166)		Group-II(84)			
		N	%	N	%		
Area under Mulberry Cultivation	< 1 acre	65	39	58	69	20.16**	
	> 1-2 acres	68	41	16	19		
	> 2 acres	33	20	10	12		
Average $\pm$ SD		$1.89 \pm 1.2$		$1.29 \pm 0.6$			
Harvesting of Crops / Year	Five Crops	98	59	62	74	5.28*	
	Six Crops	68	41	22	26		
Average $\pm$ SD		$5.41 \pm 0.5$		$5.26 \pm 0.5$			
Total		166	100	84	100		

\* Significant at 5% Level  
\*\* Significant at 1% Level  
N: Non-Significant

Area of mulberry cultivation and harvesting of cocoon crops in a year are shown in Table-2. Analysis of sericulture activity profile of the families revealed that out of the total respondents in Group-II, 69 percent has less than 1 acre of land for sericulture cultivation whereas in Group-I, 41 percent of them possessed less than 2 acres of land respectively. Significant difference was found in the area of cultivation between the groups ( $\chi^2 = 20.16^{**}$ ). Majority of the families in both Group-I (59%) and Group-II (74%) took 5 crops per year. The number of crops harvested per year was found to be statistically significant between groups ( $\chi^2 = 5.28^*$ ).

**Table 3: Mean Time and Energy Expenditure by Activities and Groups**

Activities	Mean						
	Group-I (166)		Group-II (84)		'T' value		
	Mean	SD	Mean	SD			
<b>A. Household related</b>	Time (mts)	1092	± 115	960	± 96	9.59**	
	Energy (K.Cal)	1609	± 169	1519	± 152	4.26**	
<b>B. Silk worm rearing</b>	Time (mts)	348	± 49	480	± 61	17.22**	
	Energy (K.Cal)	615	± 87	865	± 110	18.51**	
<b>Total energy expenditure (K.Cal)</b>	2224	± 103	2384	± 117	10.62**		

\*\* Significant at 1% Level NS: Non-Significant

Table-3 results revealed that the mean time spent on household related activities of Group-I women was 1092 mts and energy expenditure was 1609 K.Cal. Group-II women spent 960 mts on household related activities with the energy expenditure of 1519 K.Cal. For sericulture related activities Group-I women spent 348 mts expending 615 K.Cal of energy while Group-II women spent 480 mts expending 865 K.Cal of energy respectively. The difference between both the groups for household and silkworm rearing activities was found to be statistically significant with respect to time and energy expenditure.

**Table 4: Procured benefits of introducing newer technologies**

Benefits by introducing newer technologies	Group-I (166)	
	N	%
Reduce Drudgery	157	95
Saves time & Energy	163	98
Easy Way of handling	163	98
Increased Income	164	99
Increased Production	157	95
Reduction in Mulberry Leaf	140	84
Less Diseases	132	80

The benefits stated by the respondents towards introducing newer technologies were increased income (99%) followed by saves time and energy and easy way of handling (98%), reduced drudgery (95%) and increased production (95%).

**Table 5: Health hazards experienced in sericulture activities**

Health Hazards	Group-I (166)		Group-II (84)		'z' Test
	N	%	N	%	
Effect on eye	82	49	42	50	0.89 <sup>NS</sup>
Effect on menstrual cycle	43	26	24	29	0.45 <sup>NS</sup>
Effect of back pain	93	56	66	79	3.50**
Effect of joint pain	80	48	43	51	0.45 <sup>NS</sup>
Frequent Head ache	60	36	45	54	2.65**
Irritability/Allergy/Skin problem	24	15	15	18	0.70 <sup>NS</sup>
Excess of Heat	130	78	54	64	2.38*
No Problems	11	7	8	10	0.82 <sup>NS</sup>

\* Significant at 5% Level \*\* Significant at 1% Level NS Non-Significant " Multiple Response

The various health hazards experienced by women during participation in sericulture activities are shown in Table-5. Study revealed that in Group-I (78%) majority of the women stated excess of heat as a hazard. Majority of the women in both Group-I and Group-II (56% and 79%) suffered from back pain. This was followed by "frequent" headache among Group-II Women (54%).

Significant difference is observed between the two groups, thus showing that Group-II women practicing traditional method for sericulture activities complained more frequently of back pain than Group-I women who followed newer method which reduces drudgery and simplifies silkworm rearing.

## CONCLUSION

Results of the study indicate that women involved in newer technologies had a substantial increase in the real income when compared to women practicing traditional method of silkworm rearing. Majority of them had a land holding of one to two acres for mulberry cultivation. They harvested five cocoon crops per year. The benefits experienced by the respondents in practicing newer technologies were increased income, saving of time and energy, care of handling reduction of drudgery and increased production. Women practicing newer technologies gain more time and energy for various activities.

Various health hazards were experienced by both the groups of women, Group II women had more number of complaints than Group I women comparatively. There is an imperative need to build health consciousness among women workers. Women need to be made aware of labour saving devices and improved technologies so that the work load of the farm women can be minimized, their productivity and the labour efficiency can be increased

## RECOMMENDATIONS

1. The Seri culturists have to be strengthened as producers to help them increase the productivity & organizing women group in sericulture so as to facilitate input supply, credit flow and absorption of newer technologies & above all promote the development of self confidence among women through mutual support.

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## Acceptance of Accessories Made from Reusable Materials

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### ABSTRACT

*Accessories are those decorative items that no home can do without them. Making accessories using waste or discarded materials is the way of recycling. Recycling in today's world is a must to save our environment and to have a clean healthy place to live in. Hence this study was undertaken to elicit information on acceptance of accessories made from reusable materials. A sample of 100 college students were selected randomly of that 50 each from Home Science and Non Home Science college. A consumer acceptance survey through exhibition was conducted. The data was collected with help of the questionnaire and rating scale. The findings of the study were that the accessories made from reusable materials were appreciated and accepted by the students. But Non Home Science students preferred readymade accessories when compared to Home Science students who mainly preferred handmade accessories.*

### INTRODUCTION

Accessories play a vital role in completing the décor and making the house a home. They are the elements that bring charm, individuality and vitality to a room. Accessories need not always be necessarily bought but they can be made at home. All it needs a little creativity. Many items can be made use of beautifully instead of throwing them away as unwanted items. The old saying "one man's thrash is another man's treasure" applies aptly to accessories. We can make them even from the waste obtained in household. These wastes are divided into three categories, The Usable, Reusable and the Useful. The second one i.e. Reusable can be aptly utilized to make desired accessories. Accessories when they are hand made, gives a more personalized touch. One cannot imagine the ideas they can stumble upon when they start recreating from waste, the items made need not be very elaborate. It can be as simple as making pen stands from bangles or ice cream sticks, paper bags from old newspaper to making elaborate items as decorative candles and so on.

If time permits for home maker or students, this hobby can be channelized into useful an occupation which not only gives a boost to their skill and imagination but also at the same time provide them with economic support. Hence this study was aimed at collecting information on the acceptance of accessories made from reusable materials

### AIMS & OBJECTIVES

The aim of the study is to elicit information on the acceptance of accessories made from reusable materials by Home Science and Non Home Science students. The objectives of the study are listed below.

1. To find out the awareness of reusable materials between Home Science and Non Home Science students.
2. To know the acceptability of accessories made from reusable materials.

### METHODOLOGY

In order to find out acceptance of accessories made from reusable materials, consumer acceptance survey through an exhibition was conducted. Questionnaire and 5 point rating scale were the tools used for the study. A sample of 100 students i.e. 50 each of Home Science and Non Home Science students were selected. Twelve accessories made from five reusable materials like glass, paper, cloth, wood and metal were selected for exhibition. The exhibition was held at Smt. V.H.D Central Institute of Home Science. The tools were administered and respondents were asked to fill it after viewing the accessories displayed. The data obtained were consolidated, tabulated and analyzed statistically.

## RESULTS & DISCUSSION

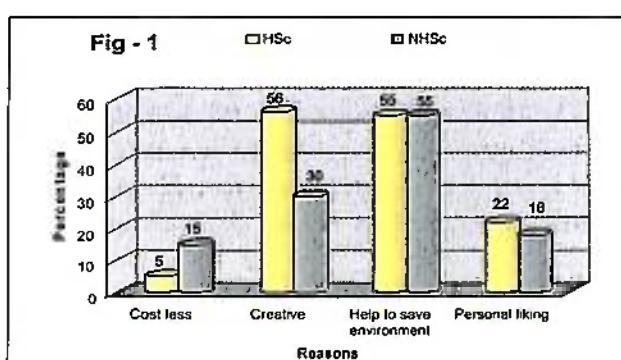
Majority of the respondents were in the age range from 18 to 22 years and were studying in UG and PG level. Most of the respondents felt they were aware of the reusable materials and majority of them recognized the reusable materials. Some of the respondents marked leather rubber and plastic as reusable materials. Though these materials can be recycled but they are harmful for the environment.

### Reasons for using accessories:

The reasons for using accessories were analyzed; Home Science and Non Home Science students gave first preference to decorative purpose followed by as a hobby and functionalism. The fourth and fifth preferences were to cover space and for the sake of convenience. The data was analyzed statistically using Friedman's two ways ANNOVA rank test and was found that there was a highly significant difference regarding their preference of using accessories.

### Reasons for Preference of accessories made from reusable materials:

Figure 1 reveals that higher percentage of the respondents preferred accessories made from reusable materials because it is creative and saves environment. Higher percentage of the Home science students preferred hand made accessories than Non Home Science students.



**Table 1: Mean acceptance scores of accessories made from five reusable materials**

Accessories	Design		Colour		Durability		Workmanship		Associated materials	
	HSc	NHSc	HSc	NHSc	HSc	NHSc	HSc	NHSc	HSc	NHSc
<b>Glass</b>										
Tea coaster	3.96	4.18	3.96	3.42	3.94	3.76	3.94	3.76	3.70	3.54
Pen stand	3.68	4.20	3.88	3.26	3.76	3.76	3.76	3.56	3.46	3.20
<b>Paper</b>										
Newspaper bag	3.88	3.92	3.32	2.98	2.52	2.82	3.72	3.56	3.36	3.34
Cardboard bag	4.28	4.14	3.82	3.42	3.40	3.20	3.80	3.64	3.52	3.42
Lampshade	3.48	3.94	3.28	3.02	3.02	2.90	3.46	3.52	3.40	3.06
<b>Cloth</b>										
Folder – I	3.84	4.18	3.70	3.88	3.70	3.38	3.80	3.60	3.70	3.34
Folder – II	3.76	4.12	3.98	3.52	3.56	3.50	4.00	3.36	3.52	3.32
Multipurpose folder	4.18	4.08	3.84	3.66	3.70	3.54	4.10	3.58	3.44	3.54
<b>Wood</b>										
Photo frame	3.40	4.28	3.84	3.36	4.28	3.58	3.90	3.42	3.54	3.18
Pen and Paper stand	4.06	4.38	3.78	3.56	3.38	3.22	3.74	3.48	3.52	3.20
<b>Metal</b>										
Hanging lamp	4.34	4.62	4.04	3.84	3.80	3.70	3.68	3.86	3.66	3.36
Table Lamp	4.28	4.62	4.14	3.62	3.82	3.52	3.98	3.46	3.72	3.48

HSc = Home Science, NHSc = Non Home Science

Table 1 reveals the mean acceptance scores of accessories made from five reusable materials. The acceptability of accessories from reusable materials were studied with reference to different aspect like design, colour, durability, workmanship and associated material used. The rating given for these attributes were very good to good. Durability in terms of pen stand made from bangles, Newspaper bags and lampshade rated fair by Non Home Science students.

**Table 2: Mean acceptance score on cost of accessories**

Accessories	HSc	NHSc
<b>Glass</b>		
Tea coaster	3.14	3.02
Pen stand	3.28	3.20
<b>Paper</b>		
Newspaper bag	3.42	2.80
Cardboard bag	3.12	3.08
Lampshade	3.52	3.38
<b>Cloth</b>		
Folder – I	2.68	2.46
Folder – II	2.72	2.64
Multipurpose folder	2.60	2.40
<b>Wood</b>		
Photo frame	3.44	2.78
Pen and Paper stand	3.34	3.12
<b>Metal</b>		
Hanging lamp	2.50	2.80
Table Lamp	2.34	2.54

Table 2 depicts that both groups belonging to Home Science and Non Home Science Students had similar response regarding cost rating. The respondents felt that the accessories made from cloth and metal were expensive when compared to the accessories made from paper, glass and wood for which the students rated moderate.

## CONCLUSION

The study was an attempt to elicit information on accessories made from waste materials and higher percentage of the respondents were aware of reusable materials. The accessories were well appreciated and accepted well by the respondents. But the Non Home Science students preferred ready made accessories when compared to Home Science students who mainly preferred hand made accessories.

## RECOMMENDATIONS

Recycling of materials helps us to conserve energy, land, reduce pollution and saves money. There are many objects in the household, which go directly into waste basket. If these objects are used efficiently and transform the waste into useful accessories, it not only saves the environment but also gives the object a new look and at the same time satisfaction to the maker of the item, filling an inventor of ideas.

This study can be further extended to sensitize the community regarding reducing, recycling and reusing the waste into useful form thus making our environment cleaner and healthier to live.

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## Reflections of Homemakers on Dual Establishment through Swot Analysis

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Empowerment of women is a challenge to society because it breaks the long established pattern of family life and with this, values and beliefs supporting them. Over the decades there have been significant changes in the developing countries of the world due to population explosion, urbanization, spread of literacy, industrial development and exposure to the media of communication. Due to these changes males tend to migrate to urban areas for maintaining the standard of living. Male migration motivates the formation of dual established families in which life partners stay apart either for short or extended periods. The process of migration with its positive and negative consequences continues to be a social reality. Male migration made its impact on female members to undertake the roles and responsibilities of male counterparts. The homemakers with their experience in dual establishment gave their opinions on Strengths, Weaknesses, Opportunities and Threats of staying apart from male counterparts. The homemakers of dual established families enlisted strengths such as monetary boon for the family (90 per cent) followed by children's education (88 per cent), enhancing standard of living (82.6 per cent), empowerment of women (81 per cent) and acquiring assets (80 per cent). About 84.8 per cent of employed homemakers favoured more on strengths over full time homemakers (75.1 per cent) on dual establishment. Over 90 per cent of homemakers remarked the weaknesses on dual establishment such as absence of spouse during social functions, burdened with more responsibilities, difficulty in sharing views over phone. Above 80 per cent of the homemakers stated the opportunities of dual establishments such as empowerment of women, children acquiring responsibility and freedom for homemaker in resource management. About 35.9 per cent of employed homemakers and 26 per cent of full time homemakers opined the threats such as fearful situations in the society and children's misbehaviour affecting their development respectively.

## Designing Colonial Theme Restaurant reflecting the British Era of Kolkata

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The present design project was undertaken with the objectives, a). to identify the famous historical monuments of British era in Kolkata, b).to study the design elements used in the interiors of these selected historical monuments, c).to design a colonial theme Restaurant reflecting British Era of Kolkata in Vadodara city. and d).to estimate the cost of the design developed for the theme project. The observation sheets were used to gather the details for developing case studies on the existing interior features of the wall and its treatment, floor and its treatment, ceiling and its treatment, furniture and furnishings, lighting and accessories of the selected

British colonial monuments of Kolkata and the existing status of the restaurant "Trident" of the Revival Lord's Inn at Vadodara. The proposed design project included the schedule of two dimensional drawings made with the support of "AUTO CAD" version 2005-06. The three dimensional drawings were created from new software called "Autodesk Inventor" version 2009. Based on the developed case studies on colonial British era monuments of Kolkata, the flooring, walls, ceiling, lightings and accessories of the selected restaurant at Vadodara was designed. The designing of the present project would be useful as a resource material for the staff, students and institutions pursuing interiors as one of the subject in their curriculum. It would also be useful for the professionals in the field of Interiors.

FRM/Poster/3

### A Study on Usage of Mobile Phone amongst College Students in Kolkata

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To find out the Overdependence on Mobile Phone, 100 female college-going students in the age group 18-21 and 21-24 years in the city of Kolkata were surveyed by the questionnaire method. The areas integrated under this study were the usage pattern and home, health, social and emotional adjustment of these students. In this research work, the students who had a habit of using their cell phone for more than 2 hours and for sending more than 10 messages daily were referred as overly dependent on their cell phones. The results showed that 'mobile phone' use is higher in younger age group (18-21 years). 1095-2190 hours (43 -91 valuable days) in a year is spent knowingly or unknowingly over the cell phones to stay connected with others. Nearly half of the respondents get 'depressed', 'irritated', 'anxious' and 'annoyed' when their cell phone do not ring for more than 30 minutes. In the study it was found that if home adjustment is unsatisfactory, then there is an increase in the number of messages sent per day. The study showed that students who have very unsatisfactory home, health, social and emotional adjustments have a habit of usage of cell phones daily for 2 hours and above.

FRM/Poster/4

### Middle Income Group Families with Working and Non-Working Wife & their Income & Expenditure Patterns- A Comparative Study

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The study entitled 'How middle income group families with working and non-working wife spend and save-a comparative study conducted in Kolkata metropolis' was done to determine the effect on the expenditure and saving patterns with respect to the earnings of the woman in the family. With the changing economic patterns, woman has started going out to work and her monetary contribution has affected the life-style to a great extent. To understand this change, the pattern of expenditure and saving was studied & compared to that of the families with non-working women. Data on expenditures and savings was collected from families with working wife in the income range of Rs.20000-40000. The income group was further classified in the range of Rs.20000-30000 and Rs.30000-40000. The study revealed that the families with working women had a tendency to spend more even though they belonged to the same income group. Non-working wife preferred saving to

investment and also safer modes of investment than shares which involve higher risks. It may be brought in after the study that there is a psychological factor that plays in the mind of the family members with working couple with respect to their expenses which gives them the confidence to face life as it comes and live a better life than others with the same income.

FRM/Poster/5

### An Analysis of the Occurrence of Carpal Tunnel Syndrome among Men and Women Using Computers

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A study was conducted to find out the incidence of carpal tunnel syndrome, an inflammatory disorder of the median nerve at the wrist, on 78 computer users working in 7 different companies in Kolkata. Men and women in the age group of 25-60 years were studied. The study revealed that 55% of men and 77% of women showed symptoms of carpal tunnel syndrome. Men in the age group of 46-60 years and women in the age group of 36-45 years were most affected. The study also showed that men and women working for more than 10-15 years on the computer, which requires repetitive movement of the wrist while using the mouse were more prone to have signs of carpal tunnel syndrome. It was seen that only 15% of computer users used the correct posture while sitting and using the mouse and 85% used incorrect postures while doing the same. Those who took rest in-between work just once and still showed symptoms were 83% whereas, 62% of respondents who did not reveal symptoms took rest thrice. These aspects require re-evaluation of workplace designs with flexibility of height of work place and chair as well as reach distance of operator with emphasis on good working postures.

FRM/Poster/8

### Feasibility of Improved Sickle in Drudgery Reduction of Farm Women

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In rural areas, about 60 percent of agricultural operations are handled exclusively by women. During harvesting season, local sickle is mainly used in cutting of wheat, maize, guar etc. by farm women which is not work efficient and leads to drudgery of women. Hence, the present study was undertaken to introduce the improved sickle and assessing its acceptability among rural women. The data were collected from 30 women respondents of different villages through personal interview schedule consisting of statements on tool factor, stress, output and overall acceptability. Feasibility study exhibits that improved sickle was highly acceptable by rural women. Majority of the women (93.7%) reported that it was very efficient in cutting crop and hence increased the output by 20 percent. It also reduced stress in the form of physiological fatigue and bio-mechanical stress. Cutting was faster due to serrated and self-sharpening blade of the sickle. The design of the handle gave a better grip leading to lesser grip fatigue (3.8%). The improved sickle was highly acceptable in the field scoring 92.9 percent and has been adopted successfully by respondents of different villages. Therefore, improved sickle needs to be used by the farmwomen in crop harvesting which reduces the drudgery and increases her work efficiency.

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*“The test of literature is,  
I suppose, whether we ourselves  
live more intensely for the reading of it.”*

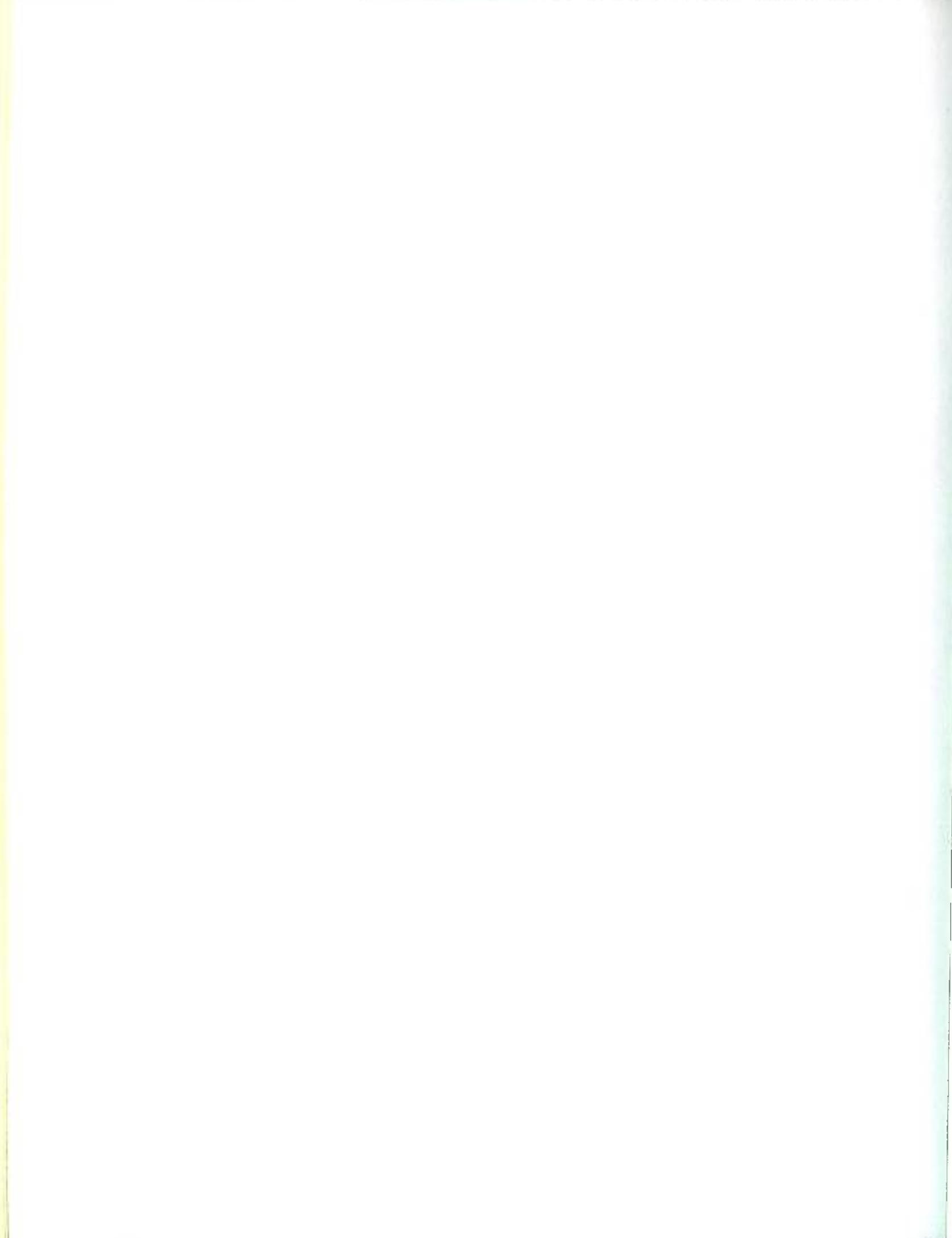
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*“The greatest gift is a passion for reading.  
It is cheap, it consoles, it distracts,  
it excites, it gives you the knowledge of the world  
and experience of a wide kind.  
It is a moral illumination.”*

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**HUMAN DEVELOPMENT, FAMILY STUDIES AND EARLY  
CHILDHOOD EDUCATION AND DEVELOPMENT**  
**(Oral & Poster Presentation)**



## Assessment of Knowledge, Attitude and Practice of Anganwadi Workers About Non-Formal Pre-School Education

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### **ABSTRACT**

*Anganwadi worker is a key person in the Integrated Child development Services programme and has multiple responsibilities for the development of women and children. The AWWs not only provide package of ICDS services to the beneficiaries but also maintains close and continuous contacts with the community. She also acts as crucial link between the village population and the government administration and thus becomes a central figure in ascertaining and meeting the needs of the community she lives in. The study was undertaken to asses the level of knowledge, attitude and adoption of NFPSE by AWWs to know various difficulties encountered by AWWs in carrying out pre-school activities and invite suggestions by AWWs for increasing effectiveness of pre-school education. The study was conducted in Karad ICDS block in Satara district of Western Maharashtra. Forty AWWs were selected for the study. Data was collected with the help of developed and pre-tested structured schedule through personal interview with the AWWs. A scale for assessment of level of knowledge, nature of attitude and the practice of NFPSE was developed by observing procedure and following steps meticulously and responses were sought in five point continuums with scoring key. It is evident majority (50.00, 62.50 and 67.50 percent) of the respondents were in the medium category for their level of knowledge, their favourable attitude to some extent and practice of NFPSE activities respectively. Almost more than fifty percent of the AWWs reported difficulties such as inadequate space for AWCs, lack of adequate toys, lack of community participation, lack of proper teaching aids, overburden of work, multifarious jobs, tasks and assignments to be performed in addition to their legitimate work, lack of co-operation from other organization/institutions. Suggestions offered by AWWs were provision of teaching aids and playing materials, their existing amount of honorarium should be increased, sufficient space for buildings to accommodate AWCs, non-assignment of additional work other than their legitimate work, organization of training programmes etc.*

### **INTRODUCTION**

Anganwadi worker is a key person in the Integrated Child development Services programme and has multiple responsibilities for the development of women and children. Anganwadi is the focal point for the delivery of the services to children and mothers in their doorsteps through Anganwadi worker. The AWWs not only provide package of ICDS services to the beneficiaries but also maintains close and continuous contacts with the community. She also acts as crucial link between the village population and the government administration and thus becomes a central figure in ascertaining and meeting the needs of the community she lives in.

The productivity of an organization depends upon employee's job performance and infrastructure, methods, job design and raw materials. Besides the technological considerations, the job performance of the worker depends primarily on employee's ability and motivation to perform. The ability generally depends upon skill, job knowledge and factors like intelligence but the motivational aspect of the individual is "job performance" which is more complex phenomenon. Motivation or willingness to work is a more important factor and it directly affects the quality of work produced by an individual. Present study is an attempt to understand role of AWWs in ICDS.

## **AIMS & OBJECTIVES**

1. To assess the level of knowledge, attitude and adoption of NFPSE by AWWs.
2. To know various difficulties encountered by AWWs in carrying out pre-school activities.
3. To invite suggestions by AWWs for increasing effectiveness of pre-school education.

## **MATERIALS & METHODS**

The study was conducted in Karad ICDS block in Satara district of Western Maharashtra. Forty AWWs were selected for the study. Data was collected with the help of developed and pre-tested structured schedule through personal interview with the AWWs. A scale for assessment of level of knowledge, nature of attitude and the practice of NFPSE was developed by observing procedure and following steps meticulously and responses were sought in five point continuums with scoring key.

## **RESULTS & DISCUSSION**

- Assessment of Knowledge, Attitude and Practice of Non-Formal Pre-School Education Activities by the AWWs:

AWWs are in true sense having major role in the functioning of Anganwadis. Efficient execution of duties by the AWWs as far as carrying out NFPSE activities appropriately to a great extent depends upon how far and to what extent they possess complete knowledge about the same, posses' favourable attitude towards and implement these activities in effective manner which has the impact on overall development of children. It is in this context very much necessary to know level of these attributes (knowledge, attitude, and practice). Attempt was therefore, made to assess these attributes. Quantification was done with the help of simple teacher made scale and responses were sought in five point response continuum with scoring key. Distribution of AWWs on the strength of score earned by them on different attributes is presented below.

**Table-1: Knowledge, Attitude and Practice of Non-Formal Pre-School Education Activities by the AWWs**

Sl. No.	Attributes	Respondents Reporting	
		No. (N= 40)	Percent
1.	<b>Knowledge</b>		
	i) Low (Below 82)	7	17.50
	ii) Medium (82-98)	20	50.00
	iii) High (Above 98)	13	32.50
2.	<b>Attitude</b>		
	i) Un favorable (Below 82)	6	15.00
	ii) Favorable to some extent ((82-96)	25	62.50
	iii) Favorable (Above 96)	9	22.50
3.	<b>Practice</b>		
	i) (Below 67)	4	10.00
	ii) Medium (67-74)	27	67.50
	iii) (Above 74)	9	22.50

It is evident from the table majority (50.00, 62.50 and 67.50) of the respondents were in the medium category for their level of knowledge, their favourable attitude to some extent and practice of NFPSE activities respectively. This was followed by the number of respondents who were included in the high category of these attributes. Numbers of respondents who find their place to accommodate themselves were in the low category of knowledge, attitude and practice of NFPSE worked out to be 7, 6 and 4 respectively. In an attempt to understand logic and rationality behind these findings, it was understood that probably emphasis might not have been given on training input for carrying out pre-school education activities and training programmes arranged for them mostly covered aspects such nutrition, health and immunization etc.

- Difficulties Encountered by AWWs in Carrying out Pre-School Education Activities:

AWWs were encountering variety of difficulties in carrying out pre-school education activities in their respective. Difficulties spelled out by them have been presented in the table below.

**Table 2: Difficulties Encountered by AWWs in Carrying out Pre-School Education Activities**

Sl. No.	Difficulties	Respondents Reporting	
		No. (N= 40)	Percent
1.	Insufficient space for AWCs	32	80.00
2.	Lack of adequate toys to children	28	70.00
3.	Lack of proper teaching aids	24	60.00
4.	Lack of supervision/guidance from supervisor/CDPO	9	22.50
5.	Lack of community participation	25	62.50
6.	Lack of other organizations/ institutions' involvement.	22	55.00
7.	Time spent in completing records and attending the meetings.	8	20.00
8.	Poor response of parents of beneficiaries	11	27.50
9.	Overburden of work	23	57.50

Above table elucidates that majority (80.00 percent) of AWWs were experiencing serious difficulty of inadequate space for AWCs and so finding difficulties in carrying out various types of activities. Besides non-availability of adequate space, buildings provided for AWCs are suffering from other problems such as leakage, lack of ventilation and light etc.

This difficulty is followed by the number of AWWs who have reported lack of adequate toys, lack of community participation, lack of proper teaching aids, overburden of work, multifarious jobs, tasks and assignments to be performed in addition to their legitimate work, lack of co-operation from other organization/institutions. Some AWWs although their number was less however reported their difficulties as lack of supervision/guidance from supervisory personnel and lot of time consumed in completion of records and attending monthly meetings.

- Suggestion Offered by AWWs for Increasing Effectiveness of Pre-School Education:

**Table 17: Suggestions Offered by AWWs for Increasing Effectiveness of Pre-School Education**

Sl. No.	Suggestions offered by AWWs	Respondents Reporting	
		No. (N= 40)	Percent
1.	Sufficient Space for AWC buildings	28	70.00
2.	Playing material should be provided	30	75.00
3.	Adequate teaching aids should be provided	32	80.00
4.	Equipments should be provided	16	40.00
5.	Training programme for AWWs should be organized	23	57.50
6.	Honorarium should be increased	29	72.50
7.	Additional work other than legitimate work should not be assigned as far as possible.	28	70.00
8.	Quality of food served should be improved	13	32.50
9.	Maximum possible community participation should be sought	18	45.00
10	Co-ordination with primary schools be established and maintained	14	35.00

Information in the table denotes that majority (80.00 percent) of the respondents suggested that teaching aids should be provided to the maximum possible extent. Because it is the teaching aid that makes teaching effective, attracting children to remain present in the Anganwadi. Provision of playing materials has been suggested by as many as 30 AWWs. Play material is also responsible for influencing physical and motor development besides encouraging development of creativity, concept formation, logic, rationality, thinking and reasoning. Play material also provides an opportunity to the children for social interaction developing thereby social relations and understanding each other in true sense.

This has been followed by the number of respondents who have suggested that their existing amount of honorarium should be increased (72.50 percent), sufficient space for buildings to accommodate AWCs (70.00 percent), non-assignment of additional work other than their legitimate work(70.00percent), organization of training programmes (57.50 percent), maximum possible community participation and provision of sufficient equipments in the AWCs besides getting co-ordination and co-operation from primary schools and supply of quality food for serving to the beneficiary children should be made available.

## CONCLUSION

Majority of the AWWs were in the medium category for their level of knowledge, their favourable attitude to some extent and practice of NFPSE activities. Almost more than fifty percent of the AWWs reported difficulties such as insufficient space for AWCs, lack of adequate toys for children, lack of community participation, lack of proper teaching aids, overburden of work, lack of co-operation from other organizations.

AWWs offered suggestions for effective implementation of the programme to fulfill the objectives. Some of the worth mentioning suggestion were adequate teaching aids and play materials should be provided, amount of remuneration they are presently receiving should be increased, provision of sufficient space for AWCs, non-assignment of additional work other than their legitimate work, organization of training programmes, maximum possible community participation and provision of sufficient equipment in AWCs.

## RECOMMENDATIONS

1. Training programmes should be organized at a regular interval to strengthen the capabilities of AWWs.
2. Monetary returns in terms of honorarium should be revised in commensurate with the quantum of efforts put forth by them in performing their duties.
3. Provision for adequate infrastructural facilities should be made.

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## A Study on Knowledge, Attitude and Practices Regarding Gender Related Aspects among Rural People

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### ABSTRACT

*Gender is the social interpretation of attitude, behavior, relationships, moral values and social values of an individual on the basis of sex. Indian women continue to be discriminated even in 21<sup>st</sup> century. There is an urgent need to promote social awareness about gender among the rural people. Hence a study was taken to identify the knowledge, attitude and practices regarding gender related aspects such marriage, child rearing food, health, education, savings, and property rights among rural men and women. Sixty samples were selected from the village Vadamalaikurichi in Virudhunagar taluk from Virudhunagar District using simple random sampling technique. A self made interview schedule was used to collect information from the respondents. It was found that no significant difference in the knowledge, attitude and practices between rural men and women regarding the gender related aspects. But there was a significant difference in the practice of gender related aspect of marriage between rural men and women. Eighteen percent of males and 56 percent of females got married below the age of 18. It was disheartening to note that only 18 percent of males and 16 percent of females knew the legal age for men and only 18 percent of males and nine percent of females knew the legal age for women. It was shocking to find that 96 percent of males and 97 percent of females opined that they get dowry during their son's marriage, whereas 71 and 75 percent of males and females respectively knew that getting dowry is punishable. Ninety six and 94 percent of males and females respectively told that both the parents are responsible to take care of the children but in practice children are taken care by the females only. Eighty five percent of the respondents knew that both males and females have the right to get property from their parents. But 96 percent of the male respondents and all the female respondents like to give their property to their sons only. We have to get over the traditional sex roles and practice egalitarian sex roles in our day today life. This is only possible by means of a complete revolution in our thinking and attitude towards gender equality. Equality is only possible when ideology of people changes in society through gender sensitization.*

### INTRODUCTION

The Indian Constitution, in Articles 14, 12, and 16 provides for equality between men and women. But in practice there is often denial of equality for women in large parts of India, particularly in rural areas. Gender is the social interpretation of attitude, behaviour, relationships, moral values and social values of an individual on the basis of sex. It refers to the socially determined and culturally specific differences between women and men. It is the basis of differences in behaviour, expectations, roles and responsibilities that all women and men learn in the context of their own societies. Indian society makes a distinction between men and women, which has made women, almost everywhere and in each sector, inferior to men. They have fewer rights, control fewer resources, work longer hours than men, which either undervalued or underpaid. It is this gendering which helps in perpetuating the gender difference, in India. Gender determined attitude and roles are very common and found at various levels from childhood to adulthood; from family to workplace. In the era of

globalization women are still in the last position in education, health and socio-economic status. Nearly 35 per cent of women are illiterate in India. They contributed half to total population and also have their 1/3 share in the revenue of the country. But they are only one per cent owner in the entire property of the country. Indian women continue to be discriminated even in 21<sup>st</sup> century. Hence there is an urgent need to promote social awareness to gender issues and women's human rights.

## **AIMS & OBJECTIVES**

With this aim the study on gender awareness among rural population was taken up with the objectives to:

- identify the knowledge, attitude and practices regarding gender related aspects among women and men of the selected rural area and
- compare and analyze the knowledge, attitude and practices towards gender related aspects of the selected rural people

## **MATERIALS & METHODS**

The sample size consists of 60 which include educated and illiterate males and females belonging to different caste and income levels from the village of Vadamalaikurichi in Virudhunagar Taluk from Virudhunagar district. The simple random sampling was followed in selecting the rural men and women. A self made interview schedule was used to collect information on knowledge, attitude and practices regarding gender related aspects of education, marriage, child rearing, food, health, savings and property rights after developing a rapport with the respondents. Codes were allocated and appropriate scores were given to measure the knowledge, attitude and practices of gender related aspects. The overall total score of the knowledge, attitude and practice items were calculated. For all the positive statements, expressing a favourable attitude, the scores were fixed to range from 3 to 1, for responses ranging from Always, Rarely, Never and for Yes-1 and No-0. And for negative statements, expressing a negative attitude; the scores were fixed to range from 1 to 3, for responses ranging from Always, Rarely, Never and for Yes-0 and No-1.

## **RESULTS & DISCUSSION**

The collected data was analyzed using percentiles and the statistically treated. The findings are presented below:

Of the 60 subjects studied, 48 percent belonged to 31 to 35 years out of whom 46 percent were males and 50 percent were females. Thirty seven percent belonged to 26 to 30 years out of whom 32 percent were males and 40.6 percent were females. With regard to education 38 percent were illiterates out of whom 40 percent were females and 35 percent were males. Thirty four percent females and 28percent males completed their primary education 65 percent of the respondents belonged to coolie. Out of whom 71 percent were males and 59 percent were females. Twenty eight percent of females were unemployed and three percent of males were unemployed

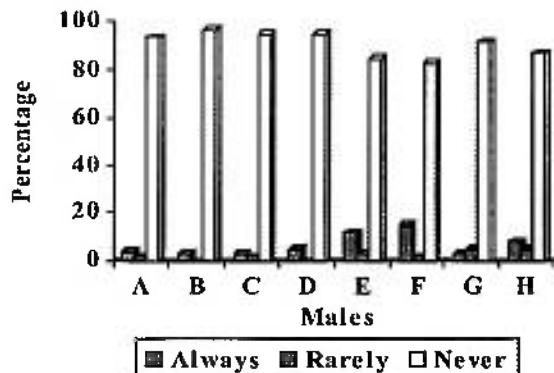
- **Marriage**
  - a) While there is no significant difference in the knowledge and attitude of gender related aspect of marriage between rural men and women, significant difference between rural men and women was found in the practice of marriage. It was found that 18 percent of males and 56 percent of females got married below the age of 18.
  - b) It was disheartening to note that only 18 percent of males and 16 percent of females knew the legal age for men; only 18 percent of males and nine percent of females had the awareness on the legal age for women.
  - c) It was happy to find that all the respondents considered their sons and daughters in mate selection.
  - d) It was shocking to find that 96percent of males and 97 percent of females opined that they get dowry during their son's marriage. Whereas only 71percent of males and 75 percent of females knew that getting dowry is punishable.

- Child rearing

- The selected rural men and women had similar Knowledge, attitude and practice of gender related aspect of child rearing.

Ninety six percent of males and 94 percent of females told that parents are responsible to take care of the children.

**Care of the children by Males**



**Care of the children by Females**

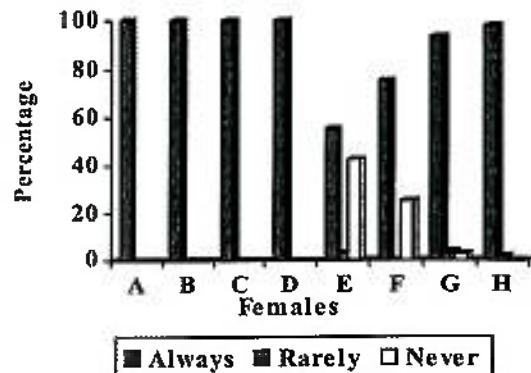


Fig 1: A-Eating, B-Bathing, C-Dressing, D-Toilet training, E-Guidance for studies,

F- Accompanying to school, G-Playing, H- Health care

- It was happy to know that all the respondents' children of both the sexes were immunized.
- Sixty one percent of males and 56percent of females expressed that male child always enjoy higher status in the family

- Health

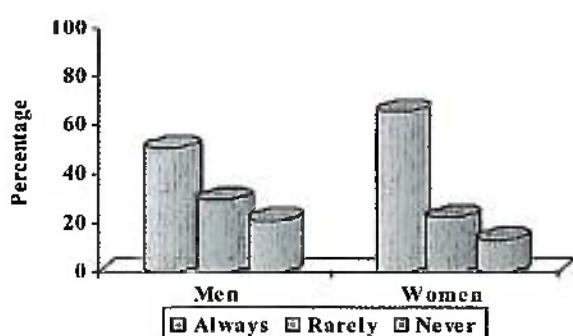
- All the respondents' son and daughter were taken care when they fall sick. Ninety five percent of the respondents viewed that husbands were taken care well when they fall sick and seventy two percent of the respondents felt that wives were taken care when they fall sick.

- Food

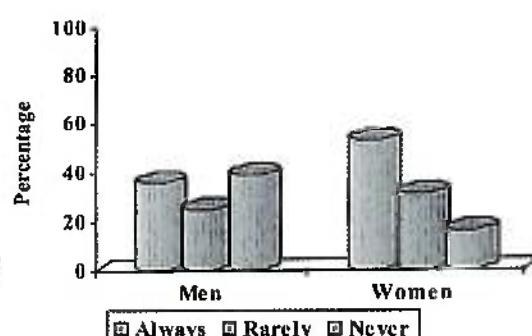
- There is no discriminatory practice in providing food to their son and daughter. Ninety three percent of the respondents opined that rarely there was discrimination in giving food to the husbands and 70 percent of the respondents' expressed that rarely there was discrimination in giving food to the wives.

- Education

- As far as education is concerned knowledge, attitude and practice of rural men and women did not differ



**Fig 3: Rural men and women's attitude on preference of higher education for boys**



**Fig 4: Rural men and women's attitude on preference of higher education for girls**

**Table 1: Purpose of Saving Money**

Sl. No	Purpose of Saving Money	For Males (%)	For Females (%)
1.	Marriage	17	42
2.	Education	35	15
3.	Medical	8	3
4.	Future	45	33

- **Property rights**

- a) There is no significant difference in the knowledge and attitude of rural men regarding issue of property rights.
- b) Eighty five percent of the respondents knew that both males and females have the right to get property from their parents. But 96 percent of the males and all the females preferred to give their property to their sons only. Eighteen percent of male respondents and 31percent of female respondents like to give their property to their daughters also.

## **CONCLUSION**

It is necessary to generate awareness among the rural people about gender equality through gender sensitization. We have to get over the traditional sex roles and practice egalitarian sex roles in our day today life. We must spread scientific thinking on a massive scale and encourage people to give up superstitions and backward ideas. This is only possible by means of a complete revolution in our thinking and attitude towards women. Equality is only possible when ideology of people changes in society. A cultural struggle is needed to sweep away all remnants of the disgusting practices particularly with respect to women. These should be replaced with scientific thinking and genuine and complete equality between men and women. Therefore gender-sensitive education is necessary for the rural people that treats women and men, girls and boys equally and encourages them to achieve their full potential.

## **RECOMMENDATION**

Gender-sensitive education is necessary for the rural people that treats women and men, girls and boys equally and encourages them to achieve their full potential.

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## Awareness of Never Married Adults (20-35 Years) Regarding Matrimonial Websites

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### ABSTRACT

*Internet has changed our life in every way; even the way of searching for a spouse by registering on matrimonial sites. The objective was to examine the awareness of never married adults (20-35 years) regarding matrimonial websites. Desired information was elicited from 100 never married adults located in Mumbai through a questionnaire that comprised of thirteen questions on awareness. The results revealed that more of the participants were aware of - i) the websites, such as Shaadi.com, bharatmatrimony.com, jeevansathi.com; ii) the source of information included internet, television, newspaper. However a majority of the participants were unaware of individuals who found a spouse or had a bad experience as a consequence of using matrimonial websites. Indians have become tech savvy and jumped on the Internet bandwagon to find the Mr/Mrs Right, but still the customs, traditions and core values remain the same. Choosing a spouse has become tough for current generation as they believe in tested kind of relationships and are unprepared to choose a partner who is strange for them. Researching about the increasing popularity of matrimonial websites is recommended as it is an eye-opener and enlightens the young adults regarding their alertness, understanding, judgment and information regarding matrimonial websites.*

### INTRODUCTION

In today's world everyone (child or adult) is so familiar with the word internet. India is very renowned for its use of technology especially in the urban areas. In a metropolitan city like Mumbai there is widespread use of internet for many reasons, such as finding information, social networking, and making friendships. But we cannot forget the importance of finding a spouse through matrimonial services and also the matrimonial websites. There can be a variety of problems when utilizing online dating sites. Following is a list of less than positive aspects of Matrimonial website: d) instincts about a person are based not just on what ideas they want to communicate, but on appearance, body language, facial expressions and tone of voice all subtleties that are lost when communicating via computer, no matter how many emoticons you use, g) photos can be out-of-date or an inaccurate representation, dishonesty abounds made up profiles, exaggerated claims and married people posing as single and more, chemistry can not be determined online, h) some users spam sites with fake profiles that are in reality advertisements to other services, such as prostitution, multi-level marketing, or other personals websites, i) even when members' profiles are real, there is still an inherent lack of trust with other members because such sites may give them an unending supply of new targets of opportunity for Internet fraud.

### AIMS & OBJECTIVES

To examine the awareness of never married adults (20-35 years) regarding matrimonial websites.

### MATERIALS & METHODS

- **Sample Size:** The total sample size consists of 100 never married adults (50 females and 50 males) from Mumbai, Thane and Navi Mumbai.

- **Sampling Technique:** In social science research, snowball sampling is a technique for developing a research sample where existing study subjects recruit future subjects from among their acquaintances. Thus the sample group appears to grow like a rolling snowball. As the sample builds up you gain enough data to use for your data.
- **Inclusion and Exclusion Criteria:** The inclusion criteria for participants were: a) those who reside in Mumbai, Thane and Navi Mumbai; b) who is between 20 to 35 years of age; c) coming from divorced/single/remarried/widow/widower family; d) belonging to any community, caste and religion; e) having an educational qualification of post SSC, employment status (employed/ non-employed) and matrimonial website user or non user.
- Exclusion criteria were: a) divorcee, widow/ widower or remarried; b) exceptional/special adult (physically/mentally challenged); c) belonged to the lower socio-economic strata; d) who were already into a relationship/is dating.
- **Sample Characteristics:** There were 100 never married males between 20- to 35 years. More of the participants were graduates and some possessed a post-graduate degree. Majority of the participants were Hindus; very few were Christians and Muslims. More of the participants belonged to nuclear families and few from joint families and extended families. A majority of the participants were in service. Only a few were professionals. Most of the participants fell in Rs. 50,000 and above income bracket. None of the participants had chosen their life partner, however they were in the process of searching the same.
- **Tool, Method and Procedure:** Desired information was elicited from 100 never married adults located in Mumbai through a semi structured, self constructed face to face questionnaire (open and closed ended questions) that comprised of thirteen questions on awareness for a period of 45 minutes.

## RESULTS & DISCUSSION

### ● Meaning of Matrimonial Websites

More of the never married participants defined matrimonial website as a source by which an individual could get to know, more specific information of spouse they would be searching and also have broader perspective for selecting a spouse, few indicated that it helps people to find their life partner though it may or may not be fruitful, yet another set mentioned, that a matrimonial website is where people advertise themselves along with their details, such as photograph, age, occupation to find partner for getting married and that it provides wide variety/ range of people to select for a life partner. (Refer to Table 1).

### ● Awareness Regarding the Names of the Matrimonial Websites

Majority of the never married participants indicated Shaadi.com, moderate mentioned Bharatmatrimony.com and little less than half of the participants stated Jeevansathi.com. (Refer to Table 2).

### ● Sources for Knowing the Names of Matrimonial Websites

The participants indicated varied sources through which they came to know regarding the matrimonial websites. More of the participants viewed the advertisement on the internet and television. The striking difference was found among the responses of participants regarding the source, namely newspaper and hoardings. Few of them indicated friends, relatives and parents being the source (Refer to Table 3).

**Table 1: Never Married Adults' Awareness Regarding the Meanings of Matrimonial Website**

Meanings of the matrimonial website	Never Married Females f (n=50)	Never Married Males f (n=50)	Never Married Adults f (n=100)
Source by which an individual could get to know, more specific information of spouse	20	15	35
Helps people to find their life partner though it may or may not be fruitful	8	10	18
People advertise themselves along with their details, such as photos, age, occupation	7	8	15

**Table 1: Never Married Adults' Awareness Regarding the Meanings of Matrimonial Website**

Meanings of the matrimonial website	Never Married Females f (n=50)	Never Married Males f (n=50)	Never Married Adults f (n=100)
A place where an individual can actually advertise oneself to reach all over the world	5	8	13
Provides wide variety/ range of people to select for a life partner	5	5	10
It is a place where one can find a perfect soul mate and also get varied choices	3	4	7
A meeting point / place for all the spinsters and bachelors	1	3	4

**Table 2: Never Married Adults' Awareness, Regarding the Names of Matrimonial Websites**

Names of the matrimonial websites	Never Married Females f (n=50)	Never Married Males f (n=50)	Never Married Adults f (n=100)
Shaadi.com	40	32	72
Bharatmatrimony.com	29	25	54
Jeevansathi.com	24	12	36
Simplymarry.com	9	9	18
Any other	5	4	9
• Matrimony.com	5	4	9
• Rediffmatchmaker.com	2	2	4
• Marriage.com	1	1	2
• Just marry.com	1	0	1
• Dawoodibore.com	1	0	1
• Find your match.com	1	0	1
• Saathi.com	1	0	1

Note. Multiple responses were obtained

**Table 3: Never Married Adults' Awareness Regarding Sources/ Modes that Facilitate in Knowing the Names of Matrimonial Websites Sources/modes that**

facilitate in knowing the names of matrimonial websites	Never Married Females f (n=50)	Never Married Males f (n=50)	Never Married Adults f (n=100)
Viewed the advertisement on/in	40	35	75
• Internet	35	30	65
• Television	34	26	60
• Newspaper	28	17	45
• Hoardings	17	10	27
Had conversation with	17	11	28
• Friends/ social groups	14	9	23
• Relatives	8	4	12
• Parents	4	4	8
Through marriage bureaus	4	0	4
• Any other	1	2	3
• Heard advertisements on radio	1	0	1
• Viewed posters in the train	1	0	

Note. Multiple responses were obtained

- Knowledge Regarding Individuals, Who Had Found a Spouse through the Matrimonial Website and their Experiences

Majority of the participants (never married females [32]; never married males [33]) indicated that they did not know anyone who had found a spouse through matrimonial website. However some of the participants (never married females [14]; never married males [17]) indicated that they knew people who had found a spouse through matrimonial website. Substantial majority of the never married adults (never married females [44]; never married males [43]) indicated that they did not know anyone who have had a bad experience as a consequence of using matrimonial websites, while very few (never married females [6]; never married males [7]) knew people who bad experience as a consequence of using matrimonial websites.

## **CONCLUSION**

Finding a mate through matrimonial website is a very fascinating thing which many people have started using it. Everything has its beginning, a history, but there is no particular history for marriages through matrimonial websites. But here the history of internet and marriage are mentioned earlier separately. There are many factors also that do affect the selection of mate through internet (Shackelford, Goetz, & Buss, 2007). But as we all know that there are always two sides of the same coin, similarly there are advantages and disadvantages, barriers and suggestions of selecting a spouse through matrimonial websites. Taking the opinions of adults might give us a more clear view on what they think matrimonial websites are all about.

## **RECOMMENDATION**

Most importantly, the nature of this study is beneficial for the never married adults as they are provided with the opportunity to introspect and reflect on their thoughts, feelings and emotions in relation to their opinions and awareness regarding matrimonial websites and providing a scope for searching a spouse.

1. Attitude of parents regarding their son/ daughter searching for a spouse through matrimonial website.
2. Study could focus on the perception of parents searching spouse for their never married son/ daughter through matrimonial websites.
3. Further studies could include individuals who have already found their spouse through matrimonial websites along with the never married adults.
4. Research can be done to find out the attitudes and perception of special individuals, such as widowers/ widows, remarried, divorcee, handicapped parents' with regard to searching for a spouse through matrimonial websites.
5. Marital satisfaction among the partner (husband and wife) married through matrimonial website.
6. Other ways of finding a spouse through internet, such as online dating, orkut, chatting and its advantages and limitations.

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## Appraising Perceived Self-Efficacy and its Influence on Specific Efficacy Outcomes

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### **ABSTRACT**

*Meta analysis across different spheres of functioning confirms the influential role of perceived self efficacy in humans' self development, adaptation and change (Boyer et al., 2000 and Miritz et al., 2000). Gibb (2000) brings out the fact that there are at least four kinds of self efficacy outcomes (behavioural, emotional, social and academic outcomes) in an adolescent each of which is instrumental in explaining how adolescent's behave and their willingness to persist the behaviour. Therefore, this study was embarked by appraising perceived self efficacy to these efficacy outcomes before and after enhancement. Two hundred adolescent girls (100 each in 2<sup>nd</sup> and 3<sup>rd</sup> year graduation) from Avinashilingam University for Women, Coimbatore were selected. The tools used were Standardized Effectiveness Scale to know the effectiveness type of the sample and a Rating scale to find out the accomplishment of Specific Efficacy Outcomes (SEO). While categorizing the self effectiveness type only 28% of the girls were found to be effective before enhancement. The substantial leap in the mean scores and t value significance for the data of SEO score on all the three efficacy outcomes (Behavioural and emotional outcome, Social outcome and Academic outcome) portrays the efficacious nature of effective girls when compared to their counterparts. The enhancement programme imparted to the secondary sample of ineffective girls (143 out of 200 girls) proved to be efficient as 70% of them shifted themselves from the ineffective to effective face, thus proving the worth of the self efficacy enhancement programme.*

### **INTRODUCTION**

'Street children' being a problem created by the society, a movement against social and human inequality, exploitation, abuse and cruelty needs to be focused by the researchers to fill the gap existing between the street children and the community as a whole (Navreet, 2003). Thus, it is of an imperative need to improve the health status, develop good psycho-social qualities and facilitate them to venture on a vocation in order to sketch them into the mainstream of the society. Aligned with this milieu, an education programme was developed with special reference to street children known as "Life Enrichment Education (LEE)" focusing on improving their physical, psycho-social and vocational strength.

LEE is designed to enhance the quality of life of the street children through life skills. Life skills have been identified by WHO (1994) as "the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life".

Life Enrichment Programme can be operationalised to specific situations. The characteristics and situation of the street children in responding to their needs and problems were collected by reviewing previous researches, observation of the life style of street children residing in the rehabilitation homes and the interview with the Directors of these homes. Based on this information the needs, problems of these children were evinced and recognized that these group of children have to be educated on certain aspects namely importance of good physical health, abstaining from substance use, awareness on sexual and reproductive health, training to manage emotions, motivating to be assertive, building up decision making and goal setting ability and exposure to vocational training.

It is presumed that LEE lessons may motivate these children to realize their self positively, help them to restore their health and well-being, promote healthy interactions with their own peers and other people and instigate them to understand the responsibilities to lead a contented and successful life in the years ahead. Therefore, this study was embarked with the trust that through the designed LEE Programme, the chosen unprotected section of the children can be encouraged to a hopeful prospect. Hence the objectives framed for this study were to

- Assess the street children's existing knowledge/attitude/skill (KAS) on their life style with respect to
  - a) Health care
  - b) Psycho-social issues and
  - c) Vocational issues
- Develop an appropriate curriculum of LEE for street children and chalk out its strategies
- Enhance the selected street children's overall development by imparting LEE to gain insight on health care, psycho-social and vocational issues
- Assess the efficacy of LEE imparted to the street children
- Obtain the feedback of LEE and
- Preparation of a guidebook on LEE for future use.

## MATERIALS & METHODS

The methodology pertaining to this study is presented as follows

- **Selection of the Area and Sample :** Don Bosco Anbu Illam' for boys at Ukkadam, Coimbatore and 'Mariyalaya' for girls at Ganapathy, Coimbatore, Tamil Nadu were identified and selected for the study aiming to impart LEE among street children. All the 66 boys and 52 girls within the age frontier residing in the selected rehabilitation homes were chosen for the study.
- **Construction of Tools :** The trivia of the tools primed, constructed and used are
  1. Interview schedule to elicit general background of the selected street children
  2. Interview schedule to elicit KAS of the selected street children on life enriching activities - It was further divided into three components for the three dimensions
    - a) **Interview schedule to assess the KAS of the respondents on physical dimension:** brings the data on health care by incorporating questions on physical fitness, nutrition, hygiene, disease control, details of substance use, knowledge on reproductive health and on STD's and AIDS.
    - b) **Interview schedule to assess the KAS of the respondents on psycho-social aspects:** gets the information on communication and listening skill, interpersonal relationship, assertive behaviour, emotional development, decision making and problem solving ability, enhancing moral values and utilization of leisure time.
    - c) **Interview schedule to elicit the vocational aptitude of the selected sample:** devised to collect data on the motivation to undergo vocational training

On implementing the suggestions of experts the interview schedule was redesigned and pilot study was conducted with twenty-five respondents. The modified schedule was quantified by scores and administered to the selected sample before and after LEE to evaluate its efficacy, in terms of their knowledge gain, attitudinal change and skills developed in adopting healthy practices.

- **Questionnaires to determine the feedback of the LEE programme :** The checklist designed to determine the feedback of LEE was alienated into two sections namely
  - a) From the Directors and educators of the rehabilitation homes
  - b) From the teachers of the school where the beneficiaries were enrolled
- **Questionnaire to evaluate the suitability of the guidebook :** The guidebook primed was tested for its suitability to the target group's needs and interest with the help of a questionnaire by administrating to subject experts.

- **Conduct of the Study :** The study was conducted in four phases, as given below:

**Phase I:** Establishing rapport - The personnel of rehabilitation homes, were oriented about the importance of LEE intervention to street children and were convinced for their benevolence. Also a sense of trust and a rapport in and with the children (the beneficiaries) was established to maximize the degree of trust.

**Phase II:** Collection of data - The interview schedule was administered to the beneficiaries to find out initial KAS base on life enriching activities. Each child was interviewed in person by the investigator by spending 20 to 25 minutes.

**Phase III:** Conducting LEE - LEE was conducted in three stages

- a) **Selection of the content:** The content selected was categorized into three dimensions namely

- Physical Dimension (Health care – nutrition, hygienic practices, disease control and physical fitness; Abstaining from substance use; Awareness on sexual and reproductive health, HIV/AIDS)
- Psycho-social Dimension (Social development – interpersonal relationship, communication and listening skill, assertive behaviour; Emotional control and behaviour; Decision making and problem solving ability; Developing acceptable moral behaviour; Utilization of leisure time)
- Vocational Dimension (Exposure to various vocations; Motivation).

- b) **Method of instruction :** The method of knowledge acquisition, attitude change and skill acquisition followed in this research, include role play, situation analysis, small group tasks, debates, content analysis, brainstorming, relaxation and trust building exercises and games. LEE was conducted for a period of five months with an approximate period of instruction of one hour daily in each rehabilitation homes. The period of instruction varies for each and every aspect depending upon its depth essential for the selected section of street children totalling up to 379 hours (Physical Dimension- 75 hours; Psycho-social Dimension - 256 hours; Vocational Dimension - 18 hours)

- c) **Efficacy of the LEE intervention :** On completion of LEE, the interview schedule on physical, psycho-social and vocational aspects were re-administered to the selected street children, to find out the efficiency of the programme.

**Phase IV:** Preparation of the Guidebook - A guidebook on Life Enrichment Education was developed for wider use among the children residing in other institutions. Experts scrutinized the developed content for effective documentation.

- **Analysis of Data :** For the analysis of data, percentage, t-test and test of ANOVA were performed.

## RESULTS & DISCUSSION

The data collected from the study was thrashed out under the subsequent heads.

- **General profile of the selected adolescent girls**
  - A great majority (42.5%) of them were in their nineteenth year.
  - Vast majority of them were Hindus (79%) followed by Christians (13.5%).
  - Majority of them were city born (74%).
  - Seventy nine per cent of them belonged to nuclear family.
- **Appraisal of effectiveness of the selected adolescent girls in relation to self disclosure, openness to feedback and perceptiveness**
  - The average overall total score of the 200 respondents were in the range of 500-700 against a maximum of 1000 for each of the statement related to self disclosure.
  - Prior to the enhancement programme the beneficiaries were not conscious of their wrong discernment with regard to openness to feedback which was obvious from the overall mean score in the range of 6.5-7.5 against a maximum of 10.
  - The grand total on perceptiveness showed only a slight difference among 2<sup>nd</sup> and 3<sup>rd</sup> year graduates.

- **Categorization of the selected adolescent girls based on their effectiveness**

Based on the SE score 28 per cent of the second year and 29 per cent of the third year girls were categorized as being effective totaling it to a total of 28.5 per cent. Meddling into the other categories of effectiveness other than effective type, 143 of them were grouped into various other categories, hence called ineffective or secondary sample to ease the conduct of the study.

- **Specific Outcome Accomplishment (SEO) by the selected sample in relation to behavioural and emotional outcome, social outcome and academic outcome**

The level of SEO accomplishment is discussed under the following heads

- a) ***Behavioural and emotional outcome accomplishment by the selected sample***

- With respect to the interpersonal strength the total score ranges from 370-450, highlighting the fact that one fourth of the sample was well adjusted to any situation.
    - The data with regard to interpersonal strength and involvement in family between the second and third year mean scores was not statistically significant and they are in need of certain enhancement programme to boost up their self-efficacy.
    - The 't' value calculated on emotional health revealed that the third year graduates could be more efficacious in accomplishing the affective strength.

- b) ***Social outcome accomplishment of the selected sample***

- The 't' value between the counterparts on cooperation, empathy and assertiveness was significant highlighting the fact that age and experience determines the level of self-efficacy and thereby its outcome.
    - The total score on self control and responsibility fell in the range of 350 – 460, which projects that only one fourth of the sample possesses self control over their behaviour.

- c) ***Academic outcome accomplishment of the selected sample***

- Regarding the data on confidence in academic matters, the grand mean score obtained was only 13.98 by the second years' whereas third years had an upheaval of 14.37.
    - The importance of possessing the personality type – academic hardiness got into the wits of only few selected girls that resulted in a total mean score of 13.34.
    - With respect to the total score of self in school and functioning in school, the 't' value being significant at five per cent level projects that the third year graduates could function in school better than second year graduates.
    - **Comparing SEO score of behavioural and emotional outcome, social outcome and academic outcome with efficacious nature of the selected sample :** The change in the level of accomplishment of behavioural and emotional outcome, social outcome and academic efficacy outcome with preference to the efficacious nature of the selected adolescent girls was depicted in Table I. The leap in the overall mean score and the statistically significant 't' value calculated with the data on all the specific efficacy outcomes revealed that the selected effective girls due to their enhanced level of self-efficacy were more conversant on accomplishing these outcomes.
    - **Categorization of the secondary sample based on their effectiveness after enhancement programme :** The categorization made after the enhancement programme particularly with secondary sample is compared to the categorization of all the respondents before the enhancement programmes. Out of 143 girls categorized as ineffective or secondary sample before enhancement, 101 of them were categorized as effective after enhancement marking the efficiency of the enhancement programme.

Table 1: -Comparing SEO score of academic outcome with efficacious nature of the sample

Sl. No.	Academic outcome	Effective (57)		Ineffective (143)		't' value
		Total MS	SD	Total MS	SD	
<b>Behavioural and emotional outcome</b>						
1	Interpersonal strength	12.56	2.11	10.26	0.12	4.3055**
2	Intrapersonal strength	12.65	1.86	10.66	0.11	3.7252**
3	Involvement in family	14.11	2.86	11.60	1.29	4.6986**
4	Affective strength	12.74	2.41	9.34	0.21	6.3646**
	<b>Grand Score</b>	<b>52.05</b>	<b>5.81</b>	<b>41.86</b>	<b>1.73</b>	<b>4.7641**</b>
<b>Social outcome</b>						
1	Co-operation	13.84	2.35	10.41	0.23	6.1514**
2	Empathy	14.04	2.41	11.99	0.69	3.6765**
3	Self control and responsibility	13.56	1.84	10.71	0.52	5.1112**
4	Assertiveness	13.95	1.76	10.16	0.37	6.797**
	<b>Grand Score</b>	<b>55.39</b>	<b>6.06</b>	<b>43.21</b>	<b>1.81</b>	<b>5.4519**</b>
<b>Academic outcome</b>						
1	Academic confidence	14.79	2.25	10.93	0.180	5.6642**
2.	Academic hardiness	13.58	1.84	10.24	0.006	4.9011**
3.	Self in school	12.14	2.91	9.4	0.205	4.0060**
4.	Functioning in school	12.51	1.75	10.20	2.886	3.3897**
	<b>Grand Score</b>	<b>53.09</b>	<b>6.33</b>	<b>40.78</b>	<b>3.277</b>	<b>4.5159**</b>

MS – Mean Score ; \*\* Significant at 1 per cent level

## CONCLUSION

To conclude this research investigated how self-efficacy relates to its outcomes as a consequence of development. Also the study had proved the fact that self-efficacy could influence choice of activities, effort and persistence with behaviour reflecting the performance of previously learned skills. Hence, Self-efficacy is the belief that one can master a situation and produce positive outcomes.

## RECOMMENDATIONS

1. The knowledge of self-efficacy has to be imparted to the children before the period of adolescence as it would help them to improve the effectiveness and outcome accomplishments.
2. The school curriculum should be strengthened by incorporating aspects in the education system to augment the effectiveness of the children.
3. The self-efficacy of the adolescent boys could be assessed and compared with girls to check out the effectiveness in their work.
4. The enhancement programme for self-efficacy can be conducted for a wider span of time to have an effective outcome by gaining the knowledge on pros and cons of every construct.

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## Psychosocial Impacts of Changing Family Patterns on the Elderly in Kolkata

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### ABSTRACT

*The aim of the investigation was to study the changing pattern of relationships of the middle class aged with their family members and its impact on their depression levels. Two studies were conducted. In study 1 a questionnaire was administered on stratified random samples of 66 male and 74 female elderly. It was found that majority of them felt they could stay most peacefully with and would prefer to die in the presence of their spouse and children. In study 2 , an information blank and the Beck Depression Inventory were administered on stratified random samples – one of 50 elderly staying with and another of 50 elderly residing without their offspring. It was revealed that the elderly desire to stay with offspring mainly for security; the offspring generally discourage close grandparent-grandchildren relation; most children staying separately have infrequent contact with aged parents; the spouses are more caring towards the ailing elderly but the aged staying apart from their offspring are more depressed.*

### INTRODUCTION

The elderly in India are at crossroads. It used to be customary for them to stay with the families of their adult offspring. But the situation is fast changing. There has been large scale disintegration of the joint family system in India mainly owing to migration of the younger generation in search of better careers and intergenerational conflicts. Consequently, many elderly have been forced to reside separately. The practice of sending the senior citizens to old-age homes has also become popular in the urban areas of the country.

The older persons who stay apart from their offspring suffer from deficits in social support and interpersonal connectedness leading to psychological problems like loneliness, anxiety, depression etc. The Indian elderly, in general, long to stay within their intact families. However, some of them are fast realizing that by residing separately, they can maintain their independence, dignity and avoid burdening their children.

### AIMS & OBJECTIVES

To study the changing pattern of relationships of the elderly with their family members and its impact on their depression levels.

### MATERIALS & METHODS

#### • Hypotheses for Study 1

- 1 Majority of the elderly feel that they can live most peacefully with their spouse and offspring.
- 2 Most of the elderly prefer to die in the presence of spouse and children.

#### • Hypotheses for Study 2

1. Majority of the aged persons want to reside with their offspring for the sake of family cohesion.
2. Most of the elderly perceive that their offspring discourage their loving relationship with their grandchildren.
3. There is frequent contact between most of the aged staying separately and their offspring.

- During illness, the elderly perceive more caring attitude of the spouse than the children.
- There is difference in the levels of experienced depression between the aged persons residing with and without their offspring.

- Sample**

**Study 1:** Stratified random samples of 66 male and 74 female middle class Bengali elderly residents of Kolkata were selected. 70 of them were aged between 60-70 years while another 70 were of 70-80 years. Persons of different marital statuses and living arrangements were selected.

**Study 2:** Stratified random samples (each comprising 65% men and 35% women aged between 60 and 90 years) – one of 50 elderly residing with offspring and another of 50 elderly living apart were selected. In the latter sample, 25 persons lived alone while the rest 25 stayed with spouse. All the participants belonged to middle class Bengali families of Kolkata; none were childless.

- Tools**

- Questionnaire to assess the attitudes of the aged regarding aging and dying was administered in Study 1.
- Information Blank to collect data regarding the family relations of the elderly. It was used in Study 2.
- The Beck Depression Inventory (Beck et al., 1961) is a standardized test which measures depression in adults. It was administered in Study 2.

## RESULTS & DISCUSSION

**Table 1: Persons with Whom the Aged Can Stay Most Peacefully**

Responses	Men	Women	Total
Spouse	4 (6%)	8 (11%)	12 (9%)
Spouse and Children	55 (83%)	48 (65%)	103 (74%)
Children	5 (8%)	2 (3%)	7 (5%)
Siblings	2 (3%)	12 (16%)	14 (10%)
Alone	0	4 (5%)	4 (3%)
Total	66	74	140

Table 1 reveals that an overwhelming proportion of old people believe that they can reside most peacefully with their immediate family. So hypothesis 1.1 is verified. This is in line with the result of Nandal et al. (1987).

**Table 2: Presence of Persons Most Desired by The elderly When Dying**

Responses	Men (N=66)	Women (N=74)	Total (N=140)
Children	9 (14%)	16 (22%)	25 (18%)
Spouse and Children	54 (82%)	44 (59%)	98 (70%)
Other Family Members	3 (5%)	12 (16%)	15 (11%)
Friends	0	2 (3%)	2 (1%)

Table 2 shows that a vast majority of the senior citizens prefer the presence of nearest ones at the end of life in tandem with the finding of Nandal et al. (1987). Thus hypothesis 1.2 is supported.

**Table 3: Reasons Aged Persons Want to Stay With Children**

Responses	Living Arrangement		
	Alone(N=25)	With Spouse(N=25) of Offspring (N=50)	With Spouse and Family
Security	25 (100%)	25 (100%)	50 (100%)
Family Togetherness	17 (68%)	14 (56%)	36 (72%)
Absence of Loneliness	23 (92%)	18 (72%)	46 (92%)
Financial Help	15 (60%)	11 (44%)	17 (34%)
Care During Illness	20 (80%)	18 (72%)	23 (46%)
Sharing Responsibilities	18 (72%)	11 (44%)	27 (54%)

It is obvious from Table 3 that the elderly have cited many reasons. The factor of security tops the list followed by absence of loneliness in consonance with the findings of Taqui et al. (2007) and Munshi et al. (2008). So hypothesis 2.1 is not accepted.

**Table 4: Offspring's Encouragement for Loving Relation Between the Elderly and their Grandchildren**

Responses	Living Arrangement		
	Alone(N=25)	With Spouse(N=25)	With Spouse and Family of Offspring (N=50)
Yes	4 (16%)	4 (16%)	11 (22%)
Sometimes	16 (64%)	14 (56%)	15 (30%)
No	5 (20%)	7 (28%)	24 (48%)

Most of the elderly living apart perceives that their offspring only encourage occasional loving interaction with the grandchildren. 48% of those living with offspring feel that their children discourage the development of affectionate grandparent – grandchildren relations. Thus hypothesis 2.2 is upheld.

**Table 5: Frequency of Contact with Offspring Living Apart**

Frequency of Contact by Offspring	Living Arrangement	
	Alone (N=25)	With Spouse (N=25)
Daily Visit	0	0
Weekly Visit	3 (12%)	3 (12%)
Monthly Visit	13 (52%)	10 (40%)
Yearly Visit	4 (16%)	8 (32%)
No Visit	5 (20%)	4 (16%)
Daily Phone Call	4 (16%)	1 (4%)
Weekly Phone Call	4 (16%)	13 (52%)
Monthly Phone Call	11 (44%)	7 (28%)
Yearly Phone Call	4 (16%)	1 (4%)
No Phone Calls	2 (8%)	3 (12%)

Table 5 reveals that for majority of the elderly, the contacts with their offspring (living separately) are infrequent so hypothesis 2.3 is not verified. There are a few elderly whose children do not contact showing extreme apathy. This may lead to psychological problems among the aged (Taqui et al., 2007; Munshi et al., 2008).

**Table 6: Perceived Attitudes of Family Members During Illness of Elderly**

Attitudes	Living Arrangement	
	With Spouse (N=25)	With Spouse and Family of Offspring (N=50)
Uncaring, Harsh	0	35 (70%)
Caring, Loving	20 (80%)	3 (6%)
Helpful But Cold	5 (20%)	12 (24%)

Table 6 shows that majority of the aged residing with spouse enjoy affectionate care during sickness but those living with spouse and offspring often meet with harsh attitudes from the latter (congruent with the finding of Dandekar, 1996). Thus hypothesis 2.4 is accepted.

**Table 7: Result of t-Test For Difference in Mean Depression Scores Between the Two Samples**

Samples		Mean	S.D.	t calculated	t crit .01	Inference
Elderly Living Without Offspring (N=50)		46.20	9.82	+ 6.10	± 2.63	The difference is significant at .01 level of significance
Elderly Living With Offspring (N=50)		33.64	10.73		(df = 98)	

Table 7 shows significant difference in mean depression scores of the two samples. So hypothesis 2.5 is supported. The elderly living apart experience more depression. This agrees with the results of Taqui et al. (2007) and Munshi et al. (2008).

## CONCLUSION

It is more convenient and emotionally fulfilling for the Indian elderly to stay within the family fold. But social changes have forced them to live separately. Deprived of filial care, they are vulnerable to psychological problems like depression. So humane support services for the elderly are urgently required.

## RECOMMENDATION

Day care centres for the elderly should be set up in every locality so that they can interact among themselves in a congenial milieu. Medical, counseling and emergency services as well as recreational facilities must be available in such centres. Visits to the households of the lonesome elderly should be regularly arranged to assist them, undertake errands for them, and give them company and to take care of them. The neighbours and volunteers must be mobilized for this purpose.

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## Media Preferences among Urban Adolescents of Jammu

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### ABSTRACT

*The present research was carried out to study media preferences among urban adolescents of Jammu (Urban), in context of age and sex. The sample size was 120 adolescents, 60 early adolescents (30 boys and 30 girls); and 60 late adolescents (30 boys and 30 girls); selected using multistage sampling. Interviews were conducted using a schedule with both open and close ended questions. The results reveal that Television is the most preferred medium in which educational, sports programme, movies and cartoons are the most preferred. For females especially TV is the most preferred media. Male adolescents, both early and late, prefer computers and video games. Majority of the adolescents spend 2-3 hours, on an average, watching TV. Majority of adolescents do not prefer watching late night programmes on TV. Parental involvement was found to be more with females than males while watching TV or reading. Most of the adolescents spend Rs 50 to Rs 100 monthly from their pocket money on computer, DVD's, books and magazines, but late adolescent males do not hesitate to spend Rs 200-Rs 400. The study also shows that majority of early adolescents find reading boring whereas for late adolescents it stimulates a feeling of curiosity. These adolescents prefer to read English books and newspapers only and that too in the evening. It is mostly the mothers who encourage them to read.*

### INTRODUCTION

Adolescence is probably the most challenging and complicated period of life to describe study or experience. The biological changes of puberty are universal, but in their particular expression, timing and extent, the variety shown is enormous and depends, of course on sex, genes and nutrition. They must adjust to their changing body size and shape, to their awakening sexuality, to new ways of thinking and they must begin to strive for emotional maturity and economic independence that characterize adulthood.

There is no doubt that today's youth are confronted with a media environment that is very different from the one faced by their parents or even their parents. Terms such as digital television and World Wide Web did not even exist 20 or 30 years ago. One of the most profound changes concerns the sheer proliferations of media outlets and technologies. The advents of cable and satellite television have dramatically increased the number of channels available in most homes today. Digital technology is multiplying this capacity. Many homes are equipped with CD Players, DVD Players, Personal computers, Modems and digital cameras. At a very young age, then children are learning about keypads, joysticks, mouse pads and remote controls. As these technologies proliferate they are changing the nature of more traditional media. In other words, old distinctions between the television screen and computer screen or between print and broadcast are becoming less meaningful.

The media, specially television, continue to attract and fascinate the young and while there is a real potential for youthful audience to benefit from positive media messages, "adolescents often identify with media characters who are unnaturally thin or who engage in unhealthy behaviors such as smoking cigarettes, drinking alcohol or engaging in unprotected sex". The messages carried by the media about what is appropriate or inappropriate for males and for females are important influences on gender development as well. A special concern is the

way females are pictured on television. Television is a source of gender role socialization.

The report from the Kaiser foundation (1999) revealed the following:

- While children are also more likely to have access to a computer with CD-ROM drive and internet access.
- Using total person hour measurements the researchers are able to quantify the amount of daily interactions children have with all media. For 2-7 years old. This was 3 ½ hours per day, 8-13 year olds spend 6 ¾ hours per day engaged in media use. For 14-18 years olds the figure is 6½ hours daily.
- Boys spend more time than girls, mostly as a result of their greater interaction with video games, computers and TV.
- Girls spend more time with print media than boys and after the age of 8. They also spend more time with music media such as radio, tapes and CD's.

Media, it seems, is exerting a powerful influence in the lives of children, according to a study conducted by Sharma (2006) on media preference in early years, many factors influence adolescent's development but media is the one of the most important resource which has great influence on them. A survey was conducted by Prathm, an NGO, in New Delhi (The Tribune, Oct 2004), reveals that the reading skill of Indian children are poor. There is a need to understand the reason behind poor reading at this age. Poor reading ability is an indication to lack of preference for newspapers, literature, etc. Media has both positive and negative to play. It is observed that children spend most of the time watching T.V and they don't indulge in any kind of reading task (Sharma, 2006). Poor reading results in deficiencies later on in life, especially at the time of adolescence, because from here on they have to make important decisions about their life and career.

Media influence on today's generation is paramount. Media is becoming important agent of socialization and there is a need to monitor the influences, so parental involvement in media usage also needs to be studied. Media has influenced adolescents in every aspect, may it be food, education, clothes, hair, etc. Adolescents prefer doing things in way which is shown by media, without thinking its right or wrong.

Since so much media literacy work is based upon concerns regarding the effects of media impressionable children and adolescents, studying the relationship between media and youth offers us an important insight into this relationship and has the added advantage for those, of those working with young people, in providing with a subject matter that students are curious about.

## **AIMS & OBJECTIVES**

The present study was conducted to find out :

- 1) Media preference among urban adolescents of Jammu and understand the content they prefer .
- 2) Compare the types of media preferred among:
  - a) Early and late adolescents,

## **MATERIALS & METHODS**

### **● Sample**

- a) Size: The sample for the present comprises of two groups:

**Group I (Early Adolescence):** It consists of 60 adolescent boys (n=30) and girls (n=30) in the age group of 12-15 years.

**Group II (Late Adolescence):** It consists of 60 adolescent boys (n=30) and girls (n=30) in the age group of 15-18 years.

- **Sampling Procedure:** The sample for the present study was selected using multi-stage sampling technique. There are 113 urban areas of Jammu, out of which, 10 were selected using random sampling technique (lottery method). From the 10 areas, 120 adolescents were identified, fulfilling the criterion for sample selection.

- Criteria for sample selection:** The following criteria were taken into consideration for selection of sample.
  - Sex: Equal number of boys and girls were selected.
  - Age: Only those in the age range of 12-18 years were included.
  - Residence: Only adolescents residing in urban areas of Jammu were selected.
  - Qualification of Parents: Education of parents was at least graduation.
- Tool Use**  
Interview Schedule: The interview schedule for the adolescents included questions on preference for TV, computers, DVD's, audio cassettes, videogames and newspapers/ magazines and time spent in other activities at home. The interview schedule consists of open ended as well as close ended questions.
- Data Collection: Data was collected in two phases**
  - Pilot Study: In this phase, the interview schedule for adolescents was prepared and pre-tested on 20 adolescents, 10 in the age group 12-15 years and 10 in the age group 15-18 years, 5 boys and 5 girls, respectively in each age group. Modifications were made based on pre-testing.
  - Data Collection: After the selection of sample, data was collected by home visits in the Jammu city. The researcher interviewed each child individually which took 20 minutes to one hour.
- Data Analysis:** Data obtained by the use of various tools were subject to both quantitative and qualitative analysis.
  - Qualitative Analysis: Content analysis was done of all the responses obtained by use of interview schedule.
  - Quantitative Analysis: Chi-square was used to compare the data across age and sex.

## RESULTS & DISCUSSION

- Abbreviations to be keyed:**

- EA: Early Adolescence.
- LA: Late Adolescence.
- M: Males.
- F: Females.
- H: High.
- A: Average.
- L: Low.
- D: Daily.
- W: Weekly.

- Background Information:**

Table No.1: shows that 43.3% of males in early adolescent group belong to the age group of 12-13 years and 60% of females in same group belong to the age group of 14-15 years. Similarly the sample chosen shows that 50% of the males and 53% females in late adolescent group or 16-17 years of age. Overall early adolescent sample was mostly 14-15 years (31.2%) and in late adolescence it was 16-17 years old (37.2%).

**Table 1: Showing Age Distribution of the Respondents**

Age(in Years)	Males		Females		Total	
	(N=60)	%	(N=60)	%	(N=120)	%e
<b>Early Adolescence</b>						
12-13	13	43.3	06	20	19	22.8
13-14	09	30	06	20	15	18
14-15	08	26.6	18	60	26	31.2
<b>Late Adolescence</b>						
15-16	06	20	04	13.3	10	12
16-17	15	50	16	53.3	31	37.2
17-18	09	30	10	3.3	19	22.8

**Table 2: Showing the Qualification of Parents**

Qualification	Mother's Qualification						Fathers Qualification					
	Early Adolescence			Late Adolescence			Early Adolescence			Late Adolescence		
	M (n=30)	F (n=30)	Total (n=60)	M (n=30)	F (n=30)	Total (n=60)	M (n=30)	F (n=30)	Total (n=60)	M (n=30)	F (n=30)	Total (n=60)
110 <sup>th</sup>	06	01	07	04	03	07	01	-	01	-	-	-
12 <sup>th</sup>	11	08	19	09	06	15	07	03	10	08	04	12
Graduate	13	21	34	17	21	38	22	27	49	22	26	38
* <sup>a,b</sup>	<b>10.16*</b>			<b>0.24</b>			<b>3.9</b>			<b>1.4</b>		

\*Significant difference at 5% level.

Table no 2 shows that the fathers and mothers of the early adolescent males were graduates, 22 and 13 respectively. Fathers and mothers of the early adolescent females were graduates, 27 and 21 respectively. Similarly fathers and mothers of late adolescent males were graduates 22 and 17 respectively. Fathers and mothers of late adolescent's females were graduates, 26 and 21 respectively. There is significant difference in the qualification of mothers of early adolescent males and females at 5 % level.

#### Media Preferences

Table No. 3 shows preference towards various media among adolescents. First preference by early adolescent males was given to T.V followed by computer, video game, DVD's, magazines and lastly to newspapers. Maintaining the first preference for T.V as the most preferred media source the early adolescent females show their second and third preference as computers, magazines, with no liking towards video games, DVD's and newspapers.

Among the various media, first preference by late adolescent's males was given to T.V, followed by computer and videogames and no inclination towards any other means of media. Similarly late adolescent's females preferred T.V followed by computer as their preference among of media showing little preference towards other of media.

**Table 3: Showing Media Preferences among Adolescents by Age and Sex**

	EARLY ADOLESCENCE						LATE ADOLESCENCE					
	MALES (n=30)			FEMALES (n=30)			MALES (n=30)			FEMALES (n=30)		
Preferences	1	2	3	4	5	6	1	2	3	4	5	6
T.V	10	06	05	04	03	03	19	08	01	02	-	-
COMPUTER	07	08	07	07	01	-	09	14	01	04	-	02
VIDEO GAMES	08	07	05	07	02	01	-	03	05	06	06	10
NEWSPAPER	-	04	01	02	09	13	-	03	08	06	07	06
MAGAZINES	01	01	02	02	14	10	02	01	05	08	07	07
DVD's	04	04	10	08	01	03	-	01	10	04	10	05

**Table 4: Showing Preference for Watching TV at Late Night**

Responses	Early Adolescence				Late Adolescence			
	M (n=30)	F (n=30)	Total (n=60)	%	M (n=30)	F (n=30)	Total (n=60)	%
Yes	09	07	16	26.6	20	19	39	65
No	21	23	44	73.3	10	11	21	35

Table 4 shows that 73% early adolescents do not prefer watching T.V late at night but 65% late adolescents do prefer it. The table further shows that maximum number of females and males during early adolescents do not prefer to watch T.V at late night whereas the maximum number of late adolescents both male and female prefer to watch T.V at late night.

**Table 5: Showing Involvement of Parents While Using Media**

RESPONSES	EARLY ADOLESCENCE			LATE ADOLESCENCE		
	Male (n=30)	Female (n=30)	Total (n=60)	Male (n=30)	Female (n=30)	Total (n=60)
<b>Do your parents accompany you while doing following?</b>						
Watching T.V	Yes	19	22	41	18	27
	No	11	08	19	12	03
Using Internet	Yes	06	16	22	10	16
	No	24	14	38	20	14
Reading Newspaper	Yes	13	04	17	04	08
	No	17	26	43	26	22
Playing Videogames	Yes	10	04	14	09	03
	No	20	26	46	21	27

Table 5 shows that in both early adolescent and late adolescence, majority of males as well as females say that their parents accompany them while watching T.V., whereas only a minor portion of both early as well as late males and female adolescents say they don't. It further shows that majority of males and females in both early as well as late adolescent group say that parents accompany them for using internet, reading newspaper and playing videogames. Parental involvement is maximum while watching TV than any other media source.

## CONCLUSION

A study on the preference of media among early and late adolescents reveals that electronic media is the major media preference among urban adolescents. Television, computer, video games, DVDs, magazines, newspaper are also as the major media preferences. Electronic media as a media preference among urban adolescents has both positive and negative influence on the adolescents. This view, though partly, is shared by Misra and Khattri (1985), Phatak and Singh (1986) and Joshi and Manial (1998) who agree to a positive influence of electronic media over adolescents.

This present study shows that television is the most preferred source of media amongst urban adolescence who spend 2 hours daily in watching television. Computers follow in the preference when majority of the adolescents spend 4-5 hours weekly on computer, 2-3 hours weekly in playing video games and DVD's. In the present research the adolescents spend 2 hours daily in front of television whereas Kaiser Foundation results put the figure at 6 ½ hours.

Preference for television has also been found in other studies like Sethi et al (1997) who reveal easy accessibility of both print and electronic media. In the present research print media was the least preferred source. The study of Wadkar (1998) reveals that 75% of children spend their evening watching television; most of them did so more out of habits, than design.

The present research reveals that maximum numbers of adolescents spend Rs.50-100 from their pocket money on computers, DVD's and books. The study further reveals that maximum number of adolescents both male and female prefer reading educational material whereas very few read animation material. The study also shows that majority of early adolescents say that reading makes them bored whereas late adolescents believe that it makes them curious. Further all the adolescents both early and late (male and female) were of the view that their reading choices at school and at home are totally different.

All the urban adolescents in the present study prefer to read English books and newspapers only and they prefer to read in the evening. Parental involvement is more with the females than males, while watching T.V or

reading. Mothers motivates their adolescents to read too. Age differences are seen in preference for late night viewing of programmes on T.V. In a similar study by Verma maximum adolescents viewed T.V with their grand parents, uncles and aunts. Family environment according to family cohesion scale was averaged when most preferred media source was TV, Computer and Video games only in showing the first preference as Video games by the age and sex families have been rated low on active recreational orientation and control dimension which may be the reason that early adolescence and males prefer to use passive recreational such as TV, Computer and Video games.

## RECOMMENDATION

From the results of the present study, few suggestive measures are proposed for parents and government.

1. The parents should spend the time with adolescents in various daily activities, which include watching television using computer, playing videogames, reading newspaper and magazines and other routine tasks.
2. The parents should keep a vigil on the type of material they are viewing and accessing.
3. The parents need to fix a schedule for watching T.V, using internet and reading magazines.
4. The government should promote positive aspects of T.V programmes and should ban channels showing aggressive programmes.
5. The government should promote the programmes related to media exposure.
6. Late night viewing should be discouraged as it is known to cause sleep and heart problems.
7. Media literacy should be an important part of environmental science curriculum.

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## Socio – Psychological and Economic Status of Institutionalized Elders

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### ABSTRACT

*The phenomenon of population ageing has become one of the most dramatic and influential development in the twentieth century. The aged in the traditional societies enjoyed unparalleled sense of honour, legitimate authority in family, had decision making responsibilities and were treated as repositories of experience and wisdom. Joint families have been a peculiarity and an important identity of Indian society. Modernization, liberalization and globalization have disintegrated the Indian family system and elders are forced to seek stay in old age homes. The methodology included survey to elicit information about functioning of the five paid and five unpaid old age homes using questionnaire. Background information of 400 senior citizens both male and female in the age group of 60 to 80+ years was collected using interview schedule.*

*The main sources of income were grants sanctioned by the state and central government. Percentage of female elders was more than males i.e. 74 per cent. Forty four per cent had no issues. More than 50 per cent did not have anybody to take care of their minimal needs. Though the elders were satisfied with their fulfillment of basic needs, the satisfactory levels of psychological and financial needs were not fully met. The psychological factors leading to depression were social inactivity, helplessness, lack of interest, boredom and loneliness. Hence, the management of old age homes were recommended to provide emotional support, arrange for social and income generating activities.*

### INTRODUCTION

Indian society was having traditional informal support system such as joint family, kin and community. Due to modernization, liberalization and globalization, the capacities of these traditional informal support systems is slowly weakening and are not in a position to fulfill even the basic needs of the elderly<sup>1</sup>.

Despite the belief that children are the security of the aged, institutions for the aged are mushrooming since 1990's. In 1998, India had 728 old age homes catering to the needs of poor, destitute, widows, sick and handicapped<sup>2</sup>.

Migration of younger generation, lack of proper care within the family, insufficient housing, especially in urban area, economical hardship and break-up in joint family are some of the reasons for institutionalization of the elderly<sup>3</sup>.

### AIMS & OBJECTIVES

Realizing the need of the elder's care the study focused on to (i) study the functioning of the selected paid and unpaid homes for the senior citizens and (ii) understand the background information and life style pattern of institutionalized elders.

### MATERIALS & METHODS

From the publication of Helpage India, a total number of 39 homes for senior citizens, comprising of 23 paid and 16 unpaid homes were found in and around Chennai. Based on the cooperation rendered by the management, willingness of the senior citizens and ease of accessibility, five from each paid and unpaid homes were selected. Totally 400 senior citizens, i.e. 200 from paid and 200 from unpaid homes both male and female in the age group of 60 to 80 + years were randomly selected. A structured questionnaire was used to elicit the functioning of the old age homes from the respective head of the institutions. Interview schedule was used to collect background information of the elders.

## RESULTS & DISCUSSION

- **Functioning of the old age homes**

The Successful operation of an institution is dependent to a large extent upon the organization structure, managerial function and effectiveness of its personnel. Table 1 depicts the functioning of the old age home.

**Table 1: Managerial functions of the old age homes**

Aspects	Paid (N=5)	Unpaid (N=5)
Criteria for selection of inmates	Age 60 years and above, ability to do their work, pensioner / regular income	Age above 60 years ability to do their work destitute, deserted, non pensioner
Type of accommodation	Single, double, dormitory and cottage type	Single and dormitory
Charges for accommodation and food	American plan (charge for room and food) single - 1000-1500, double – 850-1000, dormitory – 500-600, cottage – 1900, deposit – 2000-5000	Free of cost
Source of income	Grant from state and central government, charges from the inmates, donations	Grant from state and central government, donations
Recreation facilities	Television, radio, library, entertainment program	Television, radio, library, entertainment program, income generating activities
Medical care	Periodical checkup in all the homes	Checkup only in four homes
Records and registers	Admission, food, medical, administration, expenses, others	Admission, food, medical, administration, expenses, others

The common criteria for selection of inmates was age above 60 years and ability to do their own work. The main source of income for the homes were the grants sanctioned by the state and central government and aids in the form of cash and kind. Important records and registers were maintained by the management of the homes.

- Background information of the elders

- i) **Sex wise distribution of elders:** In overall sex ratio of the India's population there were more males than females. But for the aged population, female percentage distribution is higher<sup>4,5</sup>. The sex-wise distribution of the selected elder is presented in table 2.

**Table 2: Sex Wise Distribution of the Selected Elders**

Sex	Institutionalized elders (n=400)					
	Paid homes		Unpaid homes		Total	
	No.	%	No.	%	No.	%
Male	69	35	34	17	103	26
Female	131	65	166	83	297	74
Total	200	100	200	100	400	100

The table shows that out of 400 elders 26 percent were males and 74 percent were females.

- ii) **Details of the offspring of the elders:** Family plays a very important role in our lives especially in Indian society where blood relationship takes priority over other relationships. Table 3 shows the details of the offspring of the elders.

Table 3: Details of the offspring of the elders

	Number of children		Institutionalized elders (n=330*)							
	Paid homes				Unpaid homes					
	Male	Female	Male	Female	Male	Female	Total	Total	No.	%
None	11	22	48	42	13	50	88	63	160	44
One	10	20	26	23	2	8	24	17	62	17
Two	13	26	19	17	6	23	12	9	50	19
Three	8	16	10	9	2	8	6	4	26	9
Four	5	10	5	4	-	-	8	6	18	5
Five and above	3	6	6	5	3	11	2	1	14	6
Total	50	100	114	100	26	100	140	100	330	100

\* 70 elders are unmarried

Table shows that 44 percent of them had no issues. This finding communicates that childless elders had only option to register into an old age home after retirement since no other family members or relatives were willing to take up the responsibility of supporting them.

iii) **Occupational status of elders:** A man's occupation decides his status in society and gives him economic and social security in life. Table 4 presents the occupational status of elders before joining the old age home.

Table 4: Occupation of the Institutionalized Elders Before Entering Old Age Home

Occupation	Paid (n=200)						Unpaid (n=200)					
	Male		Female		Total		Male		Female		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No job	7	10	97	74	104	52	4	12	118	72	122	61
Clerk	18	26	2	2	20	10	3	9	2	1	5	2
Business man	-	-	-	-	-	-	7	20	-	-	7	4
Agriculturist	-	-	-	-	-	-	3	9	2	1	5	2
Administrative officer	14	20	-	-	14	7	-	-	-	-	-	-
Teacher	7	10	21	16	28	14	-	-	4	2	4	2
Technical worker	14	20	-	-	14	7	3	9	-	-	3	2
Ex-service men	-	-	-	-	-	-	6	18	-	-	6	3
Others	9	14	11	8	20	10	8	23	40	24	48	24
Total	69	100	131	100	200	100	34	100	166	100	200	100

The table states that 73 percent of the female in both and unpaid homes were unemployed as against 11 percent of males in both the homes.

iv) **Income level of the elders:** Aging brings about a host of problem major one being economic hardship due to which elderly are not able to maintain their optimum standards of food, clothing and housing amenities<sup>6</sup>. The Income level of the selected elders and presented in Table 5.

**Table 5: Income Level of the Elders**

Monthly income (Rs)	Institutionalized elders (n=400)									
	Paid homes				Unpaid homes				Total	
	Male		Female		Male		Female			
No.	%	No.	%	No.	%	No.	%	No.	%	
No income	7	10	97	74	28	82	118	72	250	62
Less than 1000	23	33	19	15	6	18	48	28	96	24
1001-3000	18	26	12	9	-	-	-	-	30	8
3001-5000	11	16	3	2	-	-	-	-	14	3
5001-7000	7	10	-	-	-	-	-	-	7	2
7001-9000	3	5	-	-	-	-	-	-	3	1
Total	69	100	131	100	34	100	166	100	400	100

A majority of 62 percent of elders were not earning but they were financially supported by their relatives, friends and welfare institutions. Pension was the most common source of income of male elderly in paid homes.

v) **Reasons for residing in old age homes:** The various reasons for which the elders have joined in the selected old age homes are presented in Table 6.

**Table 6: Reasons for living in old age home**

Reasons	Paid home (n=200)				Unpaid home (n=200)							
	Male	Female	Total	Male	Female	Total	Male	Female				
No.	%	No.	%	No.	%	No.	%	No.	%			
No body to take care	37	53	68	52	105	52	14	41	100	60	114	57
Early widow hood	-	-	5	3	5	3	-	-	8	5	8	4
Disagreed with daughter/daughter in law	9	13	12	9	21	10	3	9	12	7	15	7
Disagreed with son / son in law	4	6	16	12	20	10	3	9	-	-	3	1
Neglected by relatives	-	-	1	1	1	1	4	11	14	8	18	9
To have peace of mind	4	6	4	3	8	4	-	-	-	-	-	-
Poverty	-	-	-	-	-	-	5	15	20	12	25	13
To be independent	11	16	16	13	27	14	5	15	12	8	17	9
Migration of son/daughter to other state / country	4	6	9	7	13	6	-	-	-	-	-	-
Total	69	100	131	100	200	100	34	100	166	100	200	100

More than 50 percent of the elders in homes did not have anybody to take care of their minimal needs, since their children were found to be working partners. The predominant reason for 13 percent of the elders in unpaid homes was poverty. The study also revealed that in paid homes 14 percent of the elders wanted to be independent without being burden to their children.

vi) **Leisure time activities of the elderly:** One of the major problems faced by the elderly is to spend their free time. Recreation activities promoted emotional relief and well being which helped them to adjust to their new home, away from their family <sup>7,8</sup>. The recreational activities of the elderly are presented in Table7.

**Table 7: Leisure Time Activities of the Elders**

Activities (Rs)	Institutionalized elders (n=400)							
	Paid homes				Unpaid homes			
	Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%
Talking with friends	12	17	34	26	12	35	48	29
Listening to radio	5	7	10	7	1	3	4	2
Watching television	17	25	34	26	8	24	36	22
Others (Bhajan, Chanting)	5	7	13	10	1	3	8	5
Nil	-	-	-	-	4	11	24	14
Total	69	100	131	100	34	100	166	100
							400	100

The most popular recreational activity among 31 percent of the elders seemed to be gathering day to day information on politics, sports and movies from dailies, while 27 percent were happy sharing their thoughts and feelings with their peer group.

vii) **Satisfaction about the needs of the elders:** The needs of elders are special by virtue of their unique position viz old, widowed, marginalized or even poor, destitute and disabled<sup>9</sup>. The satisfaction about the needs of the elders are presented in table 8.

**Table 8: Satisfaction about the needs of the elders**

Needs	Institutionalized elders (n=400)							
	Paid homes				Unpaid homes			
	Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%
Food	64	93	127	97	34	100	166	100
Shelter	61	88	128	98	31	91	159	96
Clothing	69	100	131	100	34	100	166	100
Safety	58	84	123	94	33	97	163	98
Finance	37	24	31	24	6	18	12	7
Psychological feelings	11	16	8	6	1	3	3	2
							23	6

The elders were quite happy as far as the basic necessities were concerned. Only 22 percent were financially satisfied and 6 percent were psychologically satisfied.

viii) Psychological factors leading to depression

**Table 9: Psychological Factors Leading to Depression**

Psychological factors	Institutionalized elders (n=400)							
	Paid homes				Unpaid homes			
	Male		Female		Male		Female	
	No.	%	No.	%	No.	%	No.	%
Boredom	6	9	17	13	4	11	24	14
Loneliness	4	6	12	9	12	35	48	29
Lack of interest	36	52	81	62	18	53	50	30
Sadness	37	53	77	58	12	35	43	26
Self pity	6	9	22	17	11	32	42	25
Fatigue	9	13	31	24	1	3	12	7
Lack of sleep /over sleeping	15	22	30	23	4	12	38	23
Lack of appetite/over eating	4	6	17	13	2	6	37	22
Social inactiveness	19	28	77	58	23	68	116	70
Helplessness and hopelessness	37	53	68	52	14	41	100	60
Pre occupation with health	42	67	88	67	20	59	108	15
Apathy	23	33	31	24	7	21	43	26
Psychomotor in activity	1	-	1	-	-	1	-	3
Suicidal tendencies	-	-	-	-	-	1	-	1

From the table it is revealed that the factors leading to depression are in the order of pre occupation with health, social inactivity, helplessness, lack of interest, sadness, lack of sleep or over sleep, self pity, loneliness, lack of appetite and boredom.

## **CONCLUSION**

Family support is found to be the important factor for socio-psychological well being of the elders. Thus the management of the old age homes are recommended to provide emotional support which can be arranged through social workers, personnel from voluntary and social organizations. College and school students from near by educational institutions can be motivated to make frequent visits and make them cheerful. The government is recommended to frame national policy on old age pension and other benefits that need to be provided for the elders and the elder are recommended to plan for their retirement in terms of economic security and investment opportunities.

## **RECOMMENDATION**

The management of the old age homes are recommended to provide emotional support which can be arranged through social workers, personnel from voluntary and social organizations. College and school students from near by educational institutions can be motivated to make frequent visits and make them cheerful. The government is recommended to frame national policy on old age pension and other benefits that need to be provided for the elders and the elder are recommended to plan for their retirement in terms of economic security and investment opportunities.

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## Academic Stress and School Environment: A Study of Adolescents of Jammu, J and K

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### **ABSTRACT**

*Adolescence is a period when the expectations on academic front start building up from the parents, schools and even the community. In the present system of high competition the situation becomes even worse when, students feel they are too stressed to handle such pressures and come up to the mark set forth by others for them. A student's level of academic attainment is to a great extent influenced by the kind of school environment apart from his/her innate characteristics. Keeping in view these points a study was conducted, to explore the perceptions adolescents' hold towards the school environment, on two groups of adolescents, 100 academically stressed and 100 academically unstressed, drawn after application of standardized test in the preliminary part of the study. These two groups were further administered with standardized tools to know their perceptions regarding their school environment. Results reveal that adolescents in both the groups had varied perceptions towards the school environment and that stressed adolescents perceived school environment as less favorable than unstressed ones.*

### **INTRODUCTION**

The educational aims of a society are identifiable through many sources, school being one such setting from which society holds many expectations. Schools may be said to be effective if they are successful in carrying out their social, political, cultural and economic functions. Further, a student's level of academic attainment is to a great extent influenced by the kind of school environment apart from his/her innate characteristics. And when we talk of school environment, many other factors come into minds which are responsible for performance of students. Teacher-student interaction, psychological climate of classroom, teachers' personality and their expectations regarding students' achievement are some important considerations. Teachers bring certain attitudes to the classroom and act in ways which may raise or lower students' self esteem and performance. Adolescence is a critical stage in a student's life and it is adolescent's own potential which determines the goals of his/her development, along with the demands put forth by the society in which he/ she lives since it is a critical time for forming future aspirations especially with regard to career. Educational excellence contributes significantly to the academic success and professional placement of students.

Though, school life is considered as one of the best times of life, yet the adolescents due to their emotional instability and physiological changes get stressed out very easily at times while trying to establish their independent entities. Many forces work against each other, some pushing the young person forward and others hold him back. Presently, adolescents face demands and expectations, which appear to be more numerous and complex than what adolescents faced only a generation ago. This adds on to the already accumulating pressure and creates a crisis of identity, in general, manifested as stress.

Teachers' perception and expectations are equally important for students' achievement; in fact a good match between teacher and student leads to better performance than that of a poor match. Teachers' perceive only those students as achievers who take part in curricular as well as extra curricular activities, who are always

attentive in the class and well responsive quick learners. On the other hand teachers perceive those students as underachievers who don't take part in curricular and extra curricular activities, who belong to 'backward' families and disturbed home environment show less interest in the studies and their activities always disturb other people. Teachers have limited time to give individual attention because of enormous pressure to finish the heavy load of syllabus and this puts extra burden and pressure on the pupils as now they are expected to gain independence in academics too.

So, a need arises to study the psychosocial climate of schools as perceived by the adolescents, so that possible changes could be brought about by the school authorities and educators for desirable changes which are resultant in the students outcomes as well.

## **AIMS & OBJECTIVES**

To study the difference in the perception of academically stressed and unstressed adolescents regarding

- a) School Environment.
- b) The role school and teachers in academic achievement of adolescents.

## **MATERIALS & METHODS**

- **Sample:** The sample for the present study comprised of 200 adolescents (100 stressed and 100 unstressed), who were screened from an original sample of 600 students using standardized tools. Both boys and girls studying in classes 8<sup>th</sup> to 10<sup>th</sup> were selected.
- **Tools Used:** Following tools were applied on the sample for data collection.
  - a) **School Environment Inventory:** Developed by K B Misra (1984), it measures the psychological climate of schools as perceived by pupils, measuring the quality and quantity of cognitive, emotional and social support available to students during their school life. SEI has items belonging to 6 dimensions, namely-Creative stimulation, Cognitive encouragement, Permissiveness, Acceptance, Rejection and Control. SEI contains 70 items related to above-mentioned dimensions of the school environment.
  - b) **Interview Schedule for Adolescents:** The schedule for adolescents was prepared to assess the perceptions towards school environment and beliefs regarding the influence of teachers on their perceptions and performance.
- **Procedure:** At the outset rapport had already been established with the students, while they were approached in the first phase of the study when Scale for Assessing Academic Stress (Uday Sinha, Vibha Sharma and M.K.Nepal,2002) was administered on them, and from which two groups of 100 adolescents each were drawn after analysis of the original sample. These two groups of adolescents were then administered the School Environment Inventory and the interview schedule in different sessions in the classroom.
- **Statistical Analysis:** The data obtained were analyzed using mean, standard deviation, t values, and  $\chi^2$  square.

## **RESULTS & DISCUSSION**

Students in both the groups, as shown in Figures 1, a, b and c, believe that the schools are responsible for their academic performance; however, students in both the groups affirm that a highly structured school environment is unsafe for them. 61% Stressed adolescents believe that their school does not make them think to the best of their ability while 55% students in the other group think their school does. While 31% stressed students view that school culture makes the schools effective, 27% unstressed adolescents think it is the school services which make schools effective.

Stressed adolescents perceive school environment less favorable than unstressed ones as evident from the t-values (Table 1) which show a significant difference in the dimensions of Creative stimulation, cognitive encouragement, acceptance, permissiveness, and rejection. Among these dimensions only in rejection the stressed

adolescents show a higher mean whereas in the dimension of control, no differences were observed. This shows that stressed adolescents perceive a rejection from school environment whereas both the groups find school environment equally controlling.

Table 2 reveals that teachers are considered as the ones whose role in adolescents life is to guide them in the right direction (48%stressed & 40%unstressed), while 79% unstressed adolescents were satisfied with the teachers and their teaching, only 61% stressed adolescents expressed their satisfaction. 32% stressed adolescents believe teachers do influence students thinking only if the teachers are affectionate whereas 34% students in unstressed group consider they should have a positive attitude. Thirty eight percent students in stressed group feel that because of an ease in communication, teachers of same sex can be considered as the role models, while 21% unstressed adolescents believe in such a situation lesser inhibitions occur.

Chi square values reveal a significant difference among students in both the groups. Teachers who are balanced in their approach and positive are more liked by students in the unstressed group. Ilatov and Shamai (1998) also reported that gender, academic composition and teachers' communication style are important part of teacher-student interaction and teachers influencing children

**Table 1: Mean and Standard Deviation of Stressed and Unstressed Adolescents on School Environment Inventory**

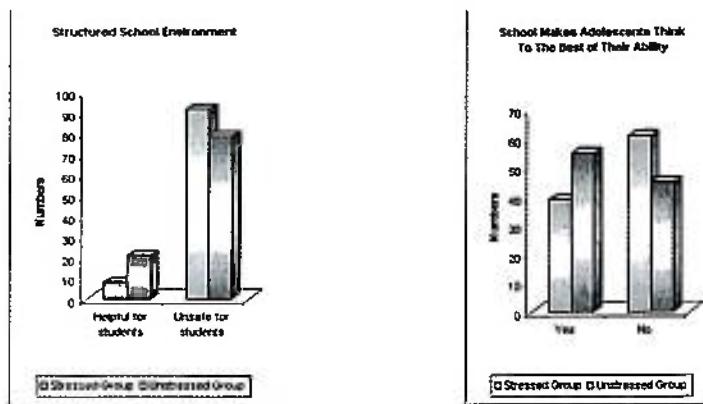
Dimensions of SEI	Stressed Adolescents' (N=100)		Unstressed Adolescents' (N=100)		t-Value
	X	σ	X	σ	
Creative Stimulation	46.4	4.5	51.3	5.0	7.3*
Cognitive Encouragement	27.5	3.9	29.2	2.6	3.3*
Acceptance	19.2	2.6	26.0	3.2	15.6*
Permissiveness	20.0	4.5	24.6	2.9	8.6*
Permissiveness	15.9	3.4	12.5	2.6	8.6*
f) Control	26.4	2.6	26.3	3.2	0.7

\*Difference significant at .05 level

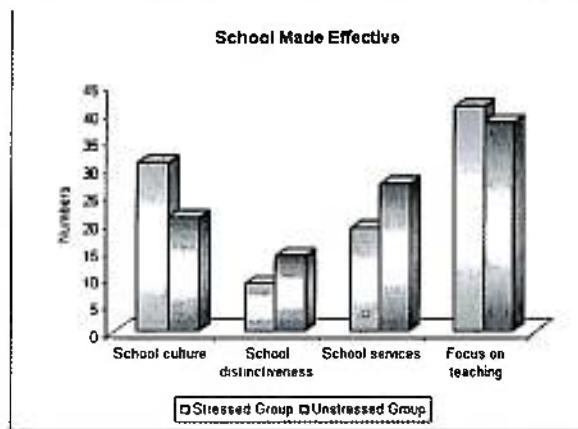
**Table 2: Adolescents Views about Teacher's Role**

Responses	Stressed GroupN=100	Unstressed GroupN=100	%	χ²
<b>Teacher is...</b>				
One who lights a students imagination	26	34	30	1.78
Guides in the right direction	48	40	33	
A friend who is ready to help anytime	26	26	26	
<b>Are you satisfied with your teachers and their teaching?</b>				
Yes	61	79	70	9.2*
No	39	21	30	
<b>Teachers' influence a students thinking...</b>				
Yes				
If teacher has a positive attitude	19	34	26.5	
Is affectionate	32	30	31	7.86*
Is unbiased	29	18	23.5	
Always ready to help and guide	20	18	19	
<b>Teachers of ones own sex can be only considered as role models</b>				
Yes	75	61		
Can easily identify with them	17	20	18.5	
There is an ease in communication	38	20	29	
Have lesser inhibitions	20	21	25.5	4.5*
No	25	39		
It can be either sex also	18	21	19.5	
Depends on one's attitude	7	18	14	

\* Difference significant at .05



**Fig 1 (a, b): Showing adolescents views about school environment**



## CONCLUSION

Keeping in view the results of the study it is concluded that school environment was perceived by adolescents as highly structured and therefore, unsafe. Stressed adolescents consider their school environment less favorable for them, which is apparent from the results of School Environment Inventory whereas, the students in the other group perceived it as favorable on various dimensions like creative stimulation, encouragement, acceptance, permissiveness and rejection in school environment. Teachers are perceived as guides and most of the adolescents are satisfied with their teachers, furthermore, communicating with and sharing problems with same sex teachers is easier, though major differences in the perceptions of stressed and unstressed adolescents is not found, yet their views are seen to vary when it comes to factors like acceptance and rejection on the part of teachers in the school and also on the pattern of interaction.

## RECOMMENDATION

### Policy Suggestions:

#### I. Adolescents

- Adolescents should identify strategies to develop effective study habits
- Develop a positive attitude towards parents, consider them their friends
- Treat their suggestions positively
- Involve themselves in extra curricular activities, which will help them in
- Develop positive attitude and invigorate a sense of confidence, and dispel any negative influence.
- Involve themselves in a healthy peering interaction for developing better academic and co curricular atmosphere.
- Inculcate a sense of dignity in themselves by rational thinking and positive attitude,
- Collate their activities in such a manner which is useful for doing away any stresses. Adolescents, both as individual and as a part of a group should develop a habit of positive questioning amongst themselves, with parents, and

- Teachers for clarifying any doubts that crop up in class and home.
- Inculcate reading habits by going through good literature, cognitively stimulating material which sharpens their concentration.

**ii. Parents:**

- Set realistic goals for their children keeping in view their capabilities, aptitudes and learning skills.
- Develop an encouraging approach towards their children, which will help in infusing confidence in them.
- Avoid drawing comparisons amongst children instead infuse a sense of confidence amongst the underachievers to boost their dormant capabilities.
- Monitor the academic and co curricular activities of children.
- For overall development of adolescents, parents need to encourage their children for equiv-distribution of time towards academics as also extra curricular activities for their all round development.

**iii. Teachers:**

- Teaching and role of teachers should be reality oriented instead of following the process of abstraction so as to make students better learners.
- Identify the positive as well as negative capabilities of students and encourage them to improve their faculties.
- Avoid distinguishing the academic achievers and non-achievers, instead should help raise the level of expectations and performance of underachievers.
- Act as friends, guides, and counselors for improving and overall development of their students.
- Render positive advice periodically to help students improve their performance.
- Implement specific intervention programme to de-stress children and boost their morale and attitude.

**iv. Community**

- Should play a positive role in the overall development of children in their community or neighborhood.
- They as a group should essentially avoid creating spot distinctions amongst achievers and non-achievers.
- Encourage a positive interaction between the achievers and underachievers by infusing a sense of propriety and belonging among them.
- Avoid making a distinction among the children on the basis of caste and economic status.
- Help by identifying weak areas not only amongst children but also their parents and suggest measures to improve on these weaknesses.
- Organize stress-relieving programme in the community for children.
- Involve children in various activities of the community, so that they feel a part of it and become confident.

**v. Government:**

- Provide school based counseling for regular monitoring of stress.
- Monitor the academic capabilities of teachers and encourage improvement and improvisation amongst faculty.
- Pay special attention to the academic programs being implemented in different institutions.
- Academic programmes, syllabus pattern and the overall work load should be monitored regularly for developing non stressful and healthy academic flow.
- Aptitude testing and psychological testing should be made a part of school curriculum.
- Provision of special teachers or resource rooms for weak children.

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## Efficacy of Modern Family Planning Methods in Rural Community of Jharkhand

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### ABSTRACT

*In Jharkhand only 36 percent of married women are currently using some method of contraception compared with 56 percent at the national level and 34 percent in Bihar (NFHS III). Contraceptive prevalence is considerably higher in urban areas (60%) than in rural areas (28.2%) Female sterilization is by far the most popular method 23.4 percent of currently married women are sterilized. By contrast only 0.4% of women reported that their husbands are sterilized. Overall female sterilization accounts for 66 percent of total contraceptive use. IUD (intrauterine device) 1 percent and condom 3 percent. The newly Jharkhand state is one of the most industrialized regions of the country. The contraceptive prevalence rate in Jharkhand especially in rural areas is very low. The major problems faced were early married, high percentage of low birth weight, low coverage of Antenatal care, husband denial for co-operation for utilizing contraceptive tools etc. The main objective of this study is to know the contraceptive prevalence among rural Tribal masses and their health problems. Survey has been done on the basic of secondary data from RCH and personal interview. Result showed that the existence of well developed network of low literacy levels, Gender disparities, high prevalence of STD's<sup>1</sup> and RTI's<sup>2</sup> and proportionality lower levels of use of condoms and other modern contraceptive methods are some of the factors attributed to the rapid growth of health related problems, increasing population, low birth spacing, RTI and STD. There is strong need to develop a behavior change strategy based on the communication environment. To design the local level assessment of communication, on environment, formulate strategy, to make easily accessible the materials to make it suited for the local needs around the each of the intervention site.*

### INTRODUCTION

In Jharkhand only 36 percent of married women are currently using some method of contraception compared with 56 percent at the national level and 34 percent in Bihar (NFHS III). Contraceptive prevalence is considerably higher in urban areas (60%) than in rural areas (28.2%) Female sterilization is by far the most popular method 23.4 percent of currently married women are sterilized. By contrast only 0.4% of women reported that their husbands are sterilized overall female sterilization accounts for 66 percent of total contraceptive use. IUD (intrauterine device) 1 percent and condom 3 percent.

The newly Jharkhand state is one of the most industrialized regions of the country. The contraceptive prevalence rate in Jharkhand especially in rural areas is very low. The major problems faced were early married, high percentage of low birth weight, low coverage of Antenatal care, husband denial for co-operation for utilizing contraceptive tools etc. The size of the family which is determining factor in the usage of contraceptive methods is mostly determined by the economic status of family and also by presence of son in the family. The couple as mentioned earlier would attempt to have at least one male child. In the Christian community (Oraons) people prefer to have 2 – 3 children whereas in Sarna community the average number of children is 4-5. In rural areas due to lacks of awareness proper knowledge and lack of information about modern family planning methods, the rural masses therefore remain unaware and do not motivated with the concept.

The major problems are the health service providers often are unable to reach the most affected rural areas for various reasons. The shopkeeper (who stock contraceptives) and resource persons of the villages do not provide knowledge about various tools of family planning. Even the basic knowledge about its usage, side

effects necessity and means are absent. They strongly believe on home remedies and traditional methods are generally prepared by the traditional healers. These remedies are used for menstrual regulation spacing of children and for permanent conception. In Tribal population faith in the Traditional methods is high and their usage seems to be quite prevalent. In some primitive tribe family planning is banned. They adopt Traditional methods for birth spacing. Access to condoms and pills was very low. Copper – T was rarely used.

## AIMS & OBJECTIVES

To know the contraceptive prevalence among rural Tribal masses and their health problems.

## MATERIALS & METHOD

Survey has been done on the basic of secondary data from RCH and personal interview with the Tribal rural people in some villages near by Ranchi town, Jharkhand state. Couple interview and talk with community members and health care workers were carried out for the collection of information Focus Group discussion was also adopted.

## RESULTS & DISCUSSION

Result showed that the existence of well developed network of low literacy levels, Gender disparities, high prevalence of STD's<sup>1</sup> and RTI's<sup>2</sup> and proportionality lower levels of use of condoms and other modern contraceptive methods are some of the factors attributed to the rapid growth of health related problems, increasing population, low birth spacing, RTI and STD.

Female in rural masses didn't know that condoms prevent HIV.

Knowledge about STDs was much lower. STDs were also prevalent among the women but due to hesitation and embarrassment women do not share the problems with her husband or other female family members.

**Table 1: As per information the unmet need for the state as follows**

Sl. No.	Item Contraceptives	Qty. Required by the status	Qty. Allotted by the DOFW	Gap (unmet need)
<b>Bihar</b>				
1	Condom (Million pcs.)	3.75	3.00	0.75
2	Oral Contraceptive pills (Lakh cycles)	25.00	10.00	15.00
3	IUPS (Lakh Pcs)	4.00	2.00	2.00
STD: Sexually Transmitted disease RTI: Reproductive Tract infection				
<b>Jharkhand</b>				
1	Condom (Million pcs.)	2.00	2.00	
2	Oral Contraceptive pills (Lakh cycles)	2.00	2.00	
3	IUPS (Lakh Pcs)	0.60	0.60	
DOFW: Dept. of Family Welfare, Govt. of India				

**Table 2: Changes in selected indicator for RCH<sup>1</sup> Project**

Changes in key RCH Indicators among matched districts covered during two rounds of RCH surveys – India								
RCH Component	Indicator	1998-99			2002-03		% Change	
		Mean	-2SD	+2SD	Mean	-2SD		
Family Planning	Contraceptive prevalence Rate	47.7	47.4	48.0	52.0	51.6	52.5	4.3*
	Unmet Need for Spacing	8.7	8.5	8.8	6.0	5.9	6.2	-2.7*
	Unmet Need for Limiting	10.8	10.7	11.0	9.9	9.7	10.1	-0.9*
	Total Unmet Need for Family planning	19.5	19.3	19.7	15.9	15.6	16.1	-3.6*

Antenatal Care	Any Antenatal Check-up	64.5	64.1	65.0	74.0	73.4	74.6	9.5*
	Received Antenatal Check-up during the first Trimester	29.5	29.0	29.9	40.1	39.4	40.7	10.6*
	Iron & Folic Acid Tablets received	48.8	48.3	49.3	60.8	60.2	61.5	12.0*
	At least one Tetanus Toxoid Injection received	74.6	74.2	75.0	80.1	79.6	80.6	5.5*
	Full AN care received (At least 3 AN vistis, received IFA Tab and at least one TT injection)	31.9	31.5	32.4	40.3	39.7	41.0	8.4*
Natal Care	Deliveries assisted by Health Professional	39.6	39.1	40.1	47.5	46.8	48.2	7.9*
	Place of delivery : Public Institutions	24.0	23.6	24.4	18.5	18.0	19.0	-5.5*
	Private Institutions	9.4	9.1	9.7	21.5	20.9	22.1	12.1*
	Home	66.3	65.8	66.8	59.4	58.7	60.2	-6.9*
	Home deliveries assisted by relatives / friends	53.0	52.5	53.6	45.2	44.5	46.0	-7.8*
Post Natal Care	ANM making home visit within 2 weeks of delivery	14.1	13.7	14.5	12.7	12.3	13.1	-1.4*
Child Immunization	Full Immunization	52.0	51.3	52.7	44.6	43.7	45.6	-7.4*
	BCG	73.4	72.7	74.0	74.1	73.2	74.9	0.7
	DPT3	64.6	63.9	65.3	57.5	56.6	58.4	-7.1*
	Polio3	66.1	65.4	66.7	57.0	56.1	58.0	-9.1*
	Measles	58.1	57.4	58.8	55.2	54.2	56.1	-2.9*
<i>RCH : Reproductive and Child Health Dept of Family Welfare, Govt. of India</i>								

## CONCLUSION

As a conclusion it was found that the contraceptive prevalence rate in Jharkhand was very low. The reproductive and child health was launched in October 1997 incorporating new approach to population and development issues, family planning services new areas in RTI, STD but still the problems exist among rural masses. They are unaware about the modern technology and current information regarding these issues. There are low % of awareness about the condoms and other contraceptive device.

There is strong need to develop a behavior change strategy based on the communication environment. To design the local level assessment of communication, on environment, formulate strategy, to make easily accessible the materials to make it suited for the local needs around the each of the intervention site. The communication campaign should be primarily address specific issues such as improving negotiation skills for safer sex, enabling early identification of STD symptoms and enhancing treatment seeking behavior. Participatory methods at community level, life skill education peer based education and site based out reach Programmes will be the major approaches should be used.

## RECOMMENDATION

- This is important to formulate strategies for easy access of materials that are suited for local need.
- Campaign regarding safer sex and contraceptive use should be primarily devised.
- Life skill education , peer based education & site based outreach programs should be the major issues which should be addressed and implemented.

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## Positive Therapy for Enhancement of Self-Esteem, Self-Efficacy and Management of Stress Among Women in Local Governance in Coimbatore District

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### ABSTRACT

*Women in India had a high and glorious tradition. Modern living has brought with it not only innumerable means of comfort but also a plethora of demands that tax human body and mind. Stress is an inescapable part of human life is manageable to a large extent. The objectives are following: Assessment of anxiety, stress, self-esteem, self-efficacy and general profile of elected women councilors, Imparting Positive Therapy training to reduce their stress and anxiety level, enhance their self-esteem and self-efficacy and evaluating the impact of the programme. The area selected for the present study is Coimbatore District in Tamil Nadu State. The Coimbatore District comprises of two corporation and ten municipalities with 130 women councillors. Among 130 women councillors, 63 had attended the programme. The tools used for conducting the research were questionnaire, Rosenberg self-esteem scale, General self-efficacy scale, Stress inventory and Anxiety inventory. The mean difference before and after training as revealed by t-value is significant at 0.01 level for self-efficacy, self-esteem, stress and anxiety level. Women today are storming all the male bastions and proving themselves to be equally good in all most all walks of life.*

### INTRODUCTION

Women in India had a high and glorious tradition. All nations have attained their pinnacle of glory only when women have been free, cultured and pure. Women have been the transmitter of culture in all societies. Modern living has brought with it not only innumerable means of comfort but also a plethora of demands that tax human body and mind. Stress is an inescapable part of human life is manageable to a large extent. With proper understanding of the processes that cause stress, the situation can be well managed. The stress management is very easy if we sincerely analyze the reasons of stress. Physical stress management techniques have been used since a long time.

The investigator had undertaken the study entitled “Positive Therapy for enhancement of Self-Esteem, Self-Efficacy and Management of Stress among Women in Local Governance in Coimbatore District” with the following objectives:

- Assessment of anxiety, stress, self-esteem, self-efficacy and general profile of elected women councilors
- Imparting Positive Therapy training to reduce their stress and anxiety level, enhance their self-esteem and self-efficacy
- Evaluating the impact of the programme.

### AIMS & OBJECTIVES

- Assessment of anxiety, stress, self-esteem, self-efficacy and general profile of elected women councilors
- Imparting Positive Therapy training to reduce their stress and anxiety level, enhance their self-esteem and self-efficacy
- Evaluating the impact of the programme.

## MATERIAL & METHODS

The area selected for the present study is Coimbatore District in Tamil Nadu State. The Coimbatore District comprises of two corporation and ten municipalities with 130 women councillors. Among 130 women councillors, 63 had attended the programme. The tools used for conducting the research were questionnaire, Rosenberg self-esteem scale, General self-efficacy scale, Stress inventory and Anxiety inventory.

The Coimbatore district comprises of two corporation and ten municipalities with 130 women councillors. Among 130 women councillors, 63 alone attended the programme. The details of the sampling are given in Table 1.

**Table1: Selection of the Sample**

Name of the Place	Category	Total number of Women Councillors	Member Attended
Coimbatore	Municipal Corporation	16	7
Trippur	Municipal Corporation	18	13
Kurichi	Municipality	10	6
Goundampalayam	Municipality	6	3
Mettupalayam	Municipality	10	8
Kuniamuthur	Municipality	12	9
Valampalayam	Municipality	9	6
Pollachi	Municipality	17	6
Valparai	Municipality	7	-
Udumalpet	Municipality	13	2
Nallur	Municipality	6	1
Palladam	Municipality	6	2
<b>Total</b>		<b>130</b>	<b>63</b>

Communication was sent to 130 women councillors whereas 63 only attended the programme. The programme was planned in consultation with the Director, TNIUS; Director, Center for Women Studies and Head/Professor, Department of Home Science Extension Education, Avinashilingam University for Women, Coimbatore.

### Imparting Stress Management Techniques

Every day session on positive therapy was conducted by the author of positive therapy Dr. Hemalatha Natesan, Professor and Head of the Department of Psychology, Avinashilingam University, Coimbatore. A pamphlet on "Stress Management Techniques" was prepared in local language and distributed to the women councillors.

Afternoon session was conducted by Dr. S Radhakrishnan, Director, SKITRAC, Coimbatore. He spoke on acceptance of dual roles a house wives and career women, resolving role-conflicts, time management and to manage the negative emotions. Highlight of his speech is "Anything can be changed easily in our life". So change is possible, accept the change, change requires only two minutes. Reduce stress, anxiety level through self-analysis.

### Enhancing Communication Skills and Self-esteem and Self-efficacy

On the second day (04.03.2008) the programme started with prayer, thought for the day and Presentation of previous day report Dr. V Ganeshan, Retired Professor, Bharathiar University, Coimbatore spoke on "Enhancement of self-concept, self-esteem and self-efficacy, auto suggestion, thought stopping, cognitive restructuring, management of stress". He asked the participants to write "Who am I?" He also taught laughing therapy to the participants.

At 2:00p.m. Dr. O Vijayalakshmi, Reader in Psychology (Rtd.), Avinashilingam University for Women, Coimbatore gave lecture on "Healthy Human Relation". Salient points of her speech were "all professional people need and use a variety of interpersonal skills in every aspect of their work; they can achieve these by observing others and imitating them continuously.

She also mentioned the important qualities for interpersonal effectiveness they are Warmth, Genuineness, Empathic understanding and conditional posture.

On the third day (05.03.2008) the programme started with prayer, thought for the day and presentation of previous day report Dr. V Shanmuga Ganesan, Reader in Psychology, SRKV College of Education, Coimbatore conducted interactive session on “Developing Public Speaking Skills”. He explained with stories and jokes.

After lunch, session started at 2.00 p.m. Dr.K. Thangamani, Head and Professor, Department of Home Science Extension, Avinashilingam University for Women, Coimbatore conducted theory session in Dance and Music therapy. Dr. Rajalakshmi, Lecturer, Department of Home Science Extension, Avinashilingam University for Women, Coimbatore conducted the practical session on “Dance and Music Therapy”.

On the fourth day (06.03.2008) the programme started with prayer, thought for the day and previous day report presentation. Mr. Kavithasan, HRD Manager, Coimbatore presented lecture on “Self confidence and developing leadership skills” through Tamil poetry. Dr. P. Kanagasabapathy, Director, TNIUS, Coimbatore explained the importance of family system in Indian Economy and our culture. Moreover Indian women played a major role in saving that to investment on gold. As a woman you have to play a major role in developing our nation.

## RESULTS & DISCUSSIONS

The findings of the study are discussed under the following:

- Mean and T-values of Self-esteem and Self-efficacy**

The mean and t-values of self-esteem and self-efficacy are presented in Table II.

**Table 2: Mean Values And T-Values of Self-Esteem and Self-Efficacy N=63**

Variables	Before training	After Training	Difference	t - value
Self-esteem	$75.79 \pm 9.16$	$85.44 \pm 9.96$	9.65	5.66
Self-efficacy	$86.67 \pm 10.77$	$97.14 \pm 3.69$	10.47	7.30

\*\*Significant at 0.01 level

The above table shows that mean values of self-esteem and self-efficacy were assessed. The mean values of self-esteem and self-efficacy were increased after training programme. The mean difference before and after training as revealed by t-value is significant at 0.01 level for both self-efficacy and self-esteem. It is evident that the programme has a good impact on the personality development of women councilors.

- Mean and T-values of Stress and Anxiety**

The mean and t-values of stress and anxiety are given in Table 3.

**Table 3: Mean Values and T-Values of Stress and Anxiety**

Variables	Before training	After Training	Difference	t - value
Stress	$12.24 \pm 4.79$	$5.73 \pm 4.24$	6.51	14.58
Anxiety	$9.94 \pm 7.08$	$4.06 \pm 6.05$	5.88	10.93

\*\*Significant at 0.01 level

The mean values of stress and anxiety level of women councilors were assessed. The mean values of stress and anxiety were found to be increased after training programme. The mean difference before and after training as revealed by t-value is significant at 0.01 level for both stress and anxiety level. Hence it is clear that the programme has a good impact on the personality development of women councilors and has reduced the stress and anxiety among women councilors.

- Symptoms of Stress Experienced by the Sample Before and After Training**

Table 4 explains the symptoms of stress experienced by the women councillors before and after training.

**Table 4: Symptoms of Stress Experienced by the Sample Before and After Training**

Aspects	Percentage of Women Councillors (N:63)	
	Before Training	After Training
Lack of sleep	92	44
Carelessness	92	30
Incapable of decision making	89	25
Lack of appetite	87	25
Disturbed sleep	75	16
Disturbed breath	65	22
Confusion	62	22
Headache	56	25
Stomach ache	56	24
Day dreams	40	-
Ill health	40	6
Restlessness	40	5
Giddiness	35	5
Indigestion	32	3
Loss of weight	22	10
Sweating	17	8
*Multiple responses		

The above table depicts the symptoms of stress experienced by the women councillors before and after training. Majority (92 per cent) of them experienced lack of sleep and carelessness followed by struggle in decision making (89 per cent) lack of appetite (87 per cent), indigestion (32 per cent), loss of weight (22 per cent) and sweating (17 per cent) before training as a symptoms of stress experienced by women councillors. After training programme 44 per cent experienced lack of sleep, 30 per cent carelessness five per cent restlessness, giddiness and three per cent indigestion.

- Advantages Expressed by Women Councillors Through Music and Dance Therapy**

Music has a harmonizing effect on pain regulating neuro endocrine functions, important oipods of the pain inhibiting systems. Music gives enormous stimulation to the secretion of endorphins and encourage faster healing. It can be perceived by the patient. Music strengthens the immune activity and paves to good health. Music increases the activity of immune system too.

Dance therapy is the therapeutic use of movement to improve the mental and physical well being of a person. It focuses on the connection between the mind and body to promote health and healing. Benefits expressed by women councillors through music and dance therapy are given in Table 5.

**Table 5: Advantages Expressed by Women Councillors through Music and Dance Therapy**

Benefits	% of Women Councillors (N:63)
Improvement in concentration and memory power	81
Creating peace of mind	78
Relaxation	70
Stimulation of creativity	62
Reduced stress	60
Leads to good health	54
Creation of happy atmosphere	49
Sleeping well	46
Avoid fear	40
Developed self confidence	33
Reduced Anxiety	29
*Multiple responses	

The above table expressed that most of the women councillors benefited through music and dance therapy. Eighty one per cent reported that music and dance therapy helped to improve their concentration and memory power, while 78 per cent of them perceived therapy as a capable of creating peaceful mind in one's life, 70 per cent felt that it helped the individual as a relaxation, stimulation of creativity(62 per cent), reduced stress (60 per cent), leads to good health (54 per cent), avoid fear (40 per cent) developed self confidence (33 per cent) and reduced anxiety (29 per cent).

## CONCLUSION

Women today are storming all the male bastions and proving themselves to be equally good in all most all walks of life. Women in India today are also poised to take off. They are standing on the threshold of a new era. It should be realized that every issue is a woman's issue from water to militarization, violence to economic planning, ecology to economic development and from kitchen to parliament.

Women are making efforts round the world to see that their rights are respected, their voices heeded, their opportunities widened. The "Voice from the kitchen" is being heard in international forum.

They should be brought into the mainstream of national development not as beneficiaries but as contributors and partakers along with men and as rightful claimants of social security. Let us all strive to give women the place they so richly and rightfully deserve in society. The hand that rocks the cradle rules the world. Swami Vivekananda has put beautifully the ideals of service which need be imbibed by elected members:

*"It is great privilege  
 For all of us to be allowed  
 To do anything for the world  
 In helping the world  
 We really help ourselves"*

Same has been put in Gita: "We should pursue the path of excellence without fear or favour and work ceaselessly to achieve the objectives".

*"A woman is like a rose - a bud with no water and no light,  
 If you give it freedom, air, food,  
 It will open up,  
 I think women like that can bloom"  
 Get up and empower yourself."*

## **RECOMMENDATION**

- The importance and requirement of training are felt in every job equipping the personnel to discharge assigned functions in an efficient and effective manner. For the women Municipal Corporation members training have far greater importance because of their lack of exposure to public affairs and public dealings. Intensive orientation cum training programme has continuously to be organized. Such training should be continuous and spread over different phases rather than once for all.

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## A Study on Significance of Traditional Toys for Pre School Children

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### ABSTRACT

*The Study has been undertaken to identify and determine the safety aspect, cost, educational values, appropriateness and durability of traditional toys. A purposive sample of 75 mothers who has pre-school children was selected within the municipal limit of Jodhpur city (Rajasthan). These mothers were interviewed on a structured schedule by the investigators at parent-teacher meetings and at homes. The findings lead to the conclusions that safety, cost, educational values and durability of toys were observed in traditional toys. Overall majority said that present day, like weapon toys and Barbie dolls should be banned. These toys stimulate feeling of aggressiveness, violence and sex at an early age. Toys are simply the best for pre-school. Traditional building blocks and play-doll are for better for children's learning.*

### INTRODUCTION

Toys are important shapers of the self in childhood and often continue in later life as symbols of different "leisure pursuits". Toys allow the child to explore life observations and experiences safety. Personal toys allow the child to project feelings and role expectations, to gain awareness, to clarify ideas and sometimes to release negative emotions. Toys provide an opportunity to experiment which is valuable to growth, first time experiences and self-satisfying activity. The relationship one has with toys will reflect the cycle changes in life.

Children learn by doing. It is through interacting with materials around him that he learns. These toys need not involve a high cost. Folk toys, traditional festival toys, natural materials, etc have all got great educational potential. It is necessary for parents to find out the variety of materials that exist in the immediate environment of the child and how they can be used to make the teaching-learning process meaningful and interesting.

Children play with toys or games as a form of entertainment, traditionally in some forms of entertainment, mirroring the adult world they are trying to understand. Play is children's work and toys are the tools used in play. In addition, toys can keep children occupied and if properly chosen can assist in physical, mental, social and emotional development.

Children do not have to be taught how to play as play comes naturally; while there may be a required learning pattern or temporary age barrier, toys are the very essence of "fun". Through the process of learning and acquiring new skills toys mirror for children life's daily lesson-success, defeat, acceptance, frustration, challenge, enjoyment and more.

The educational value of toys is generally measured on the ability to "teach" or reinforce concepts and methodologies. Through toys the children learn new color, textures, movement and objects. For example, building blocks can reinforce counting concepts or color and pattern creation. Some toys are recognized by generation of parents as providing superior educational value; these long lasting toys are usually known for their durability and effectiveness, while other toys appear and disappear in a season or two.

Toys are a part of our culture. In fact toys might be considered the tools of play. Antique toys, as part of our human heritage, provide us with objects that allow us to reach across time and learn about our past. Toys that

are part of the preschool life experience allows them to learn their society's values and perhaps to discover more about themselves with children thinking about toys as product of culture they realize that "Toys are us."

India has a rich tradition of mother's infant games which can be particularly useful for facilitating sensory-motor development and which are unfortunately becoming absentee now.

Toys are not only present alongside the child in his home or during his play time. One finds it also, more and more often. In other places such as the school and even the hospital where it is not only the child's companion but also one of the privileged tools of the teaching profession, of pediatricians, doctors-psychologists and other specialists.

The preschool year is the period in life which Erikson terms "Industry". It is a wonderful place for children to develop the sense of productivity it is also the time when children love to participate in games with rules. The traditional games are truly games of skills. Through participation in these games, children learn how to fit into a rule-governed society. They learn physical skills and skills of concentration.

## **AIMS & OBJECTIVES**

1. To identify the various traditional toys.
2. To determine the safety aspects, appropriateness, cost educational value and durability of traditional toys.

## **MATERIALS & METHODS**

A purposive sample of 75 mothers was used for the present study. An interview schedule for the study was prepared with the help and guidance of the supervisor and subject experts. The interview schedule includes various questions to-gather information about the traditional toys. This schedule in its final form deals with traditional toys in which the survey of traditional toys was done. Opinion regarding, safety of the toys, cost of the toys, educational values of the toys, durability of the toys. An interview schedule was distributed to the parents during parent teachers meeting organized by school from time to time. The data collected for the present study was analyzed by tabulation the data. Percentage were calculated to determined the used of toys by preschool children.  $\chi^2$  test was applied to see the significance of traditional toys.

## **RESULTS & DISCUSSIONS**

The result shows clearly that toys can be made from various waste material and it is good to note that present sample around 53.34 percent of the mothers do make toys for the children. The popular traditional toys made were clay toys, gulli danda, puppets, hand made dolls, paper made toys, wooden toys, zhun-zhuna, pebbles, ferki/lattu. Today's many children and their parents are obsessed with glossy, high priced factory made toys perhaps not realizing what child can gain from simple home make playthings.

A study done by Kothari U (2002) had 41.9 percent yes and 58.1 percent of mothers had not ever made toys for the children.

On the basis of finding it was found that many mothers had made more than one toys from various waste materials like soft toys, paper toys, clay toys, building block, and puppets.

The study also indicates that the above traditional toys are missing now days. The rich heritage of Indian toys has largely remained outside the pail of modern education. Most traditional toys makers have been facing sinking market for their goods. Toys based on local materials design and folklore has all been swept away by sexist Barbie dolls, and video games, animated stories guns flood the Indian toy market. The whole traditional of making toys with one's creativity has given way to factory made toys, which exhibit more of the western culture.

The result indicate that in all the respondents 92 percent of mothers said that traditional toys helps children's in learning the adult task.

The ( $\chi^2 = 39.66$ ,  $P<.01$ ) value on safety of toys shows that many of the traditional toys are not safe like gulli danda, clay toys, zhun-zhuna, pebbles, ferki/lattu etc. But traditional toys like soft toys, hand made dolls, wooden toys are proven to be safe. The results reveal that most of the respondent 73.34 percent had not experienced having their children hurt by traditional toys.

The mothers opinion regarding appropriateness of traditional toys ( $X^2=66.12$ ,  $P<.01$ ) were found to be significant. Most often traditional toys are the raw materials of play and include building blocks, clay and paints, water, design cubes, collage material scissors and paste for which there are no blueprints to follow as traditional toys age, were and tear they can appropriately repaired or thrown out.

The educational value was found to be more significant regarding traditional toys ( $X^2=61.9$ ,  $P<.01$ ). Through traditional games children learn how to fit into a rule-governed society. They learn physical skills and skills of concentration. It is not only the child's companion but also are of the privileged tools of teaching profession, of doctors, pediatricians and other specialists. But present day toys have a negative impact on children's emotional and physical growth, and in the future, may disturb the peace of our society. Therefore, we have to protect children from these dangerous toys i.e. present day toys and encourage the use of traditional toys.

The study also pointed out that toys like balls, building blocks, dolls/soft toys and house utensils, in early childhood offers good mental exercise. Even these toys are capable of involving children in play for longer time and provide opportunity to assemble.

Regarding cost of toys the  $X^2$  value shows that the traditional toys are much reasonable. A large variety of materials is used for making toys and other play materials: clay, wood and fabric are the common ones. Those that are made by hand are the real timeless ones where each is a fresh creation, and those made by moulds are nearer to the technique of modern production.

Some of the traditional toys were found to be more durable as these toys were never worn out so they were given to poor or stored in the child's room.

#### Safety Tips

- As toys are, wear and tear, they should be appropriately repaired or thrown out. Broken and worn toys can pose potential hazards for children of all ages.
- Be alert Toys should not be left unattended in potentially dangerous places such as on stairs.
- Supervise play activities appropriately.

#### CONCLUSION

Analyzing the result lead to the conclusion that maximum consideration in choosing the toys bought by parents is given to age and safety of the toys. Most of the mothers have not experienced having their children hurt by traditional toys. Traditional toys are capable of involving children in play for longer time and provide opportunity to assemble. Most of the mother had made more than one toy from various waste materials like clay toys, soft toys, paper toys, building block, wind chime and puppets. When the kids are really small they can have very simple homemade toys like rattles etc. Since children are the future citizens of the world and so one can logically conclude and recommend that toys help from future society at large.

#### RECOMMENDATIONS

Toys play a major role in a Childs life, entertainment, mental development, creativity, skill enhancement in fact toys leads to over all development. Traditional toys have their own reasons when it comes to learning like for example the traditional toys that would have a lot to do with the basic concepts of shapes, sizes, colour etc. that would help the child in his mental development. Such traditional toys can never be replaced by the automatic high tech toys that are available these days which are very attractive. Preschool children enjoy playing with the wooden rocking horses and pull toys. These toys are good for inducing the initial knowledge of transportation, wheel and animals. Overall traditional toys are more reasonable than present day toys. Hence the mothers should be encouraged to make traditional toys from locally available waste and inexpensive materials.

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## Impact of SHGS (Sgsy) on Socio-Economic Status of Women Weavers of Manipur

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### ABSTRACT

*Universally SHGs have been accepted as a means for poverty alleviation and empowerment of poor and marginal rural poor women socially, politically and economically. A number of studies have been conducted throughout the country to evaluate its impact and efficacy. However, very few researches have been done in the North-East region particularly in the state of Manipur. The paper is an attempt by the researcher to fill up this gap. A study was conducted on SHGs of women weavers under SGSY scheme of Imphal East, Manipur state with an objective to assess the impact of SHGs approved by District Rural Development Agency (DRDA) on socio-economic status of women weavers. The researcher studied all the 26 SHGs in the Imphal East district. All the 248 respondents were personally interviewed. The findings of the study indicate that though all the 248 respondents were benefited socially, politically and economically, it has not brought any significant changes so far. Though the gain in income is not statistically significant yet majority of the women felt that they have been able to spend some more money for the educational needs of their children which was a limitation criteria. Since most of them belonged to families living below poverty line (BPL) meeting their basic needs of food, clothing and shelter was possible in the past too, but they were now able to plan their expenditure more insistently. Indeed, SHGs has created some opportunities of leadership and thereby bringing achievement of social positions for some of the key functionaries and office bearers of these SHGs. This has induced a sense of identity as well as confidence to these women. They felt that they have gained more respect from the family members after getting loan and subsidy through the scheme and thereby adding slightly more comfortable life than in the past. The study has highlighted some of the concerns of mobilizing SHGs especially in the cultural and political fabric of Manipur state.*

### INTRODUCTION

*Woman is the companion of man, gifted with equal mental capacities - Gandhiji*

Poet-Philosopher Rabindranath Tagore once said that woman is the builder and molder of a nation's destiny. No family or community or nation can have sustainable all round development socially, politically and economically unless women are empowered and made equal partners of decision making and progress with men. Rural women constitute about 77% of the total female population in India. Therefore, denying women the rights for decision making and entrepreneurship by subjugating them within the confine of the house will do irreparable damage to the progress and development of the nation. It is well known fact that women contribute significantly towards the national economy especially in the development of agriculture, handloom and handicraft sectors.

In India poverty in general and extreme poverty in particular has a gender dimension. Women are the most vulnerable group affected by poverty. Poverty is a product of vicious cycle of low per capita income, low saving and consequently low capital formation and productivity. In rural areas, it is mainly due to unemployment, underemployment and low earning. Rural women play a crucial role in the process of moving their families out of poverty. A woman's earning forms a significant part of the income of the rural families.

In view of the above, it is important that the ingrained potentials of the women are converted into productive assets rather than treating it as family and social liabilities through economic empowerment i.e. empowering

women by making access to credit, skill and capacity building. These investments to women are not charity but productive social investment with high rate of return.

### **Self Help Groups (SHGs)**

SHGs are community based organizations of the poor. Fundamentally, SHGs are entities for saving and borrowings. Women SHGs have been recognized as an effective means for generating income and empowerment through injection of micro credit. A woman SHG is a voluntary group formed to attain some common goal. These are small informal groups of the poor created at the grass root level for the purpose of enabling members to reap economic benefits through mutual help, responsibility and team work. Most of the members have similar social identity; heritage, caste; occupation and come for a common cause and manage resource for the benefit of the group members.

### **Swarnajayanti Gram Swarozgar Yojana**

The Swarnajayanti Gram Swarozgar Yojana (SGSY) was a government initiative to remove poverty in rural areas through self employment. The SGSY was launched with effect from April 1, 1999.

The objective of the SGSY is to bring the assisted poor families (Swarozgaris) above the poverty line by providing them income-generating assets through a mix of Bank Credit and Government Subsidy. It is based on the belief that rural poor in India have competencies and given the right support can be successful producers of valuable goods or services.

### **AIMS & OBJECTIVES**

The purpose of the study is to assess the impact of SHGs under SGSY on socio-economic status of women weavers in Imphal-East District, Community Development Block-II in Manipur.

### **MATERIALS & METHODS**

26 SHGs were selected purposely from the approved list of SHGs by DRDA for the study. 248 respondents were personally interviewed. Percentage, f-test and t-test were used for analysis.

### **RESULTS & DISCUSSIONS**

From the survey, out of 26 SHGs, 17 SHGs were functioning well and other 9 SHGs were found to be defunct. From the study it was found that there are only twelve (70.6%) SHGs which had twenty members each at the time of formation but at present it has reduced to five (29.4%) SHGs. Two (11.8%) SHGs had 22 (twenty two) members at the initial stage. The number of members ranges from 15-17. At present the minimum number of members in a SHG is 12. Out of 17 (seventeen) SHGs, 12 SHGs have decreased their members, 4 SHGs have maintained same members and one SHG had increased the number of members from 15 to 16 with the consent of the bank.

During the research, it was observed that the major bottleneck faced by the SHGs is in the area of bank linkage and finance. Out of 17 SHGs under study, 13 (76.4%) groups faced this problem. 23.5% (4) groups did not have the problem of bank linkage and finance but faced administrative problems. These groups were those which had received revolving fund and term loan as well as subsidy.

### **Impact Assessment**

**Table 1: Mean & Standard Deviation of Percentage of Impact Assessment Score with Respect to Religion**

Religion	No. of cases	Mean ±SD
General	219	30.9567±5.40945
Muslim	29	29.8066±3.96583
t-Value		1.105
d.f.		246
P-Value		0.270

The above table analyses the impact assessment with respect to religion. General (Meitei) and Muslim category were the two religious groups considered for the analysis. There were 219 Hindus with mean impact assessment score of 30.95% and 29 Muslim members with impact assessment mean score of 29.80. Therefore, it can be concluded that the religion of members of a SHG has insignificant role with respect to impact.

**Table 2: Mean & Standard Deviation of Percentage of Impact Assessment Score with Respect to Type of Family**

Type of Family	No. of cases	Mean ±SD
Nuclear	186	31.0858±5.35962
Joint	62	30.0315±4.93815
t-Value		1.367
d.f.		246
P-Value		0.173

To assess the impact of type of family on SHGs, two categories of families namely nuclear and joint family were considered. From the above analysis, it can be concluded that the impact of SHGs was independent of the type of families the members belonged to.

**Table 3: Mean & standard deviation of percentage of Impact assessment score with respect to age (yr)**

Age	No. of cases	Mean ±SD
20 - 30	31	29.7089±4.55056
30 - 40	80	31.2744±5.80301
40 - 50	93	31.5028±5.23030
50 - 60	37	29.4529±4.41779
60 & above	7	28.7805±5.10061
F-Value		1.792
d.f.		4, 243
P-Value		0.131

The above table presents the impact of SHGs with respect to the age of its members. 248 respondents were put into five different age groups. From the analysis, it was found that the impacts of SHGs are not dependent on the age of members.

**Table 4: Mean & Standard Deviation of Percentage of Impact Assessment Score with Marital Status**

Marital Status	No. of cases	Mean ±SD
Unmarried	31	26.9866±4.55236
Married	206	31.4847±5.14477
Widow	11	29.2239±4.80657
F-Value		11.210
d.f.		2, 245
P-Value		0.000

The above table presents the impact of marital status on the performance of SHGs. To study the impact the respondents were classified into three groups namely unmarried, married and widow. From the analysis it was observed that the marital status of members make a significant impact on the performance of the SHGs.

**Table 5: Mean & Standard Deviation of Percentage of Impact Assessment Score with Individual Monthly Income (Rs.)**

Monthly Income	No. of cases	Mean ±SD
Below 1000	62	31.9748±4.67108
1000 - 2000	57	31.5362±5.89236
2000 - 5000	111	30.0857±5.00507
5000 - 10000	12	28.4553±5.51627
10000 - 15000	6	30.4878±7.04705
F-Value		2.200
d.f.		4, 243
P-Value		0.070

The above table presents the analysis of the role of individual monthly income on the impact of SHGs. The members were classified into 5 (five) income categories. The P-value is 0.070 which was higher than the standard value of 0.05. The analysis can be interpreted that individual monthly income is insignificant while assessing the impact of SHGs. One of the reasons for the above could be the fact that individual earnings hardly make any impact to other members of the group. Though individual incomes are important parameter for individual members, it is of little consequence when the impact of SHGs as a whole is considered.

**Table 6: Mean & Standard Deviation of Percentage of Impact Assessment Score with Category of Family**

Category of Family	No. of cases	Mean ±SD
No card	158	31.6641±5.53544
APL	13	29.4934±3.94597
BPL	58	28.9319±4.68083
AAY	19	30.5006±3.82155
F-Value		4.300
d.f.		4, 244
P-Value		0.006

The above table analyses the effect of category of family on the assessment of impact of SHGs. For this, the members were grouped into four categories namely no card, APL, BPL and AAY. It can be observed that the highest impact mean value is in the case of no card. It is because of the reason that they do not get any benefit given by the government and SHG becomes the only avenue to improve their quality of life. Therefore, this reason makes the category of family an important parameter on the overall performance of the SHGs.

## CONCLUSION

The income from SHG activities is marginal and not enough to create assets and improve the quality of life. Therefore, effort should be concentrated on increasing individual earning through proper selection of activity, marketing arrangements and cost effective management measures.

Other problem areas are bank linkage and getting loans sanctioned from the banks. Amounts given under SGSY are also inadequate. The casual, unsupportive and beauraucratic attitude of implementing agencies are constant impediment to the success of SHGs. However, self improvements and social empowerment of women members are contributions of SHG movement.

## **RECOMMENDATIONS**

SHGs are helpful in terms of increased socio-economic status to some extent. Since rural women cannot go alone, there is need for more encouragement from all the stakeholders to enhance the capacity building of SHG members for more development and sustenance of SHGs.

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## Changing Role of Father: A Study of Fathers' Participation in the Care of their Mentally Retarded Children

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### ABSTRACT

*Present study was conducted on father's changing role, focusing on their participation in the care and their feelings towards their mentally retarded children residing in Jodhpur city. Care included the different areas such as the physical care, social participation, personal feelings, recreation and behavior management of the child,*

*The purposive sampling consisted of fathers of 30 moderately M.R. children between the age group of 15-18 years.*

*Results revealed that fathers are increasingly becoming active fathers. Fathers of M R children are moderately involved and take part in selected child care activities like playing, conversing and visiting their schools. They do not take part in activities like feeding and taking a walk with the child. Most fathers had fatalistic attitude towards the handicap of their child at the same time they take it as a responsibility entrusted to them.*

### INTRODUCTION

All humans look alike when they are born but they do differ in height, weight, colour and in their mental capabilities. Mental capability, if below average level is understood as mental retardation [MR].

In all classes, races, Socio-economic level, caste, gender, religion .MR is found as a universal phenomenon. According to "The AAMR [1982] mental retardation deals with significantly sub average general and intellectual functioning resulting in or associated with concurrent impairment in adaptive behavior and manifested during the developmental period [Chintamanikar,1992]. Most of the researchers till date have proved that MR is quantitative rather than qualitative. There is no more hidden reality about the problem and magnitude of MR children.

Birth of a MR Child puts parents and siblings under distress and many of them develop guilt complex. Bringing up of these children is a great challenge. On one hand here is observable negligence and avoidance of such children, there is overprotection on the other. By over protection and denial behavior parents invite adjustment difficulties for these children. Also, both mother and father need to actively share this challenge. Warm and positive behavior of mothers, fathers and family members make happy and positive quality of life of these children.

Father, traditionally was mostly the breadwinner and provider of economic support. But in the rapidly changing life patterns the enhanced and enlightened status of women has brought fathers in the forefront with regard to child care. When the child is MR, fathers' contribution in their care becomes more crucial and significant. It is reported that both, mother and father are deeply affected by the presence of retarded child in the family. However, mothers have been found to be more vulnerable and have more negative attitude than fathers.

### AIMS & OBJECTIVES

Present study was conducted with the broad objective of assessing the participation and attitude of fathers' towards the care of mentally retarded children.

## MATERIALS & METHODS

30 moderately MR children between ages 15-18 year were selected on purposive basis from 2 institutions of Jodhpur city.

1. Navjyoti Manovikas Kendra
2. Sanjivani Mental Health Rehabilitation and Research Institute.

The sample for the study comprised of fathers of these children.

To study the level of fathers' participation, the different tools selected were:

1. Background information sheet- A self-constructed sheet in Hindi was developed to collect information on the socio-demographic of the sample.
2. Questionnaire on fathers 'participation in child care [FPCC] - A self-constructed questionnaire was used to assess fathers' participation and their attitude towards care of their MR Child.

There were 40 questions, a mixture of objective, and subjective based on caring activities from different domains in the finalized version of the Questionnaire.

Purpose of the study and the instruction regarding the FPCC were explained to the fathers and were read out to them. They were asked to fill up the questionnaire taking as much time as required. Mothers' absence, while fathers filled up the questionnaire was ensured for maintaining objectivity in their responses.

## RESULTS & DISCUSSIONS

Table 1 shows father participation in child care activities

Table 1: Fathers 'Participation in Total Caring of the Child

Whether Participated			Reason for Non participation
Yes	30	Lack of time	36.67%
		No interest	20%
No	70	Busy in other work	10%
		Any other	33.33%

70 percent fathers say that they don't take part in any activity with MR Child after coming back from work. The reasons referred are varied. 36.67 percent fathers say they do not have time, 20 percent fathers say that they are busy in other work. 33.33 percent fathers chose not to give any reason for it. Unlike the present study Elaine and Richard [2008] reported that fathers of intellectually impaired child were more mindful in their parenting role and use less avoidance in relation to their child related parenting tasks.

Table 2: Participation in Childcare Activities by Fathers of MR Child

Personal Care	46.67%
Feeding	3.33%
Play	26.67%
School visit	70%
Parent teacher meeting	43.33%
Share personal experiences	53.33%
Walking with the child[weekly]	10%
Recreation	43.33%

Table 2 shows that as high as 46.67 percent fathers take care of personal hygiene of their MR children and 43.33 percent of fathers indulge in recreational activities. 26.67 percent fathers in this study indulged in activities

involving play whereas only 3.33 percent of fathers take care of feeding of their MR Child. Communicating with the MR Child is difficult but a very necessary task 53.33 percent fathers share personal experiences with the child. Fathers, who do take a walk with the child, do it very seldom [10% weekly].

School is the second home to children but there too parents have to play an active role in coordinating between the demands of the school and the individual child with his unique potentialities. 70 percent fathers do visit the schools once in a month but only 43.33 percent of fathers attend parent teacher meeting. It is mostly the mothers who attend these meetings more regularly. Dallas and Spas ford [1995, cited Wollet, 1999] also make similar distinction in the child care activities taken up by fathers and mothers.

It appears from the present study that even though fathers are involved in child care activities their participation is not as high as that of mothers and other members of the family.

Dasgupta [1995] distinguishes parents and their child rearing techniques in term of control and discipline. Studies suggest that use of reasoning and explanation is more effective when accompanied by the feelings of parents.

**Table 3: Problem Behavior and its Management**

Handling Child's Aggression		Sleeplessness		Bed wetting	
With love	70.00%	Yes	70.00%	Yes	06.67%
Medication	06.67%	No	30.00%	No	93.33%
Ignoring	23.33%				

Echoing the same view the present study reveals that 70 percent fathers handle their child's' aggression with love while 23.33 percent fathers ignore the child's' aggression. Very few [6.67%] agreed to be using medicines for calming their child. 70 percent fathers said that their children have problem in sleeping. 93.33 percent of the MR children in the present sample have toilet control and did not generally wet their beds. Only 3.33% fathers said that they clean their bed whenever needed.

**Table 4: Fathers Feeling on Having a MR Child**

Situation	Feelings and Reaction	Percentage (%)
While introducing the child	Feels Ashamed	16.67%
	Feels guilty	10.00%
	Normal	73.33%
On detection of disability	Past Sin	03.33%
	Fate	03.33%
	Hurt & unhappy	73.33%
	N/A	20.00%
Coping techniques	Pampering with things	73.33%
	Waste of money	23.33%
Sending to MR Institutions	For better care	60%
	Family freedom	30%
	Training	20%

Table 4 shows fathers feelings on having a MR Child. Mixed feelings on detection that their child has MR are reported in table 4. A majority [73.33%] felt hurt and unhappy, whereas only 3.33 percent each said that they felt it was their fate or results of past sins. While introducing this child 16.67 percent feel ashamed, 10 percent feel guilty, 73.33 percent have normal feelings. 73.33 percent fathers agreed pampering the child by getting

them their favorite things whereas 26.67 percent fathers do not indulge their children. 23.33 percent fathers felt that care of child is a waste of money. The physical, psychological and financial stress of looking after the MR Child appeared to develop a feeling of dejection and hopelessness in them. Even then only 50 percent fathers agreed

on option of sending the child to a residential institution for reasons as proper care [60%], family's freedom[30%] and better training [20%].

## CONCLUSION

It can be concluded that fathers' participation in child care activities is not as high as could be possible. Their feelings and attitude towards child care activities are found to be positive, satisfactory and encouraging. For such children of lesser GOD, early intervention, training centers, day care centers, integrated schooling and most importantly sensitization, awareness and education of the parents are some important measures needed for improving the quality of life.

## RECOMMENDATIONS

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## Enhancing the Lives of Street Children through Life Enrichment Education (LEE)

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Indeed by emphasizing the debilitating aspects of street life, most studies have brought street children to prominence as "a category of children whose life circumstances place them at physical and psychosocial risk" (Veale et al., 2000). It was in this context; the study entitled "Enhancing the lives of street children through Life Enrichment Education" was undertaken with a main objective of enhancing the selected street children's overall development by imparting LEE to gain insight into selected physical and psychosocial aspects. This research conducted in Coimbatore city, Tamil Nadu, India comprised of 66 boys and 52 girls residing in rehabilitation homes. An interview schedule was framed to secure adequate information on their knowledge base in reference to physical and psycho-social aspects before and after imparting LEE. The data collected was systematically computed and subjected to systematical analysis. The substantial leap of the awareness percentage and the 't' value significant at 1 percent level with regard to the selected aspects of physical dimension (physical health care, substance use and reproductive health care) and psycho-social dimension (communication and listening skill, assertive behavior, emotional health and moral behavior) unmistakably designate that the LEE program had made a better headway in the minds of the selected street children. Promotion and protection of street children's life is dependent on education, health and attitudinal changes in behavior and confidence to lead an independent life. Hence the society is responsible to frame suitable strategies to mould their livelihood, which can be made possible with LEE as it brings forth attitudinal changes, behavior modification and desirable health practices.

## A Study of Personality, Rigidity and Leadership Preference of Undergraduate Commerce Students

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Education is a driving force for economic development. Commerce education aims to enable the student develop the ability and understanding of goods and services offered by business sector. Acquiring knowledge in any sphere is influenced by personality make-up and rigidity. Fair trading is only possible if the country is headed by potential leader(s). Adolescent students with their capacity for abstract thinking is expected to have preference for certain leadership styles which they think will help them to carry forward what they are acquiring now. Thus the present investigation aims to study personality, rigidity and leadership preference of undergraduate Commerce students of colleges of South Kolkata. The survey was carried out on 87 male and 79 female students selected on the basis of educational status, community, family type, number of siblings and religion. The data were collected by administering Eysenck Personality Questionnaire-R, Dimension of Rigidity Scale and Leadership Preference Scale. The results revealed that there is a significant gender difference among the subjects in all the personality dimensions, in emotional and behavioral rigidity. However, no significant difference was found between male and female students regarding intellectual, dispositional, social, perceptual and creative rigidity. The commerce students also unanimously showed preference for democratic leadership.

HD /Poster/9

## Impact of Social Change and Other Approaches for Self Development of Girls in Jharkhand State

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The eleventh plan's emphasis is on gender equality and on arresting the decline in the child sex ratio. Nutrition program for Adolescent Girls, Kishore Shakati Yojana, Balika Samridhi Yojana" are the current schemes carrying to the girl child. Though, the schemes are definitely not health and family welfare oriented issues, they require to be treated and viewed as protection issues. Child trafficking, sexual exploitation are the problems that the society is increasingly being confronted with. In Jharkhand State every year 30 thousand women child from town area are being under trafficking. In which 67 percent women under the age of less them 18 years and mainly tribal girls, 10 percent women under the trafficking are illiterate, 12 percent women disappears from the town area. In a bid to control the high dropout rate among girls, the government has now proposed scheme to provide supplementary nutrition to adolescent girls. Various schemes engaged in improving the holistic life of girls but due to many causes they have to face problems in every walk of life.

HD /Poster/10

## Impact of Mothers Education on Cognitive Abilities of Pre-School Children

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The present study was conducted in Kumarganj, Faizabad district of Eastern Uttar Pradesh. The purpose of the study was to assess cognitive abilities of hundred preschool children. Sample of the study comprised 50 girls and 50 boys of age between 3 to 5 years. The standardized Pandey's Cognitive Development Test was used to assess the cognitive abilities of pre-school children. Data was analyzed in terms of frequency, percentage and chi square ( $\chi^2$ ). The statistical analysis revealed that maternal education has a significant effect on cognitive abilities of preschool children. The pre-school children with educated mothers have high cognitive abilities than preschool children of illiterate mothers.

HD /Poster/11

## Education and Employment as Related to Modernity: A Study of Social Change in Women of Hazaribagh

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The research reported in concerned with the study of social change in women of Hazaribag. It attempts to examine the influence of education and employment on the extent of social change of women. Social change

has two faces one is the material changes and the other is the non-material changes. This research is concerned with measurement of social change through the measure of one's attitudes, beliefs and values. Modernization signifies a process of epochal transition. It implies emergence of a culture of high-tech, formal organization, secularized value system and vigorous psycho-social mobilization. The modernity scale developed by Singh (1984 b) consists of four dimensions namely, personality, socio-cultural, political and health has been used for the study. The second means of measurement of social change is the measurement of one's values in different areas of one's life which were also used in the study. A sample of 240 women has been selected for the study. Analysis of the data and discussions made and major finding obtained.

HD/Poster/13

### A Study of Achievement Motivation and Study Habits of Bengali Medium and English Medium Adolescent Girls

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Study habit in adolescence is very important for future achievement. The present study aims to investigate the impact of medium of instruction on achievement motivation and study habits of adolescent girls'. Eighty girls from Bengali medium and eighty from English medium schools were selected by the method of purposive sampling as subjects. Their community, age group, (14-18 years), educational qualification, type of family, marital status and socio-economic status were taken into consideration. The data pertinent to study were collected with the help of two questionnaires, namely, (1) Deo- Mohan-Achievement Motivation Scale and (2) Palsane and Sharma Study Habit Inventory. Collection of data was followed by statistical analysis. The result of t-test indicated that there is no significant difference between Bengali and English medium school girls in the areas of achievement motivation and study habit. However it was found that achievement motivation and study habit were positively correlated for both the groups. Therefore it may be concluded that medium of instruction do not have much impact on achievement motivation and study habit, although the two have been found to be positively correlated.

HD/Poster/14

### Impact of Technological Advancements on Family and Community

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The 21<sup>st</sup> century which has provided to our fast developing youth a plethora of opportunities, now demands a lot from them. Amidst this situation of development, when a separation is seen between old parents and their children, the so-called technological developments have brought them together. Now a day the ways in which parents train and stimulate their children also change systematically with the modernization of the family. The tremendous impact of social change on family life can be seen in the systematic change in the ways in which parents train and stimulate their children in a democratic way. It is all the transcendence of human race that people today reach the height of maximum luxury upgrading from the days of their very ancient stone and cave

age. The advent of satellite communication, cellular and truck line communication enable us to access our family members, friends, relatives even across continents in a flick of second. Of course where science and technology has made us materially rich in the socio-economic front, the world is also going to be a big looser. The most disastrous consequences of over indulgence are, when people try to emulate their role models in films and TV that ultimately leads them on to crime. The decline due to advanced technology also has crept in the entire society, the parents have failed the children, the teachers have failed the students, the government has failed the people and the spiritual leaders have failed the aspirants. But everyone should know that science is a good servant but bad master.

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HD /Poster/16

## **Impact of the Use of Cell Phones on the Educational Interest, Creative Thinking and Personal Values of Teenagers**

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The changing scenario of Indian society due to use of cell phones amongst teenagers is very confusing as its utility and side effects, both are observable and alarming. The aim of the study is to know the personality profile of the cell phone users and to correlate the extent of use of cell phones with creative thinking, educational interest and personal values of teenagers. A questionnaire and interview schedule was used to collect data by stratified random sampling method and Baker Mehadi's test on creative thinking was administered. The results revealed that the use of cell phone for a longer period of time lowered the educational interest, showed less personal values, like importance of truth, self capability, goodness etc. The constant use of cell phones failed to show the relation ship of creative thinking with educational interest in appositive manner.

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HD /Poster/17

## **Nutritional Status and Quality of Life of Rehabilitated Leprosy Victims of Burla Town, Odisha**

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Leprosy is stigmatized disease that apart from the physical ailments and the deformities causes, psycho-social-economic problems to the people affected. It is one of the major public health problems of developing countries and is well known for the strong stigma associated with it. Leprosy is widely prevalent in India. According to the NLEP progress report for the year ending March 2008-09, India reported 1, 34,000 cases of leprosy. Odisha is one of the state in which the leprosy situation is highly endemic. All most 1 in every 10,000 suffers from leprosy in Odisha. Health and nutrition profile of any vulnerable section of society is of prime importance to determine their functional levels. In this backdrop an attempt has been made in this paper to assess the health and nutrition status of the leprosy victims of two leprosy colonies of Burla town, Odisha. Socio-economic, information of all the 150 victims residing in these two colonies were collected by the help of a pre tested interview schedule .The measurement of height and weight was recorded by stranded instruments. The weight and height of all the victims in the age group of 20 to 80 years were observed to be less than the weight and heights of reference Indian man and woman. Body Mass Index (BMI) revealed that all most all the victims suffered from moderate to severe grades of malnutrition. The socio-economic variables do not have

much influence on the anthropometric measurements and prevalence of malnutrition. The study also aims to determine the quality of life (QOL) and general mental health of rehabilitated leprosy victims. World Health Organization Quality of life Assessment BREF (WHOQOL-BREF)-was used to assess QOL of the victims; a Self-Reporting Questionnaire (SRQ) was used to evaluate general mental health of the victims. QOL and general mental health scores of rehabilitated leprosy victims were worse than those of the general population.

HD /Poster/18

### **Matrimonial Website: Challenges and Solution Perceived by Never married Adults (20-35 Years)**

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There is widespread use of internet in metropolitan cities for finding information, social networking, and making friends and even for searching for a spouse using matrimonial websites. The objective was to examine challenges (advantages and barriers) and solutions perceived by the never married adults for searching a spouse through matrimonial websites. Desired information was elicited from 100 never married adults located in Mumbai through a questionnaire (open and closed ended questions). The results revealed that the perceived advantages were that a) the matrimonial websites provide an array of options/variety for people to choose, b) eases the process of finding/selecting mate; c) benefits introvert and shy individuals. While the barriers included a) hiding one's true identity; b) falling prey to fraud cases; c) misusing the information available on matrimonial websites; d) threatening the authenticity and privacy. The suggestions provided were a) investigating the profiles and their information appropriately, b) maintaining laws/policies with regard to authenticity and privacy, c) making it mandatory to collect proof/authentic evidence, d) taking serious actions against fraud cases. Researching regarding the increasing popularity of matrimonial websites is an eye-opener and enlightens the young adults, their parents and website owners regarding challenges, alertness, understanding and judgment regarding matrimonial websites.

HD /Poster/19

### **Non-Formal Pre-School Education and its Impact on Development of Children Under ICDS Programme**

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Early childhood is the blossoming stage of human personality and formative period in child's life. The development fostered during this period lays foundation for building superstructure of an individual's personality. Integrated child development Services (ICDS) is the countrywide program aimed at all-round development of children through package of services including Non Formal Pre-School Education. Non-Formal Pre-School Education (NFPSE) under ICDS scheme is a crucial component of the package of services envisaged under the scheme. It aims at physical, motor, psycho-social and cognitive development of a child in cogent and holistic manner. It also aims at school readiness and development of positive attitudes towards education and provides intellectual stimulation through non-formal pre-school activities. The national goal to achieve universal primary education can be achieved only through strengthening of pre-school education in Anganwadi Centres. The need for pre-school education is considered more pronounced in the case of children from culturally and socio-economically disadvantaged homes.

**TEXTILE SCIENCE, DESIGN, CLOTHING AND FASHION STUDIES**  
**(Oral & Poster Presentation)**



## Printing of Silk with Croton Leaves (*Codium variegatum*)

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### ABSTRACT

*Man's urge to decorate his clothing and the fabrics of his environment, by means of printing, dates back to the very early times and fabrics so patterned existed before woven or embroidered ones. In this sphere of textile activity, Indians were the pioneers in the art of printing with natural colours. The traditional printers all over India in general printed cotton textiles rather than silk fabrics. The appropriate technical knowledge of colour extraction and standardization of printing is of immense value and requires a detailed study. Besides, the focus is on increasing export of textile goods and the use of natural colours for dyeing and printing of textile materials may enhance export prospects, as there is a growing interest for naturally dyed products among foreign buyers. Hence keeping in mind these facts, an attempt has been made to optimize the printing recipe for printing of silk fabrics.* Fresh Croton leaves (*Codium variegatum*) were taken for dye extraction. Two thickeners i.e. Gum tragacanth and gum acacia and three mordants i.e. alum,  $CuSO_4$  and  $FeSO_4$  in various concentrations were used for preparation of printing paste. The standardized recipe was used for dye extraction and printing recipe was a standardized by optimizing concentration of dye concentrate, and mordants concentration through visual evaluation and colour fastness testing. Various utility articles were printed with standardized printing recipe using screen printing technique. It was observed that between two thickeners, gum acacia gave best results with 8ml dye concentrate using 10% alum, 1%  $CuSO_4$  and  $FeSO_4$ . The colourfastness was found to be satisfactory and the printed articles were also highly appreciated by the entrepreneurs. The use of various mordants with acacia thickener produced various shades of pink. Since the natural dyed and printed products have much demand in the international market, further research can be done on printing of silk with other sources of natural dyes in combination with the natural thickeners.

### INTRODUCTION

Man's urge to decorate his clothing and the fabrics of his environment, by means of printing, dates back to the very early times and fabrics so patterned existed before woven or embroidered ones. Printing, a method of ornamentation employed first by ancient Indians and Egyptians is generally defined as 'localized dyeing' i.e. dyeing which is confined to certain portions of the fabric that constitute the design. The evidence of printing in India was found during the 4<sup>th</sup> century B.C. and such fabrics were exported to China, where they were much used and admired, and later imitated.

In this sphere of textile activity, Indians were among the pioneers in the art of printing with natural colours. Printing with indigo was more of a mystery to many foreign travelers to India because they could observe no true colour when fabric was dipped in indigo bath. The traditional printers all over India in general printed cotton textiles rather than silk fabrics. As a result the traditional recipes for use of natural sources for printing on cotton textiles were well established and have been documented to an extent; though even in this area, contributions from academic institutions remained almost negligible and hence systematic or accurate data of various popular shades produced by the traditional (so called vegetable) printers was hardly ever documented. The research

efforts devoted to natural dyes are negligible. If there had been significant research on the use of natural dyes, it is probable that they would have already been much more widely used than they currently are. Although many studies on extraction and processing of natural dyes on various fibers have been reported, the use of natural colour is still very limited due to non-availability of standard shade card, precise and specific way of application and standard norms. The appropriate technical knowledge of colour extraction, purification and standardization of printing techniques is of immense value and require detailed study. Besides, the focus is on increasing export of textile goods and the use of natural colours for dyeing and printing of textile materials may enhance export prospects, as there is a growing interest for naturally dyed products among foreign buyers. Hence keeping in mind these facts an attempt has been made to optimize the printing recipe for printing of silk fabrics.

## **AIMS & OBJECTIVES**

The aim of the research is to explore untapped resources of natural dye for value addition of silk through printing and dyeing. Keeping in mind this aim, the study has been carried out to optimize the recipe of printing of silk using natural dye extracted from Croton Leaves (*Codium variegatum*)

## **MATERIALS & METHODS**

- **Pre treatment of the fabric:** Before dyeing and printing, the entire length of the fabric was washed by the method recommended by Dantyagi (1983). A detergent solution containing 0.5 ml of genteel per 100 ml of water was prepared. It was heated to 50°C. Silk fabric was dipped into this solution and stirred gently for about 30 minutes. It was kneaded, squeezed in the soap solution and then rinsed under tap water till free from traces of detergent. After that, fabric was partially dried in shade and ironed when half wet. Silk samples of size 5x5 inches, weighing 2 gm were taken for conducting the experiments.
- **Preparation of the screens:** Screen was prepared by stretching the nylon mesh tightly over the wooden frame. The design was drawn and painted with enamel paint, blocking out those portions, which were not required to be printed.
- **Thickener used:** Gum acacia and gum tragacanth were taken as thickeners for preparation of printing paste. Gum tragacanth was obtained from leguminous plants like *astragalus gummifex* as dried-up exudates while gum acacia exudates from the stems and branches of *acacia nilotica* was used.
- **Selection of dye:** Fresh Croton leaves (*Codium variegatum*) were selected for the study. The collected leaves were crushed and used in fresh state for extraction of dye.
- **Extraction of dye:** following recipe was used for extraction of dye and preparation of colour concentrate.

Dye concentration	12 gram
Extraction Media	Acidic (HCl)
Concentration of HCl	1.0 ml
Extraction time	60 minutes
Temperature	80° C

Dye solution was prepared by adding 12 gm of crushed leaves in a beaker containing 100 ml of water and 1 ml of HCl. The temperature of solution was raised upto 80° C for 60 minutes to extract the dye from leaves. After that solution was allowed to cool and was filtered for preparation of dye concentrate.

- **Preparation of colour concentrate:** The clear extracted solution, prepared by optimized dye concentration, was concentrated by heating to obtained dye concentrate. For this 100 ml. of dye solution was reduced to 5 ml concentrate through evaporation using hot plate. Different concentration were obtained by dissolving i.e. (2, 6, 8 and 12 ml) dye concentrate separately in 100 ml of water and reduced to 5 ml, for preparation of printing paste.

- Preparation of printing paste:** 5 and 2 gm powder of thickeners like gum acacia and gum tragacanth, respectively were added by sprinkling to the each dye concentrate under constant stirring and final volume was made up to 50 ml with addition of water. The paste were kept for overnight. Four printing pastes were prepared for each thickener using different dye concentrates i.e. 2, 6, 8 and 12 ml
- Effects of different mordants on printing:** To see the effects of different mordants i.e. copper sulphate, ferrous sulphate and alum on printing, three different concentrations of each mordant were taken and added to the printing paste separately. For alum three concentrations i.e. 5, 10 and 15%(o.w.f) were taken and for copper sulphate and ferrous sulphate both 1, 2 and 3% (o.w.f.) were taken separately in printing paste already prepared. Samples were printed with all three concentration of each mordant and based on results obtained by visual evaluation based on depth of shade, clarity of design and overall appearance, one best concentration of each mordant was optimized. Silk samples were printed with all the printing pastes prepared by these concentrates and based on visual evaluation, best colour concentrate and best thickener was optimized.
- Colour fastness of printed samples:** The final printed samples were subjected to colour fastness tests. The tests conducted were.
  - Colour fastness to Light: Test method IS: 686-1957.
  - Colour fastness to Washing: Test method IS:3361-1979 (ISO-2).
  - Colour fastness to Crocking: Test method IS: 971-1956
  - Colour fastness to Perspiration: Test method IS: 766-1956.

## RESULTS & DISCUSSION

- Printing of silk samples:** Silk samples of size 6x6 cm were printed with printing paste prepared by gum tragacanth and gum acacia thickeners using different dye concentrations and samples were evaluated by judges for three attributes i.e. depth of shade, clarity of design and overall appearance. The results are reported in Table 1.

Table 1: Selection of thickeners and optimization of dye concentrate

Sl. No.	Thickeners used	Concentration of dye Concentrate (ml)	Marks obtained
1	Gum Tragacanth	2	432
		6	315
		8	502
		12	470
2	Gum Acacia*	2	680
		6	677
		8**	783
		12	656

\* Selected Thickener

\*\* Optimised concentration of dye

Results reveal that the samples printed with gum acacia were given the higher preferences by the judges as compared to gum tragacanth, which scored 783 marks. Also it was found that clarity and sharpness of design edges was more in case of samples printed with gum acacia than the samples printed with gum tragacanth thickeners hence gum acacia was selected for further study. While comparing various concentrations of dye concentrate, it was observed that maximum score was given to the sample printed by 8 ml dye concentration; hence it was selected as optimum. Since the results of visual evaluation as well as the statistical analysis were in favour of Gum Acacia, it was selected for the printing of final samples and was considered more suitable for printing, of silk with natural dye extracted from *Codium variegatum* leaves.

- Results for the optimization of mordants concentration :** Samples were printed with printing paste using three mordants (alum, copper sulphate and ferrous sulphate) in three concentrations i.e. 5%, 10% and 15% for alum and 1, 2 and 3% for both copper sulphate and ferrous sulphate separately. Each sample were visually evaluated and given marks, which are recorded and reported in Table 2.

Table 2: Visual evaluation score for different concentrations of mordants

Sl. No.	Mordants	Concentration of mordant	Marks obtained
1	Alum	5%	543
		10%*	607**
		15%	557
2	Copper sulphate	1%*	780**
		2%	699
		3%	612
3	Ferrous Sulphate	1%*	696**
		2%	666
		3%	602

\* Selected (optimized) concentration of mordant

\*\* Maximum Marks

Table 2 clearly reveals that alum mordant showed best results with 10% concentration as it scored maximum marks, while in case of copper sulphate and ferrous sulphate both, maximum score was given to the samples printed with 1% mordant concentration. Hence 10% concentration for alum and 1% concentration for copper sulphate and ferrous sulphate were selected as optimum. While comparing various attributes of the printed samples using three mordants, the best results were obtained with the copper sulphate mordant.

- Colourfastness of printed samples:** Samples printed with optimized concentration of dye and mordants using selected thickeners were subjected to colourfastness test and the results are reported in Table 3a and 3b. Data in these tables reveals that samples mordanted with alum and copper sulphate mordants showed good (5) light fastness whereas samples mordanted with ferrous sulphate mordants showed very good (6) light fastness. The rating for washing fastness was given on the basis of change in colour as well as staining on adjacent test fabrics i.e. silk and cotton. It was observed that copper sulphate and ferrous sulphate mordanted samples showed slight (4) change in colour. The staining on silk test sample was found to range between slight to negligible (4/5) whereas for cotton test sample it was slight (4) change.

While comparing perspiration fastness it was observed that all the mordanted samples showed good results for alkaline perspiration solution than acidic perspiration solution. In case of crocking fastness, the results of dry crocking were found to be good as compared to wet crocking. Also the staining on adjacent test samples (silk and cotton) was minimum in dry crocking as compared to wet crocking in all the mordanted samples.

- Recipe developed for printing of silk :** On the basis of results obtained, the final recipe for printing of silk with *Codium variegatum* leaves was optimized which is as follows:

Final recipe for printing of silk (3gm)	
Dye concentrate	8 ml
Gum Acacia	5 gram

Mordant Concentration	
Alum	10%
CuSO <sub>4</sub>	1%
FeSO <sub>4</sub>	1%

- **Developed products :** Various apparel and furnishings were prepared using the optimized printing recipe.

## CONCLUSION

In order to satisfy the demand of green minded consumers, the present study was planned, to be look out for safer alternative for printing with natural dyes. *Croton Leaves* was found to be a good source of natural dye for printing of silk. The use of various mordants with acacia thickener produced various shades of pink colour. Since the natural dyed and printed products have much demand in the international market, further research can be done on printing of silk with other sources of natural dyes in combination with the natural thickeners.

## RECOMMENDATIONS

Since international market is focusing towards the use of eco friendly products, the recipe developed in present study for printing of silk can be commercialised. Further much emphasis should be given to explore other sources of natural dyes and thickeners for preparation of other eco-friendly textiles in order to have an edge in the competitive global market.

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## Sustainable Traditional Preparatory Processes- New Hopes for Social, Ecological and Hygiene Concerns

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### ABSTRACT

*Ajrakh, a dying art which boasts of a very old block printing tradition and immense potential to reduce environmental and economical hazards, has been the focus of this study. The data collected through primary sources- (personal interviews of eight ajrakh artisans from Dhamadka and Ajrakhpur) and secondary sources such as visits to museums and libraries unfolded interesting information about the traditional craft including the traditional printing methods that uses environment friendly ingredients such as, camel dung, processing with castor oil, treatment of myrobalan, steaming of the fabric and bleaching with sunlight, use of gum, jowar and rice flour, which now-a-day's nobody is using due to many reasons. The craftsmen, those having the skills but diversified themselves were selected and were educated to experiment the documented traditional recipes. The Sindh recipe with slight variation was found to give in the very good to excellent, fastness properties ranging between 4 and 5 as per the ISO standards, for washing fastness in staining, perspiration, light and dry-cleaning, thus ensuring good quality of printing. Almost four different origins, cotton, linen, silk and wool of total twelve varieties were experimented for printing. The testing with ISO standards confirmed the suitability of these fabric varieties for Ajrakh printing. Many preparatory processes used were found supporting to energy conservation and production of environment friendly fabrics with acceptable quality. The hand spun cotton treated using documented preparatory process with slight variations, when tested for bacteria and fungus resulted in % reduction= Nil.*

### INTRODUCTION

Ajrakh a unique resist and mordant printing technique is practiced at Anjar and Dhamadka in Kutch area of Gujarat. The printed Ajrakh cloth has blue, red, black and white colours, in several geometrical grid patterns, resembling those found at Fostat (Refer Plate 1).

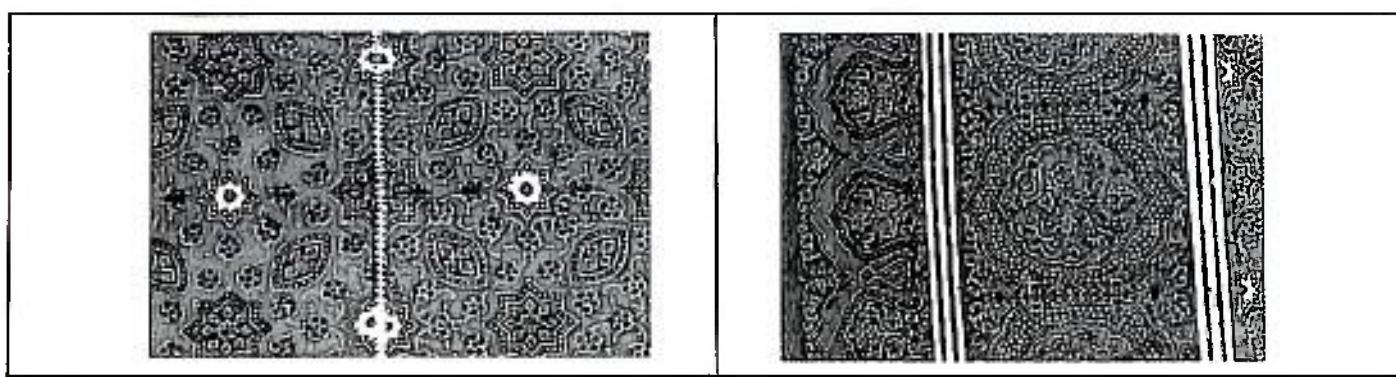


Plate No. 1 : The sample of original Sindhi Bepasi (printed on both the sides) Ajrakh, two pieces joined together with Machchi Kata. The sample is dyed with Indigo, printed with madder and iron rust.

Teli Ajrak is the most traditional form of all the different varieties of Ajrakh, and is justifiably famous for its unique and magical properties. When worn, used and washed frequently, the colours instead of fading become more brilliant and luminous; in fact the fabric eventually gives way, but the colours remain fresh.

Ajrakh involves almost fifteen to seventeen tedious as well as skillful processes, which holds the prime importance in achieving the desired results.

Today there are very few Ajrakh printers who are into their occupation. They use traditional Ajrakh designs on lungies, safas, shawls home furnishings, salwar-kameez and dupattas etc., a limited product range. Also same blocks are used in home furnishings and apparel products with slight variations. None of these printers use the traditional age old method of Ajrakh production as they find it very laborious and not cost effective.

The only way to get a holistic idea of this occupation and art was through a series of interviews with the practitioners of this art. Thus, four of the leading Ajrakh producers of Dhamadka and Ajrakhpur were interviewed through a series of meetings exploring a range of areas. To revive Dhamadka Ajrakh, it was very essential to re-enlist artisans who had moved away from Ajrakh making, particularly using natural dyes and the age-old process.

## **AIMS & OBJECTIVES**

1. To document current and age old recipes and practices of Ajrakh making.
2. To identify artisans who had moved away from this art and to bring them back to this profession.
3. To evaluate fabrics printed through traditional recipes for sustainability.

## **MATERIALS & METHODS**

To revive Dhamadka Ajrakh, the traditional Ajrakh makers were canvassed. In doing this, the primary focus was on those who had moved away from Ajrakh only in the recent past. Of all the artisans interviewed two were selected on the basis of their interview, interest, and young age.

The two selected artisans were first encouraged to re-learn and practice their traditional craft. To do this, they were first introduced to the Dhamadka Ajrakh process documented by Lotika Varadrajan, and also to the process documented by Bilgrami with slight modifications.

**The Ajrakh making process involved (Refer Plate 2):**

1. Preparatory washing of the gray fabric using beating method
2. Kumbh (application of steam to the washed gray fabric in a coil form)
3. Saaj (treatment with soda, castor oil and camel dung)
4. Sealing of the saaj treated fabric in a sack cloth and keeping it in a closed room
5. Washing and beating of the fabric
6. Application of natural mordant - myroblolan
7. Resist printing, de-gumming and dyeing (the resist substances used are guch which is mud resist and kariyana which is a mixture of the gum from babul tree and chuna or lime.)
8. Dyeing with natural indigo and alizarine
9. Repetitive treatment with cow dung, washing, and sun drying

To find out the sustainability of the traditional process, the products from these exercises were then tested for colorfastness as per by ASTM and ISO standards for sunlight and washing to ensure that the product development was going in the right direction.

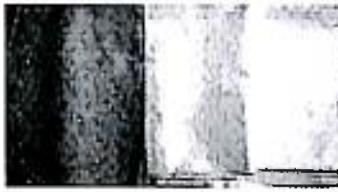
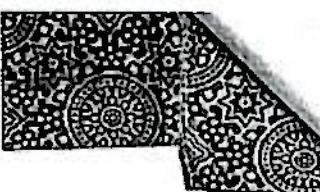
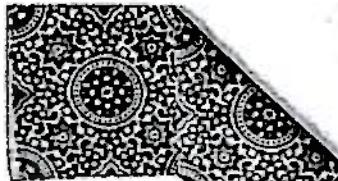
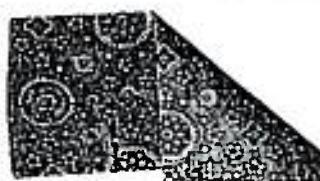
1) Fabric after sodakhar, saj and Kasai process	2) Fabric with kiryanu process
	
3) Kut printing	4) Kharah printing
	
5) Dyeing with indigo and alizarine	6) Dyeing with indigo and alizarine
	

Plate No. 2: Samples of stages of Ajrakh making of Sindh

## RESULTS & DISCUSSIONS

Information collected through interview schedule of *khandani* Ajrakh artisans revealed the following: The largest market for Ajrakh material is local, but the economic conditions of this population precludes from creating really intricate Ajrakhs thereby perpetuating the vicious cycle of low quality because of the lack of market, and the inability of the market to grow because of the poor product quality.

Ajrakh has also shown promise for export, based on the appreciation of the tradition of Ajrakh printing by the Canadian who value the vegetal aspect of colouration, and its eco-friendliness.

Table 1 gives the clear idea about the differences between the results in terms of quality parameters obtained from the printed fabrics with slightly modified method documented at Sindh and traditional method documented at Dhamadka.

The results shows that the process documented at Sindh gave better results mainly for cross staining on other fabrics, that is, acetate, cotton, nylon and wool in comparison with the results of the process documented at Dhamadka. Besides, the printing quality in terms of brightness of the colour was also found better in the Sindh process

Tests revealed that the Ajrakh produced using the process documented Biligrami was aesthetically superior to the one documented by Lotika Varadrajan, and it was decided to use this process with some changes because of the unavailability of few materials mentioned by her.

Experiments for Ajrakh printing carried out on, cotton (handspun cotton, cotton twill, knitted cotton, and voile), silk (tussah, georgette, gazi silk, satin silk, crepe silk), linen and on hand spun wool, confirmed the suitability of these fabric varieties for Ajrakh printing, for ISO standards.

The hand spun cotton treated with documented preparatory process with slight variations, was tested for bacteria and fungus *Staphylococcus aurus* and *Klesiella pneumoiae* through the 'Antibacterial Quantitative Test' at CIRCOT, Matunga, Mumbai. The percentage of Bacteria and Fungus present in the fabric, resulted in - A=31 \*10000, B= 31 \* 10000, R=% Reduction=Nil.

**Table 1: Colour Fastness of fabrics printed by SMTRC processes**

	<b>Sindh</b>	<b>Dhamadka</b>
<b>Colour Fastness to Washing</b>		
<b>ISO</b>	105/ CO6 AIM at 40 deg C	105/ CO6 AIM at 40 deg C
Change in Shade	4	4
Cross staining on other		
Acetate	5	4
Cotton	4 to 5	3 to 4
Nylon	4 to 5	3 to 4
Polyester	5	4 to 5
Acrylic	5	5
Wool	4	3
<b>Colour Fastness to Light</b>		
<b>ISO</b>	105/ B 02	105/ B 02
<b>Rating</b>	> 6 (Tested up to grade 6)	> 6 (Tested up to grade 6)

## CONCLUSION

Nature serves human beings and is the source of our bare necessities. In present days the global trend is towards saving nature. In the light of this awakening, the trend is changing, from manmade textiles to environment friendly ones.

Ajrakh is a very old block printing tradition that uses all natural ingredients which has immense potential to reduce environmental and economical hazards. The use of steam, camel dung, castor oil, myrobalan, natural gum, clay, sunlight, proves the strong ecological support against usage of chemicals and electrical power.

In this study the preparatory processes which produce sustainable printed fabrics with acceptable colorfastness have been revived and the artisans have been encouraged to follow their old profession. It is accepted that this would have a tremendous social impact also the additional benefit of antibacterial properties, adds to the hopes for this craft with respect to the hygiene concerns.

## RECOMMENDATIONS

1. Age old recipes and processes need to be experimented and tested again to identify their superior advantages with an objective to commercialize them and ensuring that India does not lose out its rich tradition.
2. Motivation and encouragement is needed by individuals, institutions and the Government to bring back lost artisans and thereby lost traditions which were environmentally and socially friendly.

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## Development of Spray Tank Cover for Farm Workers

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### ABSTRACT

*In developing countries, the use of pesticides is one of the most relevant occupational hazards for agricultural workers. An effort was made to design and construct the spray tank cover with functional features for the farm workers who are involved in pesticide spraying through this specially designed 'spray tank cover'. The pesticide residue was found to be much lower when the sprayers sprayed with tank covers.*

### INTRODUCTION

About 1, 00,000 years ago, the range of materials available for clothing was small as people used animal skins for covering their body. However with the development of textile technology, greater varieties like cotton or natural fibers like wool, flax, hemp are available for clothing purposes. Today the changing face of textiles can be seen from design to manufacture and will continue to evolve in the future. A new range of high-tech textiles, what they call 'Intelligent Textiles', for specialized applications is fast becoming popular that possesses some unique properties like flame resistance, chemical resistance, oil and dirt resistance, easy breathability and overall high level of hygienic properties. One of the applications of such type of textiles is the manufacture of 'functional textiles' for farm workers.

### AIMS AND OBJECTIVES

Thus keeping in view the needs and problems faced by the farmers, present study was undertaken with the following objectives.

1. To study the health problems faced by farm workers.
2. To develop spray tank cover for farm workers engaged in pesticide spraying.

### MATERIALS & METHODS

To find out the problems faced by farm workers during pesticide spraying, 50 male farm workers were randomly selected from various villages of Hisar district of Haryana state. Functional features as per their requirements were incorporated in the cover. The design for the tank cover was developed and constructed for field trials. The fabrics used for construction were selected to provide maximum protection and easy accessibility. Suitable Patterns was developed to provide maximum comfort, protection and improve job efficiency.

For field trials, five male respondents who were actually involved in pesticide spraying were selected and their suitability as well as acceptability was recorded on the developed performa. Residue assessment of pesticide on the functional clothing was done by GLC to assess effectiveness.

## RESULTS & DISCUSSION

- Health problems faced by male farm workers :** The findings of investigation revealed that among the male farm workers were involved in spraying pesticides and 98% respondents when exposed to

Table 1: Health problems faced by male farm workers (N = 50)

Health Problem	Activities											
	Seed treatment	Fertilizer application	Irrigation	Weeding	Plant protection	Harvesting	Thrashing	Cleaning	Drying	Picking	Storage	Vegetable Plucking
Skin irritation and itching	25 (50)	20 (40)	-	40 (80)	49 (98)	40 (80)	40 (80)	40 (80)	-	25 (50)	25 (50)	5 (10)
Eye irritation and itching	5 (10)	-	-	-	49 (98)	40 (80)	40 (80)	40 (80)	-	-	-	-
Running nose	-	-	25 (50)	-	49 (98)	-	-	32 (64)	-	10 (20)	-	-
Shortness of breath	-	-	-	-	32 (64)	10 (20)	-	-	-	-	-	-
Chest pain	-	-	-	-	29 (58)	-	-	-	-	-	-	-
Nausea	-	-	-	-	29 (58)	-	-	10 (20)	-	-	10 (20)	-
Vomiting and diarrhea	-	-	-	-	29 (58)	-	-	5 (10)	-	-	-	-
Abdominal pain	-	-	-	-	29 (58)	-	-	-	-	-	-	-
Headache	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	-
Sweating	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	49 (98)	-

**Figures in parenthesis represent percentages**  
**Multiple responses**

pesticide/insecticide complained of skin irritation and itching, eye irritation and itching and running nose. They also complained of headache and sweating during pesticide spraying. Strong chemical formulation of the pesticide/insecticide was the main cause of these problems.

All the respondents (100%) felt that face, head, neck, hand, feet, upper body and lower body needed protection during plant protection.

- Development of Spray Tank Cover :** To protect the farm workers a cover for spray tank was developed. The developed tank cover has three layers : inner most layer made of polythene, middle layer from foam and the outer layer was any strong fabric. The polythene sheet restricted the contact of pesticide with the body, foam acted as a shock absorber and the outer layer provided strength to the cover.

Drafting of spray tank cover	
Size of fabric	
Centre panel (front and back)	23"x17" (two pieces)
Side panel	23"x 9" (two pieces)
Base	26"x 9" (one piece)

## Procedure

- **Drafting of the cover pattern**

a) Centre panel

Take a piece of fabric (23"x 17") and fold it widthwise. Mark its corners as A, B, C and D. Mark point E on AB line,  $BE=\frac{1}{2}"$ . Join EC with a straight line

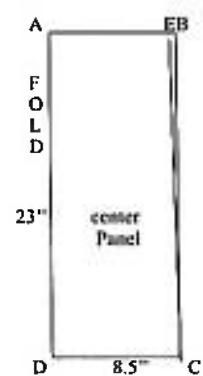


Fig-1

b) Side panel

Take a piece of fabric (23"x 9") and fold it widthwise. Mark its corners as A, B, C and D. Mark point E on AB line,  $BE=1"$ . Join EC with a straight line

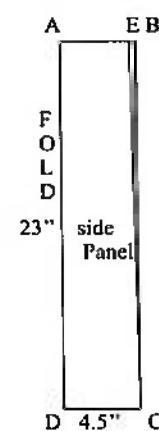


Fig 2

c) Base

Take a piece of fabric 26"x 9" and fold it first widthwise and then lengthwise. Mark its corners as A, B, C and D. Mark point E on BC line such that  $BE=\frac{1}{2}"$ . Join AE with a curve.

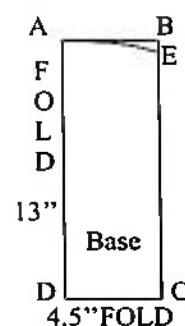
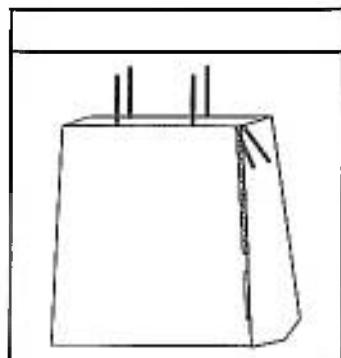


Fig 3

- **Guidelines for cutting and stitching**

- All seam allowances are included. Cut centre panels, side panels and base as shown in the figures-1 to 3.
- Position centre panels (front and back) with side panels and tack. Stitch a zipper 13" along the side panel and front panel as shown in the diagram starting from the top edge. Leave an opening of 3" two inches below the zipper. Finish the opening by tucking the edges.
- Position base of the bag and stitch.
- Turn and finish the top edges.
- Prepare six strings, 10" each, position four of them and stitch on the top edges. Attach remaining two strips on the top of zipper ends to secure the opening.

## SPRAY TANK COVER



- **Pesticide residue assessment :** Residue assessment of pesticide on the functional clothing was done by GLC and the results are presented in Table 2.

**Table 2: Residue of cypermethrin**

Part of body	Residues in g/g
Back of kurta (without tank cover)	3.29
Back of kurta (with tank cover)	0.65

Due to over flowing of spray tank or leakage in the tank, pesticide solution on dripping at the back of the sprayer. After GLC of kurta, it was found that the exposure of the body to the pesticide was reduced by 5 times in case of sprayer who sprayed with tank cover on.

## CONCLUSION

Therefore it is recommended that these spray tank covers be used by farm workers while spraying pesticide. The developed spray tank cover was found to be highly suitable and acceptable by all the respondents. Further pesticide distributors should supply these covers along with the pesticides.

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## Fragrance Lingerie

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### ABSTRACT

*Micro-encapsulation is an innovation wherein active material is enveloped in a coating or capsule which protects it from external environment like oxidation, heat, moisture and evaporation and releases it in controlled and slow manner on mechanical agitation. Fragrances, flavors, essential oils, vitamins, anti-microbial agents, deodorants and variety of other substances are encapsulated in these microcapsules. Taking advantages of micro-encapsulation technique, the researcher has designed and developed perfumed lingerie sets using micro-encapsulated fragrances. Four popularly used micro-encapsulated fragrances were applied on four popularly used fabrics for lingerie. Fastness tests for evaluating retention properties were carried out. Results of fastness tests showed aroma retention even after 30 cycles of wash, rub and abrasion. Consumer survey was conducted to identify their preference of fragrance, color and design for lingerie set. Perfumed lingerie set was developed based on the preferences of the consumers. Results of the survey showed acceptance of perfumed lingerie by the consumers as it was a new concept and consumers are always in search of innovative products.*

### INTRODUCTION

A 'consumer-oriented' 21<sup>st</sup> century challenges garment and fabric producer to come up with innovations which result from the technological advancements to not only help in strengthening the existing product line but also to diversify and flourish in new areas. Micro-encapsulation is one such innovation that resulted from advanced technology. The fabrics used for the study were encapsulated with fragrance and developed into perfumed lingerie using micro-encapsulated fragrances. Since lingerie is a broad term, the present study is concentrated on designing of brassieres and panties as it is the most widely worn women apparel.

### AIMS & OBJECTIVES

1. To design and construct lingerie (brassieres and panties) with micro-encapsulated fragrance.
2. To ascertain the retention properties of microencapsulated fragrances on different fabrics and product stage.

### MATERIALS & METHODS

- Survey of retailers to ascertain the most preferred fabric, colors, styles in lingerie (brassieres and panties).
- Application of the 4 different microencapsulated fragrances(rose, lavender, strawberry and lime) on each of the 4 fabric different type of fabrics (woven cotton, knitted cotton, knitted cotton blend and knitted lace).. This was done by soaking the fabric in the fragrance using acrylic binder followed by curing at 100°C - 150°C depending on the type of fabric used.
- Testing
  - a) Wash fastness was carried out using mild soap solution and water at normal temperature.
  - b) Other fastness tests like rub (dry), acid and alkaline perspiration and abrasion resistance test were carried out on the treated samples to check the aroma retention.

- c) Subjective evaluation for all the four tests was done by 30 respondents using purposive sampling technique based on the exclusion criteria of those suffering from cold and cough.

- Construction**

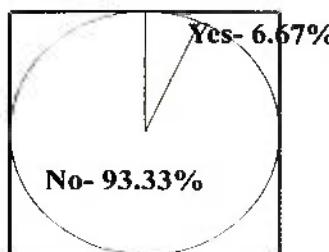
Consumer survey was carried out using 100 female respondents to ascertain their preferences with respect to fragrance, color and design of lingerie sets. Based on consumer survey results, lingerie sets were developed by two different procedures.

- i) Perfumed Lingerie Set A Fabric : (a) Encapsulation of fabric with preferred fragrance (b) Curing (c) Development of 3 Lingerie sets
- ii) Perfumed Lingerie Set B Fabric : (a) Development of 3 Lingerie sets (b) Encapsulation of fabric with preferred fragrance (c) Curing Total six sets of Perfumed lingerie sets were developed.
- Comparison of their fragrance retention properties of both the wash fastness tested samples was carried out by the same set of 30 respondents as earlier.
- Consumer survey was carried out to study the preferences of perfumed lingerie with respect to acceptance, marketability; price range was carried out (100 female respondents).

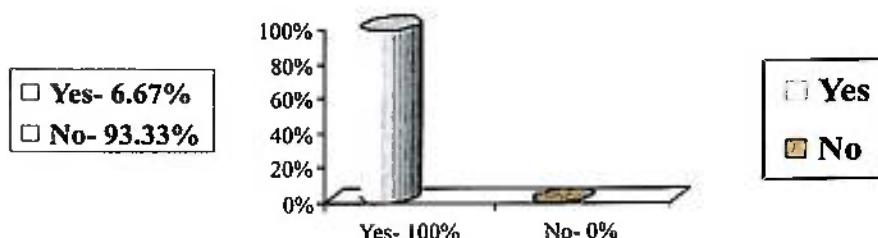
## RESULTS & DISCUSSION

### 1. Survey results of the Retailers

- Lace was the most preferred fabric by the consumers for lingerie followed by knitted cotton blend, knitted cotton and woven cotton.
- Semi-padded brassiere style was the most selling brassiere style followed by plain and fully padded.
- Low waist panty was the most selling panty style followed by Briefs and thongs.
- Other results are represented in the following graphs.



Awareness of fragrance/ scented fabrics



Perfumed Lingerie - New Concept

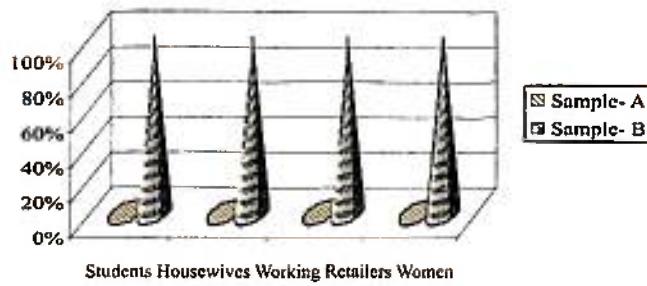
Lime gave best results with respect to Wash fastness, rub (Dry) fastness, perspiration (acid and alkaline) fastness and abrasion tests in all the four fabrics followed by Rose, Strawberry and Lavender.

### 2. Results of consumer survey:

- Majority (98%) of the respondents were not aware of fragrance/ scented fabric.
- Rose was the most preferred fragrance by the consumers.
- Slate Gray was the most preferred colour for the lingerie set (semi-padded brassiere with low waist panty).
- Salmon Rose was the preferred colour for the lingerie set (plain brassiere with brief).
- Lavender was the most preferred color for the lingerie set- Padded Brassiere with Thongs.
- Procedure- B which was done at product stage showed better fragrance retention properties as compared to Procedure- A which was done at fabric stage.

### 3. Survey results of respondents:

- Majority of the respondents both buyers and sellers showed 100% preference for perfumed lingerie sets and ascertained that it will have good marketability in domestic as well as International market.



Preference for perfumed samples

- All respondents affirmed that perfumed lingerie Set- B has more fragrance than perfumed lingerie Set - A.

## CONCLUSION

Majority of the consumers as well as retailers were unaware of fragrance fabrics. Since majority of respondents had high buying capacity, they showed preference for buying perfume lingerie set if available in the market.

## RECOMMENDATIONS

Different products like night wear, shirts, kurtis, and socks can also be developed using this technique.

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## Extraction of Dye from Peepal (*Ficus religiosa*) Bark and Leaves and its Application for Dyeing Cotton and Silk Fabrics

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### ABSTRACT

*Dye is any substance, natural or synthetic used to color various materials, especially textiles, leather and food. The dye is usually used from an aqueous solution and may require a mordant to improve the fastness of the dye on the fibers. Natural dyes were of animal, vegetable and mineral origin. The greatest source of dyes has been the plant kingdom, notably roots, berries, bark, leaves and wood, but only a few have been used on a commercial scale. This is because preparation and extraction of natural dyes entails intensive labor, sustained supply of raw materials, and right technologies. These factors made synthetic dyes the most convenient alternative.*

*In the present study peepal (*Ficus religiosa*) was used as a natural dye source to dye cotton and silk fabric. The chemicals used as mordants for the research work were harda, alum, tannic acid and ferrous sulphate. Dye obtained from leaves and bark gave different shades of brick red, pale cream, light brown and brownish red. Highest intensity of colour was observed when harda (myrobalan) was used a mordant whereas the lowest was in case of alum. Acidic pH gave better results than alkaline OH. Other parameters like washing; rubbing and sunlight fastness also gave excellent result. The natural antibacterial property of the samples dyed with peepul bark and leaves was also assessed*

### INTRODUCTION

Natural dyes are a class of colorants extracted from vegetative matter and animal residues. most of them are mordant dyes as they require the inclusion of one or more metallic salts of aluminum, iron, chromium, copper and others for ensuring reasonable fastness of the color to sunlight and washing. Natural dyes were extensively used for the dyeing of all natural fibers until the middle of the nineteenth century. Natural dyeing industry can promote indirect employment in cultivation of plants and herbal matters in waste lands which are widely spread all over India.

*Ficus religiosa Linn (Peepal) is a large deciduous tree with few or no aerial roots with leaves bright green in colour, the part used was leaves and bark. The bark is astringent, sweet, cooling and aphrodisiac, and its aqueous extract has an antibacterial property against *Staphylococcus aureus* and *Escherichia coli*. Leaves and tender shoots have purgative properties and are also recommended for wounds and skin diseases.*

### AIMS & OBJECTIVES

The present study was designed in consideration with the following objectives:

1. To study the dyeing properties of peepal (*Ficus religiosa*) leaves and bark on cotton and silk fabrics.

- To study the effect of mordant treatments on physical property of peepal leaves and bark dye.
- To study the colour fastness and anti microbial properties of dye.

## MATERIALS & METHODS

### 1. Materials Used :

- Fabric: Plain weave 100% pure cotton and silk fabric was used.
- Dye material: Peepul bark and leaves were collected from the peepal trees growing in the university campus.
- Mordants : harda (*Terminalia chebula*), alum (aluminum potassium sulphate) and tin (stannous chloride) were used.

### 2. Experimental Method:

- Preparatory process : a) degumming for silk, b) scouring for cotton to remove natural / added impurities.
- Aqueous Extraction of the dye from peepal leaves and bark.
- The Cotton and silk fabric samples were treated with a mordant prior to dyeing. The samples were dyed with 10-15% (owf) of the dye maintaining the temperature at 80° - 90°C for 45 minutes. The pH of dyes was maintained at 4-5 (acidic) 9-10 (alkline). After the dyeing process the samples were allowed to cool in the dye bath for 10 - 15 minutes. This was followed by washing under tap water and drying in shade. Dyeing on an un-mordanted cotton fabric also performed to get the control sample.

### 3. Testing :

- Colour fastness of the samples was assessed using the ISO standards.
- $L^*$   $a^*$   $b^*$  values were obtained using a spectrophotometer.
- Antimicrobial properties of samples were assessed.

## RESULTS & DISCUSSION

The different color shades obtained on dyeing cotton with peepul leaves and peepul bark using different mordants is tabulated in Table 1.

Table 2 (a-b) & Table 3 (a-b) indicate that the samples mordanted with 5% harda, alum and stannous chloride showed good to excellent colour fastness. All silk and cotton fabrics samples showed excellent fastness to perspiration in also cases except in alkaline medium where 5% harda showed slight staining on adjacent fabric. samples dyed with Peepal leaves and bark showed excellent to outstanding fastness to sunlight.

Table 1: Colour shades obtained with different mordants

Sl. No.	Mordants	Cotton & Silk dyed shade of <i>Ficus religiosa</i> (peepul)			
		Pre-mordanting			
		Peepal leaves	Peepal bark	Peepal leaves	Peepal bark
		Acidic (pH4-5)		Alkaline (pH9-10)	
1.	Harda	Pale Cream	Brick red	New Mushroom	Brownish red
2.	Alum	Light Brown	Rose pink	Brunt sand stone	Jaipuri pink
3.	Stannous Chloride	Golden yellow	Candy	Light cream	Valcano

**Table 2(a): Assessment of colour fastness properties (peepal leaves) extract (pH 4-5)**

Pre-mordanting	Mordant	Conc. of Mordant	Washing Fastness		Rubbing Fastness				Perspiration Fastness				Light Fastness
					Dry		Wet		Acidic		Alkaline		
			CC	CS	CC	CS	CC	CS	CC	CS	CC	CS	
	Harda on Cotton	5%	5	5	4	5	5	5	5	5	5	5	5
	Harda on Silk	5%	4	4.5	4	5	4	4.5	5	5	4	4.5	5
	Alum on Cotton	5%	5	5	5	5	5	5	5	4.5	5	5	5
	Alum on Silk	5%	5	5	5	4	5	3	5	5	5	5	6
	Stannous Chloride on Cotton	5%	5	5	5	5	5	5	5	5	5	5	CI
	Stannous Chloride on Silk	5%	5	5	5	5	5	4.5	5	5	5	5	6

CC - Colour Change, CS - Colour Staining, CI - Colour Increase, IH - Increase Hue

**Table 2(b): Assessment of colour fastness properties (peepal bark) extract (pH 4-5)**

Pre-mordanting	Mordant	Conc. of Mordant	Washing Fastness		Rubbing Fastness				Perspiration Fastness				Light Fastness
					Dry		Wet		Acidic		Alkaline		
			CC	CS	CC	CS	CC	CS	CC	CS	CC	CS	
	Harda on Cotton	5%	4	4.5	4	4.5	4	4.5	5	4.5	4	4.5	4.5
	Harda on Silk	5%	4	4.5	4.5	5	4	5	5	4	5	4.5	4
	Alum on Cotton	5%	4	4	5	4	5	5	5	5	5	5	5
	Alum on Silk	5%	5	4.5	5	4	4.5	5	4.5	5	4	5	5
	Stannous Chloride on Cotton	5%	5	5	5	5	5	4	5	4.5	5	5	5
	Stannous Chloride on Silk	5%	5	5	4	5	4	5	5	5	5	4.5	5

CC - Colour Change, CS - Colour Staining, CI - Colour Increase, IH - Increase Hue

**Table 3(a): Assessment of colour fastness properties (peepal leaves) extract (pH 9-10)**

Pre-mordanting	Mordant	Conc. of Mordant	Washing Fastness		Rubbing Fastness				Perspiration Fastness				Light Fastness
					Dry		Wet		Acidic		Alkaline		
			CC	CS	CC	CS	CC	CS	CC	CS	CC	CS	
	Harda on Cotton	5%	5	5	5	5	5	5	5	5	5	5	6
	Harda on Silk	5%	5	5	4.5	5	5	4.5	5	5	5	5	5
	Alum on Cotton	5%	5	5	5	5	5	5	5	5	5	5	6
	Alum on Silk	5%	5	5	5	5	5	5	5	5	5	5	CI
	Stannous Chloride on Cotton	5%	5	5	5	5	5	4	5	5	5	5	
	Stannous Chloride on Silk	5%	5	5	5	5	5	5	5	5	5	5	CI

CC - Colour Change, CS - Colour Staining, CI - Colour Increase, IH - Increase Hue

**Table 3 (b): Assessment of colour fastness properties (peepal bark) extract (pH 9-10)**

Pre-mordanting	Mordant	Conc. of Mordant	Washing Fastness		Rubbing Fastness				Perspiration Fastness				Light Fastness
					Dry		Wet		Acidic		Alkaline		
			CC	CS	CC	CS	CC	CS	CC	CS	CC	CS	
	Harda on Cotton	5%	5	4	5	4	4	4	4	4	5	5	5
	Harda on Silk	5%	4	5	5	4	4	5	4.5	5	4	5	5
	Alum on Cotton	5%	4.5	5	4	4.5	5	4	4.5	5	4	5	CI
	Alum on Silk	5%	4	4	4	5	4	5	4.5	5	4	4.5	5
	Stannous Chloride on Cotton	5%	5	5	5	4	5	3.5	4	5	4	4.5	CI
	Stannous Chloride on Silk	5%	4	5	4	5	4	5	4	5	5	4	6

CC - Colour Change, CS - Colour Staining, CI - Colour Increase, IH - Increase Hue

**Table 4: Effect of mordants on colour characteristics of dyed**

Mordant	Control Sample		L*	a*	b*
	Cotton		68.445	4.477	10.316
	Silk		79.585	1.767	11.279
5% Alum pH 4 Cotton	-		59.478	17.031	10.977
5% Alum pH 9 Cotton			70.242	13.277	8.446
5% Harda pH 4 Silk			38.328	25.962	13.790
5% SnCl <sub>2</sub> pH 4 Silk			45.139	27.325	22.921
5% SnCl <sub>2</sub> pH 9 Silk			62.391	20.600	13.790
5% Harda pH 9 Silk			63.044	12.544	15.360

Table 4 shows the colour characteristics of the *Ficus religiosa* natural bark dyed samples with and without mordants. The dyed samples do not show any significant variation in tone on mordanting as is evident from the values of colour coordinates. Here, L\* represents lightness / darkness; a\*, the green value; and b\*, the yellow / blue value. The L\* a\* b\* values of only selected natural dyes which have good fastness properties are mentioned in the Table. 5% Alum at pH 9 on cotton has the highest L\* value (i.e. 70.242), thereby indicating that the corresponding cotton sample is the lightest while the 5% Alum at pH 4 on cotton has the lowest L\* value (i.e. 59.478), it indicating that the corresponding 5% Alum pH 9 cotton sample is the darker one. Control silk sample has the highest L\* value (i.e. 79.585), indicating that, 5% Harda at pH 9 on silk sample is the lightest and the 5% Harda at pH 4 on silk has the lowest L\* value (i.e. 38.328), This indicates that the control silk sample is the darker one.

**Table 5: Anti microbial properties of the samples dyed with *ficus religiosa* (peepul) leaves and bark extract**

Parameters	Unit	Undyed cotton sample	Undyed silk sample	Peepal leaves dyed cotton sample				
				Mordant	Harda	(pH 9)	(pH 4)	(pH 9)
TBC	per gm	2750	3000	1430	1800	2290	1500	1570
Yeast & Moulds	per gm	90	120	90	70	100	60	80
Coliform MPN	per gm	<3	<3	<3	<3	<3	<3	<3
E. Coli	per gm	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Salmonella	per gm	Absent	Absent	Absent	Absent	Absent	Absent	Absent
Staphylocous Aureus	per gm	Absent	Absent	Absent	Absent	Absent	Absent	Absent
TBC= Total bacterial count								

It can be observed from table 5 that undyed silk and cotton fabric have TBC per gm of 3000 & 2750 respectively. TBC in case of cotton fabric dried with peepal bark was 1500 while for silk it was 1570. The same values for cotton dyed with peepal leaves was 1430 and in that for silk 1800. Similarly yeast & mould per gm in dyed cotton fabric with peepal leaves was found to be 90.

## CONCLUSION

From the result of the present studies, it may be concluded that:

1. All cotton and silk fabrics dyed with peepal leaves and bark and pre-mordanted with 5% concentration showed good to excellent results for washing and rubbing fastness.
3. All the samples showed good to excellent colour fastness to both alkaline and acidic perspiration.
4. All the samples showed fair to good colour fastness to sunlight. But samples pre-mordanted with alum and stannous chloride showed change in colour tone.
5. Peepul bark and leaves dyed samples exhibited antibacterial property and hence such fabric would be beneficial for persons suffering from skin allergies.

## RECOMMENDATION

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## Designing Middy Tops with Wearable Electronics

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### ABSTRACT

*Clothing is one of the most important basic needs of mankind. In several instances technology has made available to the consumer a variety of additional products as also new attributes in apparels as well as technical textiles. Wearable electronics are defined as electronics worn on or attached to the human body to add functionality without coming in the way of day-to-day activities. In this present study a safe electronic device to measure Blood Pressure of individuals was designed and given to ten doctors for evaluating the effectiveness of these wearable electronics in sensing blood pressure. Also middy tops were designed such that the designed wearable electronic component could be fixed. The study proved that clothing which has been just an aspect of protection and modesty has surely changed into a challenging element of medical textiles. The embedded blood pressure component in the middy tops were comfortable and also show correct readings.*

### INTRODUCTION

The modern era is a period of educated consumer who demands products exactly matching his individual requirements. The use of textiles for clothing known to mankind from primitive age was gradually extended to household and domestic applications.

Wearable electronics products propose to use clothing as the platform for a range of communications. They are used to monitor the physiological functions like blood pressure and temperature of the wearer. Smart textiles are the foundation of new 21<sup>st</sup> century. Bio textiles or e-textiles uncover an enormous potential for the market of the "Second Skin".

- Need for Clothing: Clothes symbolizes a person's attitudes, values, interest and taste. Clothes easily show the personal characteristics of a man. They also fulfill important psychological needs of conformity and self-confidence. Awareness of one's physical attributes and drawbacks as also awareness of ones personality is the essence of acquiring good clothing sense. From the very early days till the development of modern world, man discovered that one of the most effective ways of establishing status and social standing was to dress within society in accordance with age, function and position.
- Smart Clothing: "Smart textiles" make use of integrated or applied electronics (e.g. sensors) whereas "intelligent textiles" produce predictable effects by interacting with the environment and wearer.
- Wearable Electronics: Wearable electronics are defined as electronics worn or attached to the human body to add functionality without coming in the way of day-to-day activities. It is a conventional hard electronic components simply attached to the textile with little or no true integration. New "electronic textiles" could help monitor the activities of patients with chronic illnesses. It is possible to construct knitted fabric sensors that increase or decrease resistance when stretched. The term 'wearable electronics' refers to the reliable, robust implementation of microelectronic circuits into innovative textiles or garments in a way that is suitable for everyday use.

- Various Applications of Wearable Electronics: There are sensors to sense environmental conditions and stimuli, which offer both sensing and signal transmission function. These are primarily used to measure strain, temperature, displacement, pressure, electric currents and magnetic field. A smart shirt, uses optical fibers to detect bullet wounds and has special sensors and interconnects to monitor the body's vital signs during combat conditions. There are a number of other exciting new products in the market like, a smart kerchief with a solid micro-controller that senses the touch along the fabric, and a child's T-shirt with a built-in global positioning satellite system that allows parents to track the child's whereabouts.

## AIMS & OBJECTIVES

The objectives of the study are as follows:

1. To integrate variety of sensory parameters in clothing, for biological phenomenon such as blood pressure.
2. To study the performance of the designed blood pressure monitor in the selected middy tops.
3. To evaluate the performance of wearable electronics embedded middy tops.

## MATERIALS & METHODS

- How Sensors Work: Sensors are tiny electronic devices that can both detect and generate electrical signals from the movement and position of any given object, including the motion of the human body. These signals are then transmitted wirelessly to a microcontroller and analyzed using specially designed algorithms.
- Design of Wearable Electronics: A battery is connected to analog to digital voltage converter. The digital data is transformed to control unit. The control unit lies in the keys which is source of input. The control unit is in turn connected to LCD driver and to LCD. The battery is connected to a motor which in turn is connected to cuff and pressure sensor. The pressure sensor transfers through analog voltage to analog to digital voltage converter. Following the above design structure a wearable electronics for sensing blood pressure was designed. It was decided to embed, wearable blood pressure monitor in the middy tops.
- Measurement of Blood Pressure using Wearable Blood Pressure Monitor: The wearable electronics is designed accurately so that its working is effective. The start button is pressed and the hand is kept parallel to the heart. After one minute the systolic pressure and diastolic pressure is indicated. The pulse pressure is also monitored by this. Variations in numerous factors include heart rate, stroke volume, the elasticity and diameter of the arterial vessels, sympathetic nervous system and chemical mediators can influence Blood Pressure. In an adult the pressure during systole is 120 mmHg and during diastole is 80 mmHg. Raised blood pressure is known as hypertension. Lowered blood pressure is known as hypotension. These variations in blood pressure can be detected for an individual.
- Evaluation of Designed Wearable Blood Pressure Monitor: The designed wearable electronics were given to ten doctors for evaluating the working of wearable electronics for sensing blood pressure
- Selection of Age Group (Samples) and Garment: Adult women 30-40 years who were suffering from raised and lowered blood pressure were selected. Middy tops was selected for garment designing.
- Construction of Selected Middy Tops Designs: The middy tops were designed in such a manner that the designed wearable electronic component could be fixed at the hem line of the sleeve. Therefore each of the designed middy tops had to have a lining in the sleeve which could hold the blood pressure measuring wearable electronics. An outer sleeve was to hide the inner sleeve. The tops were constructed using various fabrics.
- Data Collection : The three constructed middy tops were given to ten women who had variation of raised and lowered blood pressure. They were requested to wear the middy top for ten days from 10 A.M. to 5 P.M. Apart from this, the middy tops were also given to ten women with normal blood pressure. They were also asked to wear the middy tops for a day from 10 A.M. to 5 P.M. The samples were requested to check their blood pressure at regular intervals or when they felt a need. In case they experienced discomfort during

wear, they were free to remove the garment. A proforma was given after every wear to evaluate the fitting, aesthetic appeal, transport of air and moisture, comfort properties of the middy tops.

## RESULTS & DISCUSSIONS

The working of wearable blood pressure monitor was rated 'good' by the doctors. It was found that the wearable electronics could be embedded for the selected middy top designs easily.

**Table 1: Fit of constructed middy tops**

Middy top	Ease			Grain			Comfort		
	Proper fit	Loose fit	Tight fit	Straight grain	Cross grain	Bias grain	Comfor- table	Fairy comfortable	Not comfortable
A	96	4	0	100	0	0	100	0	0
B	95	5	0	100	0	0	100	0	0
C	90	10	0	100	0	0	100	0	0

The Table I show that the constructed middy tops excelled in comfort, straight grain, proper fit as rated by more than 90 per cent of judges. The aesthetic appeal, transport of air and moisture was rated good by 100 per cent of the samples. The general appearance and fitting was evaluated to be good. The women did not express any discomfort, such as irritation and heaviness.

## CONCLUSION

The result of this study has proved that clothing which has been just an aspect of protection and modesty has surely changed into a challenging element of medicine. In the hierarchy of human needs, clothing ranks second top most priority next to food. A new range of truly wearable electronics with textile characteristics can be within reach by integrating intelligent electronics and innovative textile structures. Innovative products might be developed with the ability to sense respond, and adjust to different types of external stimuli.

Most of the textile experts are expecting electronic clothing to become a part of day to day activities.

## RECOMMENDATIONS

Various other sensory parameters in clothing, for biological phenomenon such as body temperature can be studied.

The performance of the designed blood pressure monitor can be embedded in other garments including shirt and jackets.

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## Enzymatic Singeing of Jute Cotton Fabrics

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### ABSTRACT

Textile processing is a growing industry that traditionally uses a lot of water, energy and chemicals starting from pesticides for growing cotton to high quantity of waters that results in waste being discharged into streams leading to hazards. Today a number of chemical based processes are in use in the textile industry and a majority of them have drawbacks from economic and environmental point of view. Virtually all these drawbacks can be eliminated by using enzymes. Further the use of enzymes results in reduced process time, energy and water. The small fibres or fibrils protruding from the fabric render a fuzzy surface and the gradual entanglement of fibrils results in the formation of pills. This paper discuss about the application of cellulase enzyme in order to remove the short fibres from jute cotton fabrics and a comparison between commercial enzyme application and synthesized enzyme application.

### INTRODUCTION

With growing population and rapid industrialization people have well understood the importance of ecology. Thus the concept of eco-friendly and re-cycle able products are fully recognized which has brought natural fibers into the picture. Cotton well known for its comfort properties is cultivated to limit extends as compared to its demand. Natural fibers which are known for their biodegrade ability are much in demand; one such fiber is Jute. Jute is a versatile, eco-friendly, recyclable and economical fiber. Jute is often blended with other fibers like cotton (called JUCO), that is ideal for clothing, accessories and home furnishing. The awareness of environmental impacts of chemical processing of textiles combined with strict legislation on industrial effluents and consumer interest to use eco-friendly products has led to the advanced, non-polluting chemical process for textile fibrous material. Enzyme treatment is considered as the good alternative to harsh chemicals. Enzymes are the nature's catalyst and logical tools for development of new biotechnology based solutions for wet processing.

### AIMS & OBJECTIVES

Based on the present need a study was made with the following objectives:

1. Obtain suitable blending composition of jute cotton yarns.
2. Convert the yarn into suitable fabric through weaving.
3. Extract the enzymes from suitable microbial source for singeing.
4. Subjecting the woven fabric to suitable processing namely singeing.

### MATERIALS & METHODS

- Powerloom woven plain weave Jute-cotton (JUCO) fabrics with 50:50 composition and 116 ends/inch and 30 picks/inch.
- Processing of jute cotton fabric: Grey fabric from loom requires preparatory process to convert it into the marketable product. The conventional methods of wet processing of cotton led to the growth in the case of enzymes preparatory process infer Gupta et al (2005).
- Extracted enzyme bio-polishing: Cellulase is the enzymes used to modify surface properties of cellulosic fabrics. Fungi are the main cellular producing micro organism infers Shukla et.al (2005).

- Selection of source for cellular production and extraction : Aspergillus's flavus strain a fungal source for cellulase enzyme was selected and got from the from the P.G students of Bio textiles, Department of textiles and clothing, Avinashilingam University for woman, Coimbatore and used for the study
- Selection of media, preparation, inoculation and extraction of enzyme: Wheat bran holds the key and is the most commonly used in various processes remark Pandey et.al (1999). Wheat bran was prepared and inoculated with the fungi Aspergillus's flavus. After five days the enzyme extraction was done using simple contact method.
- Determination of optimum Enzyme concentration: Optimum pH and temperature for application of cellulose enzyme was found to be 5.5 and 55°C respectively as described by Amsamani and Amsaveni (2008). The concentrations of enzymes were varied from 2, 4, 6, 8 and 10 ml with M: L ratio as 1: 8 one gram of Jute cotton fabric incubated for 24hrs. After 24 hours the samples were washed. The sample with maximum reduction in hairiness and minimum loss in weight was taken as optimum enzyme concentration.
- Actual bio-polishing: From the optimized concentration for cellulose enzyme treatment Jute cotton fabric was treated with cellulose enzyme and material liquor ratio of 1:8 with pH 5.5 and temp of 55°C was incubated for 24 hours. After 24 hours the temperature was raised to 90°C to stop the enzyme activity. Then the fabrics were washed in cold water.

## **RESULTS & DISCUSSION**

- Visual Evaluation: The visual evaluation proved that the enzyme treatment of jute cotton (50:50) fabric were good in general appearance, smooth in textile and medium to bright in colour.
- Thickness: When compared to the original, the increase in thickness was found to be minimum in case of extracted enzyme treated and commercial enzyme treated jute-cotton (50:50) samples.
- Weight: Extracted enzyme treated 50:50 jute cotton sample samples show minimum increase in weight when compared to the commercial enzyme treated and original samples.
- Strength: When compared to the original sample the extracted enzyme treated and commercial enzyme treated Jute cotton (50:50) samples showed minimum lose in strength.
- Elongation: Elongation of all the extracted enzyme treated samples showed an increase along warp and weft when compared to its original samples
- Stiffness (warp and weft): Maximum loss in stiffness along warp and weft was observed in all the extracted enzyme treated samples when compare to the original samples.

## **CONCLUSION**

In the textile industry "Eco-friendly" is a buss word and this has led for safer technology in production of every garment. Hence this study throws light on which was the usage of eco-friendly fabrics, eco-friendly processing and the results of the study proved potentiality of enzymes in production of green label products which would serve as a right solution to solve the environmental issues.

## **RECOMMENDATIONS**

1. The study can be carried out by varying the composition of the blend of Jute cotton yarns.
2. After processing dyeing can be carried out using a natural source.

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## Economic Rehabilitation of Persons with Disabilities in the Garment Sector - Current Scenario

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### ABSTRACT

*There is a general consensus the world over that employment is the most essential but the toughest aspect of rehabilitation. True economic independence of the disabled person, realizing their limitations in self and professional employment opportunities would mean exploring the world of employment and taking up the challenge of innovation in the area of vocational training. It requires preparing them for employment and convincing the employers to extend them suitable employment opportunities. There is a lot of scope for the private sector to step in and create employment opportunities for disabled workers. The garment sector can play a significant role in providing gainful employment to the disabled. Some indeed are doing this with a measure of modest success. However much needs to be done. Therefore, the present study was planned in order to highlight the existing trends of vocational training and employment for persons with disabilities (PWDs) in garment manufacturing process. Three separate semi-structured interview schedules were developed to obtain the required information from the personnel in charge in the Garment Manufacturing Units (GMUs), the PWDs already employed in GMUs and from special educators and/or the heads of government and non government organizations involved in the vocational training of PWDs. Besides, the existing vocational training programmes for PWDs in garment manufacturing process were studied and compared with the current job requirements. On the basis of analysis of the information gathered above and the suggested recommendations, new training modules would be evolved which would make PWDs professionally more competent, thus engaging them in productive employment in GMUs.*

### INTRODUCTION

Economic rehabilitation aims at developing and enhancing the functional abilities of a PWD, so that he/she is gainfully occupied resulting in economic contribution to self and the family. Employment opportunities for PWDs, however, have so far been restricted due to several challenges that need to be overcome, both from the demand side (employers) and from the supply side (job seekers). Vocational training provided by voluntary organizations is not professionally designed, lacking in marketability and employability. Moreover, physical and mental impairment is more visible to the employers as compared to the abilities of PWDs.

Therefore, attempts need to be continued to expand the scope of employment in private sector which constitute more than 90% of the total employment force. In keeping with developments on the economic front as well as technological growth, vocational training programmes must be designed and implemented, ensuring that high standards are set.

### AIMS & OBJECTIVES

1. To obtain information from personnel in charge in the Garment Manufacturing Units (GMUs) and the persons with disabilities (PWDs) already employed in GMUs regarding their training and employment.
2. To obtain information regarding training and employment of PWDs in garment manufacturing process, from government and non government organizations (GOs & NGOs) involved in their vocational training.

3. To study the existing vocational training programmes (VTPs) for PWDs in garment manufacturing process.
4. To suggest recommendations for designing suitable VTPs for PWDs in garment manufacturing process.

## METHODOLOGY

- **Phase I :** Two separate semi- structured interview schedules were designed for gathering first hand information regarding the experiences of employed PWDs and their employers in GMUs. Purposive sampling technique was used to interview 25 personnel in charge in GMUs located in Delhi and NCR. Care was taken that the final sample included GMUs employing PWDs and also those not employing them. Census sampling technique was used to interview all the 50 PWDs employed in 25 GMUs visited.
- **Phase II :** Interview schedule was developed to obtain information regarding training and employment of PWDs from special educators and/or the heads of GOs & NGOs involved in their vocational training. Purposive sampling technique was used to short list the GOs & NGOs in Delhi and NCR providing VTPs in garment manufacturing process to loco motor impaired, hearing impaired and visually impaired. All the short listed organizations were contacted but only 18 organizations which were presently running vocational courses in garment manufacturing process were visited for interaction.
- **Phase III :** In phase III, various existing VTPs in garment manufacturing process for PWDs in the mainstream as well as in the special institutions were studied and compared with the existing job requirements in the GMUs.
- **Phase IV :** On the basis of analysis of the information gathered above, recommendations for designing suitable VTPs for PWDs in garment manufacturing process were suggested.

## RESULTS & DISCUSSION

A detailed analysis of the information received in different phases was done. However, the salient findings were as follows:

- **Phase I :**
  - a) 70% of the GMUs were employing PWDs as they have potential to perform.
  - b) Reason for not employing was non-availability of skilled PWDs.
  - c) The role played by the GMUs in training unskilled PWDs can be emphasized as 22% of them were trained in the company itself.
  - d) Only 6% were trained in apparel training institutions which reflect the lack of accessibility to these institutions for the PWDs.
  - e) 50% of the trained PWDs got jobs within 6 months and 42% got job immediately after training. Thus, there is demand for skilled work force.
  - f) Majority of the PWDs were able to retain their jobs for more than two years.
  - g) Performance of PWDs was considered at par with other employees.
  - h) Majority (76%) of the PWDs were willing to get further training.
  - i) Majority (80%) of the GMU personnel were ready for minor adjustments to accommodate well trained PWDs in future.
- **Phase II :**

Majority (73.26%) of the organizations visited were working for the persons with loco motor impairment. Organizations dealing with persons with hearing impairment were 59.94% whereas 26.64% were providing services for persons with visual impairment. Personal interest and aptitude were reported as the most important criteria for selection of a specific vocation by an individual. The analysis of information regarding various constraints faced during training of PWDs highlighted following issues:

  - a) Shortage of funds and lack of adequate infrastructure for training.
  - b) Difficulty in arranging for trained and experienced faculty.
  - c) Commuting to the place of training is a big problem for PWDs.
  - d) Low educational and economic level of PWDs.

- e) Trainees mostly belong to the migratory families, so they are not regular in training and more time is required to train them.

It was revealed that only 33.30% of the organizations had a placement cell through which they try to place the trained and efficient trainees in the industries are placed. Placement officers accepted that employment rate (including all opportunities) of majority (46.62%) of the organizations was below 10%. Moreover, only 33.3% of the organizations agreed that they follow-up with the placed trainees to check the job sustainability. The analysis of information regarding various constraints faced during placement of PWDs highlighted following issues:

- a) Courses are not industry oriented and there is lack of exposure to industrial machines & its working environment.
- b) Not able to cope with long working hours & non-disabled friendly transportation and work place.
- c) Limited placement options and lack of contacts with the industry.
- d) Lack of sensitization among the employers regarding the capabilities of PWDs.

- **Phase III :**

**Existing mainstream VTPs for PWDs:** The Director-General of Employment and Training under the Ministry of Labor is running Industrial Training Institutes (ITIs) for imparting training in formal programmes like Garment Technology & Fashion Technology and non-formal programmes like Cutting & Sewing, Dress Designing & Fashion Designing. Other government institutes providing similar kind of training programmes are polytechnics, National Institute of Open Schooling, Board of technical education etc. Period of training of these courses is 1-2 years and have different eligibility criteria. There are instructions for 3% reservation of seats for people with disabilities in these institutes but they are not utilized due to inaccessible environment and lack of adaptation of syllabi, machines and equipment according to their requirements. Moreover, though these courses impart exhaustive knowledge, they fail to match the skill competencies demanded in the job market.

**Existing segregated VTPs for PWDs:** Various GOs & NGOs have undertaken specialized training programmes for PWDs which include cutting and tailoring, dress & fashion designing, basic tailoring etc. These courses were either self developed or followed the guidelines of NIOS, NCVT, INIFD etc. The duration of these courses ranges between 6 months and 1 year, depending on the nature of the trade. However, vocational training provided by voluntary organizations is very traditional, not professionally designed, lacking in marketability and employability. There is a wide gap of skills because of lack of exposure to work life skills and latest technology.

- **Phase IV :**

The various recommendations for designing suitable VTPs for PWDs in garment manufacturing process suggested by the personnel in charge in GMUs and the special educators and/or the heads of GOs & NGOs have been summed as follows:

- a) The training programme should be able to recognize the potential of PWDs and should fetch them decent employment.
- b) The course curriculum should strictly match the skill requirements of the industry and should be upgraded according to the advancement in the technology.
- c) The infrastructure should be upgraded and trainees should be trained to work on industrial machinery.
- d) Machines could be made user friendly by making necessary modifications so that they are comfortable working on it.
- e) Ideal duration for any vocational course should be 3-6 months keeping in view the availability of the trainees.
- f) Training programmes should make PWDs learn multiple tasks so that they are easily absorbed in the industry and their work profile is made more versatile.
- g) The training module should have theoretical component along with the practical aspect to make them more knowledgeable at work.
- h) Internship should be an integral part of training module which would help them to get acclimatized to the

working conditions of the industry.

- i) PWDs can be trained as machine operators as it is in demand, but at least 3 months practical training is must.
- j) Other areas like handling of stores, quality checking, finishing and packaging, alterations of garments etc. can also be included depending upon their interests and capabilities.
- k) People with impaired hearing can do almost all types of jobs like layering, cutting, tailoring etc. Person on wheel chairs can perform jobs like fusing machine operator, bundling, ticketing etc.

## **CONCLUSION**

On the basis of the salient findings and the suggested recommendations, new VTPs would be evolved to match the present job requirements in the garment sector. According to the degree of disability, residual capabilities and level of education of persons with locomotor impairment, hearing impairment and visual impairment, different tasks performed in garment manufacturing process would be segregated. As per the feedback obtained from personnel in charge of GMUs, one additional compulsory module on work readiness would also be developed. Accessibility to these improved intervention programmes would make PWDs professionally more competent, thus engaging them in productive employment in GMUs. Effective linkage among the PWDs, training institutions, employers, government, industry associations and the NGOs would push the philosophy of 'inclusion' with more energy and enthusiasm.

## **RECOMMENDATIONS**

1. A replication of the study could be done for other disabilities like mental retardation and mental illness.
2. Other areas of apparel industry like weaving, printing, embroidery etc. could also be explored for training PWDs for gainful employment.

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## Influence of Technological Advancement on Awareness of Indian Regional Embroidery

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### ABSTRACT

The demand for embroidered garment in the modern society is due to the increasing fashion changes. Indian embroidery has a global appeal and is in demand all over the world. The present study has been undertaken with a view to judge the awareness regarding Indian regional embroideries due to technological advancement & social change & to compare the findings between females of higher & middle income group in Aurangabad. For the above study the data was collected through questionnaire-cum-interview & random sampling method. The sample size was 100 females (50 from each income group) between age groups of 18 to 35 yrs. It was found that few regional types of embroidery like Kashmiri, Chikankari, Kutch & Kathiawari, & Kantha are popular amongst them among them, Kashmiri was the most popular. Awareness regarding Manipuri, Kasuti, & Chamba rumal was found to be very low. Respondents were aware of these embroideries mostly through exhibitions, fashion shows in the higher income group & through books, magazines & newspapers amongst middle income group. It was observed that movies & T.V. programmes has a (noticeable) effect on the awareness about regional embroideries.

### INTRODUCTION

Embroidery is the art or handicraft of decorating fabric or other material with design stitched in strands of threads or yarns such as metal strips pearl, beads, guilds and sequins. According to the Fashion Pundits if embroidery is added on to the garment it gives the garment a very rustic look.

Indian embroidery has been in vogue as a traditional method of fabric ornamentation, has a global appeal and is in demand all over the world. India has a very rich heritage in embroideries.

The traditional embroidery of each state has influence of not only in the neighbouring states but also in foreign countries like Persia, China, and Iran, etc. but also the neighboring states too. The embroideries of the different states are unique. Some of the well known regional embroideries of India are Phulkari of Punjab, Kantha of Bengal, Kashida of Bihar, Kutchi & Kathiawari of Gujarat, Kasuti of Karnataka, Kashmiri embroidery, Manipuri embroidery, & Chikankari of Uttar Pradesh.

Fashion is vicious circle keeps on changing its trends from time to time, place to place, and people to people. However this change has hardly tapped the beauty of traditional embroidery of any state. Infact in today's world the traditional motifs colours & techniques have occupied almost a permanent base in the field of textiles.

Each type of the Indian regional embroidery has a unique regional design concept , stitch structure , techniques, color combination & application. Indians do seem to be of these varried Indian embroidery types or know the skills to apply them to clothing.

Due to growing commercialization, aesthetics & nuances of the essence of the various embroideries have got diluted. People seems reluctant to pay for the very fine & exquisite hand embroidered pieces for its real worth and this has lead to the deterioration in quality of commercially available hand embroidery. The genuine classic

appeal of Indian embroidery practiced & developed over centuries seems to be getting inferior as a result of this. But now in this world of globalization & due to advancement of technology the same hand embroidery can be replicated by machines which cuts down the cost to a large extent and people prefer to buy such products.

Change in social cultural has increased the demand of regional embroidery. People want to experience different types of culture & be a part of it. This is the main reason for the demand of different types of regional embroidery.

### **AIMS & OBJECTIVES**

1. To study the influence of technological advancement on awareness of Indian regional embroidery amongst the population.
2. To compare the awareness among the higher & middle income group.
3. To promote the diminishing art of regional embroidery.
4. To derive methods to popularize the Indian regional embroideries.

### **MATERIALS & METHODS**

1. Selection of Area: The study was carried out in four areas i.e. Samarth Nagar, N-3, Cidco, Shrey Nagar, and Hudco of Aurangabad city.
2. Selection of sample: Sample size for the survey was 100 females from age group 18 to 35 years, 25 each from above stated locality.
3. Data Collection: For the above study the data was located through questionnaire method & random sampling method was adopted.
4. Analysis of data: The data collected was tabulated & statistically analyzed by means of percentage & average.

### **RESULTS & DISCUSSION**

The age group for the study was 18-35 yrs as this age group is much conscious about their style of garment. It was found that most of respondents were aware of embroidery (98% from each income group). Reference to hand embroidery was found more in higher income group (60%) than middle income group. (36%). It was noted that most of the respondents from both the group loved to wear embroidered garment mostly on religious functions because of its beautiful, ethnic and graceful look. A very few respondents negatively responded to embroidered garments, the reason being personal cost and need for extra maintenance.

Regarding awareness of regional embroidery it was noted that only few regional region embroidery like Kashmiri, Chikankari, Phulkari , Kutch & Kathiawar, & Kantha were popular amongst the population studied Kashmiri embroidery was the most popular (92% in higher income group and 68 % in the middle income group), followed by Chikankari, Phulkari, Kutchi, Kathiawari and Kantha. Awareness about Manipuri embroidery, Kasuti embroidery, and Chamba rumal was very low.

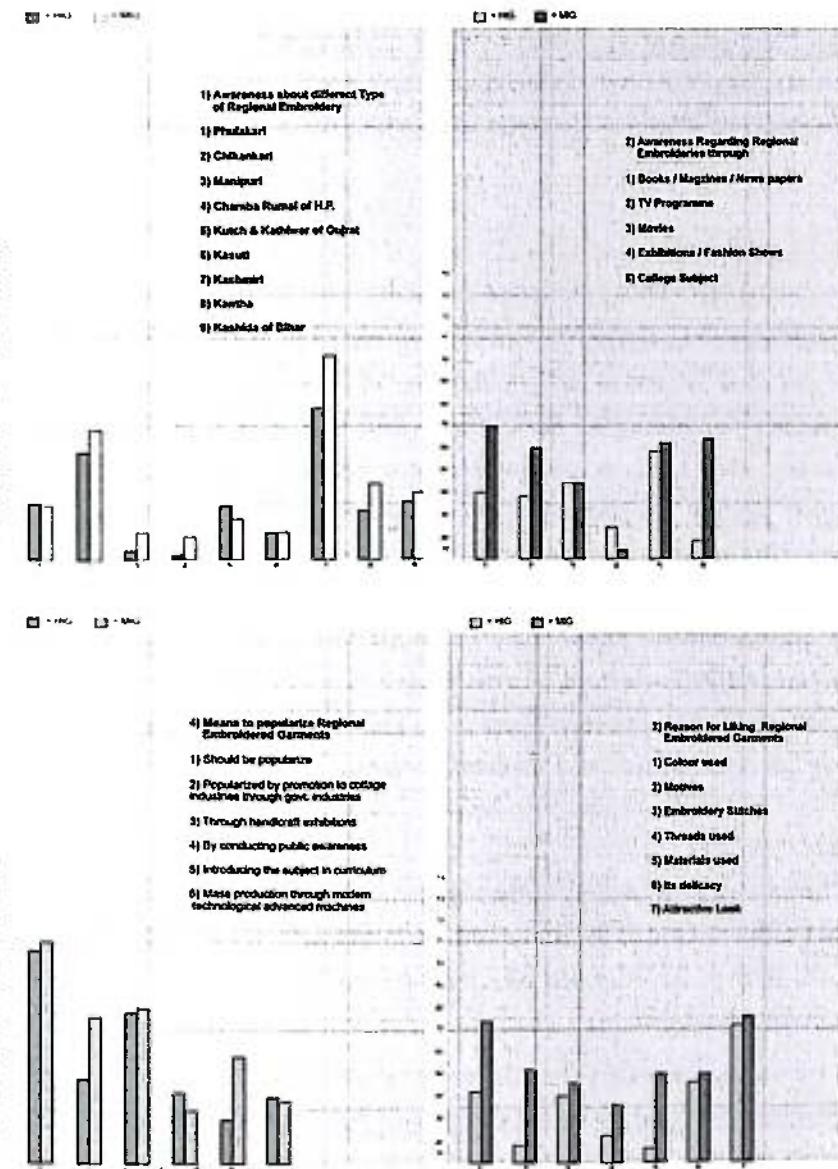
People of income group became aware of these embroideries mostly through exhibition & fashion shows amongst the higher income group while middle income group people got to know about these through books, magazines & newspaper.

Respondent from higher income group preferred regional embroidery due to its delicate & attractive look where as those from middle income group preferred it due to its delicate look & colors used. The respondents are not much aware of the motifs used in the regional embroideries.

The respondents from the middle income group found the above garment expensive & not easily accessible in the market where as the respondents from the higher income group were satisfied with cost and availability of above garments in the market.

Shopping via-e- shopping is not yet popular amongst both the income groups. There was mixed dilemma for buying the readymade regional embroidered garment or by self designed clothes using regional embroidery by both the income groups.

It was strongly suggested by the entire respondent that regional embroideries should be popularized more. The best means to popularize it was through promotion to cottage industries through government schemes & through handicraft exhibition.



## CONCLUSION

The demand for embroidered garments in the modern society is increasing due to changing fashion. People are not aware of some of the traditional Indian embroideries. Also accessibility to the tradition embroidered garments is difficult in the market as these are mainly available during festive seasons and in the handicraft exhibitions. Therefore it was felt some of the traditional embroideries need to be popularized & developed into an industrial craft in order to save the reminiscent beauty of the past & revaluing art.

## RECOMMENDATIONS

If government promotes export facility for the regional embroidered goods, the taste for these embroideries will develop all over the world and which will provide greater employment opportunities. Training programmes may be conducted in all different states for promoting the art of all different regional embroideries.

Government can undertake the training programmes under the exchange schemes and train people.

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Not received from the author.

## Chemical and Structural Characteristics of Non-Mulberry Silk Pupae of *Antherea assama* Ww

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### ABSTRACT

*Utilization of bio-waste materials for producing value added products have gained recent importance. Assam state is rich in silk production. 58 countries all over the world are engaged in various activities pertaining to Sericulture. Silk waste is a major bio-waste of the Silk industry in Assam. Two kinds of silk wastes are obtained from the silk industry, cocoon wastes and pupae wastes. Present work was aimed to utilize the pupae produced as a bio-waste from muga silk industry for commercially profitable purpose, which was till now thrown out as bio-waste causing environmental pollution. Therefore to produce regenerated fiber, the proteins of spent silkworm pupae were taken for this work. Protein was isolated, purified and characterized. 64.7g% protein in raw pupae powder and 82.19g% in defatted pupae powder were obtained. The proteins were purified, molecular weight determined, bonding patterns, degree of crystallinity and thermal properties were evaluated.*

### INTRODUCTION

During recent years, importance has been put throughout the world on utilization of bio-waste materials for producing value added products. One of the important bio-waste produced in our country is the silkworm pupae, which is available to the tune of 23334 tones (dry weight basis) annually. This bio-waste, at present does not have much profitable commercial use.

It has been reported by various workers that the protein contents in silkworm pupae vary from 48.70% - 79.80g%. If properly extracted around 7000 tons of fat and 12000 tons of protein are likely to be available from the pupae as a byproduct in India alone. So far, most of the pupae waste is being utilized both for enhancing fertility of soil or as food for poultry, fish and pig. Many plant and animal protein were used to regenerate protein fiber. Proteins like zein, arachin, soybean, casein, chicken feather and egg white proteins were successfully used to produce fiber. Fibers made from plant and animal proteins were attempted for two reasons for solving economic problem by producing a merchantable product from by-product. These protein when spun into a fiber had similar chemical design like that of natural fibers, but needed strict control of viscosity of the spinning material. Protein to be spun should be highly purified and its characterizations is also very important as high degree of purification leads to high degree of yield.

The present investigation was undertaken to conduct a systematic study on the evaluation of the chemical constituents of muga silkworm pupae, and then to isolate and purify the protein contents. Further, attempt was also made to evaluate the characteristics and properties of the isolated protein.

### AIMS & OBJECTIVES

Aim of the present investigation is to extract the protein from waste pupae of *Antherea assama*, and to purify, analyze all the properties suitable for fiber formation.

## MATERIALS & METHODS

Air dried pupae powder were used for the experimental work. ANLAR grade chemicals were used. Standard method for analysis and isolation of protein were used 6, 8. Fractionation, purification and determination of molecular weight were done by using Sephadex G-25, Sephadex-G- 100 and molecular marker. Infrared Spectra of isolated protein were recorded, crystallinity of the isolated protein were measured by X-ray diffraction. The degree of crystallinity (K) was calculated. Thermogravimetry (TG) and Differential thermogravimetry (DTG) were carried out by using Simadzu thermal analyzer. Differential Scanning Calorimetry (DSC) was measured by DSC equipment.

## RESULT & DISCUSSION

The protein content from the pupae powder was isolated and analyzed which was found to be statistically viable as yield of protein (%) was found to be homogenous and correlation of pupae protein (%), protein in solution (%) and actual yield (%) was found to be highly significant. The yield of protein was found to be more than that of other vegetable sources like soybean, groundnut, maize etc which are generally used for manufacturing regenerated protein fiber 2, 4, 10, 11, 12.

Pupae protein is a combination of many proteins. Isolation of each fraction from total pupae protein was carried out.

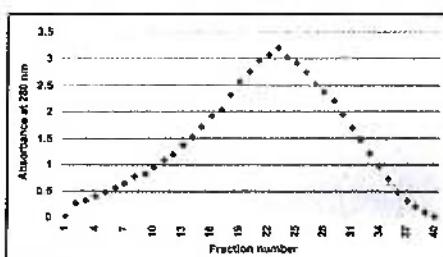
**Table 1: Estimated protein**

Solvents used for De- fatting	Crude Protein (g %)		Soluble Protein (%)
	Kjeldahl method	Automatic analyzer	
N-hexane	82.19	84.00	75.00
Chloroform	83.50	85.50	75.20
Methanol	85.00	86.00	76.50
Petroleum ether	89.50	90.00	80.00
Chloroform : methanol mixture (2:1)	87.00	88.00	78.00
T			

**Table2: Comparative account of elements**

Elements	Waste Pupae	Cocoon filament	Fibroin	Sericine
C	43.65	46.35-47.55	48.00-49.10	44.32-46.29
H	6.04	5.97-6.77	6.40-6.51	5.72-6.42
O	25.35	27.67-29.60	26.0-27.90	30.35-32.50
N	16.91	17.38-18.65	17.35-18.89	16.44-18.30
S	1.19	0.15	-	0.15

Protein was purified by Gel-filtration chromatography. 40 Fractions of eluent were collected in fraction collector. Each fraction containing 3 ml of eluent was measured for protein concentration in UV absorption spectrophotometer at 280 nm. Single peak on UV absorption spectra indicated purity of proteins (Fig 1)



**Fig 1: Purification of protein**

Molecular weight of partially purified pupae protein when ascertained by SDS PAGE, approximate molecular weight of pupae protein of A.assama was found to be in the range of 29 Kda-250 Kda(Kilo Dalton) when calibrated with molecular marker (Fig 2).

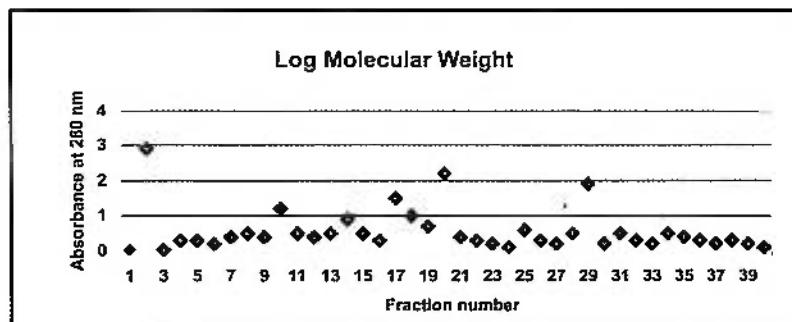


Fig 2: Molecular weight of fractionated proteins

In the present study the presence of protein in the pupae with a native mass of more than 300 Kda were found. Pupae protein produced 7-10 bands on SDS Page, with mass of 29, 47, 69, 125, 205 Kda and remaining band showed mass of 300 Kda.

Purified protein were characterized with the help of IR Spectroscopy, IR spectra of the isolated protein (Fig 3) showed peaks at 1404/cm for C=O deformation, at 1665/cm for >C=O stretching and from 3330-2000/cm for N-H stretching vibrations. N-H stretch vibration between 3000-2500/cm in combination with highly characteristics, medium to weak absorption peaks between 2000-2220/cm were also present. The band at 1329.27/cm attributed to carboxyl ate anion showed the presence of L aspartic acid. 1222.32/cm found to be C=S stretching vibration for sulphur compound. These entire characteristic bands exhibit the requirement of a pure protein molecule. The band at 1665/cm, 1547/cm, 758/cm were the amide stretching attributing to the conformation of crystalline region.

Table 3: Bond stretching

Group	Non-H bonded Structure, cm <sup>-1</sup>	Present investigation, cm <sup>-1</sup>
N-H stretching	3460	3420-3301
C-H stretching	1690	1673-1646
OH stretching	3600	3451-3432

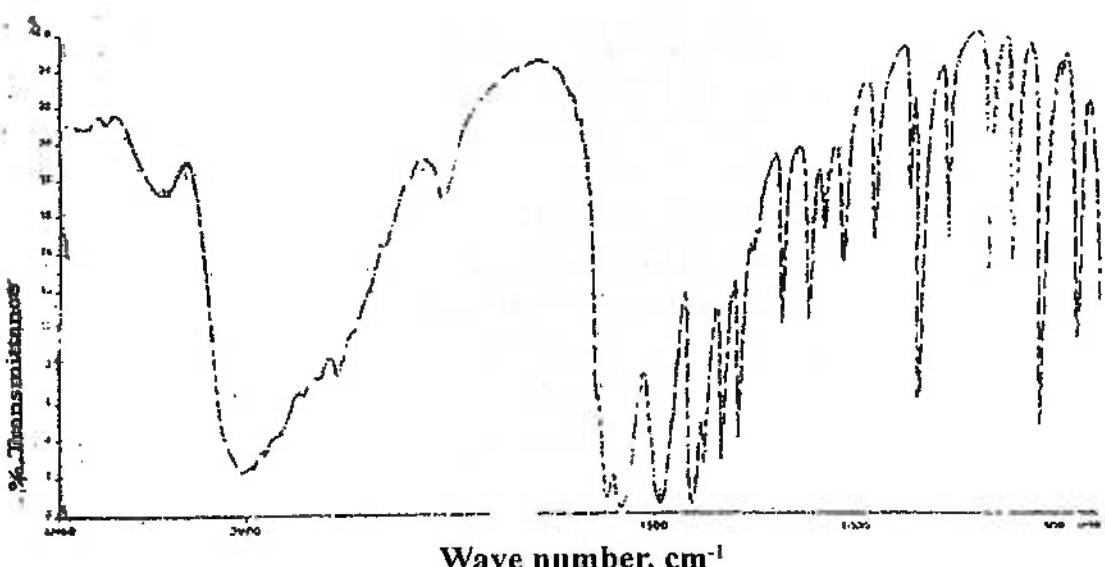


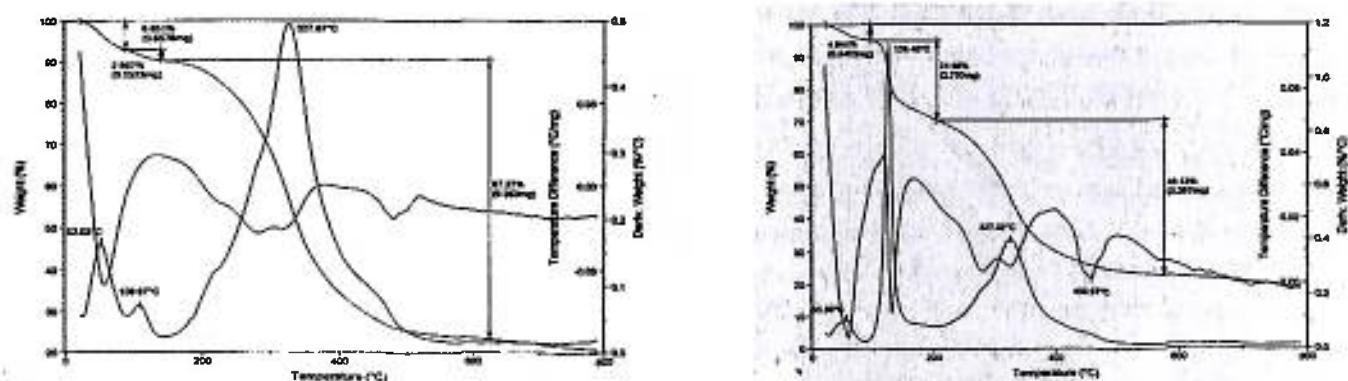
Fig 3: IR Spectra of pupae protein

X-ray diffractograms of the pupae protein revealed both crystalline and amorphous regions as well as transition between the two regions. The degree of crystallinity was found to be 33%.

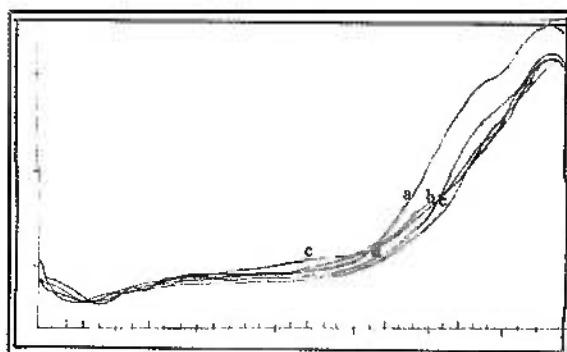


**Fig : X-ray diffractogram of pupae protein**

Thermo gravimetric (TG) differential thermo gravimetric (DTG) and differential thermal analysis (DTA) showed that the decomposition of proteins took place in three main degradation points referred to as initiation, propagation and carbonization. The TG Curve showed initial mass loss at 60°C, second stage at 90°C and third stage at 170°C. DTG also clearly illustrated thermal decomposition behavior of protein.



**Fig 5: TG and DTG curve of pupae protein**



**Fig 6: DSC thermo gram**

DSC thermot gram of pupae protein showed an endothermic peak at 67.49 °C indicating the initial point of removal of absorbed moisture till 95.58°C Protein showed noticeable thermal stability up to 219.70°C. The thermal transition (Tg) was recorded at 232.16°C and the sample showed a prominent exothermic peak at 338.80°C. It established that pupae protein showed an important quality of stability, which is very very necessary for fiber formation

## CONCLUSION

Quantity of protein in the pupae being very high it can be used for many purposes other than fiber formation.

Present investigation demonstrated that protein fraction can be isolated and purified. Data them collected on crystallinity, molecular weight, and thermal behavior of isolated proteins revealed that this protein like all other vegetable and animal protein can be used for fiber formation 3, 8.

## RECOMMENDATIONS

Commercial production of this fiber needs further investigation.

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## Influence of Education and Communication Media on the Clothing Awareness and Purchasing Practices of Tribal Girls

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### ABSTRACT

*Growth of education and media facilities has changed a lot in the deep rooted Socio-economic and psychological status of tribal. Education has created awareness among them to select serviceable, functional and comfortable fabric/apparel for their personal use. Communication media acts as a bridge between textile and garment industry and ultimate consumers. The study was aimed to know the effect of education on the clothing awareness and influence of communication media on the clothing purchasing practices of college going tribal girls in Ranchi district of Jharkhand. The present investigation was carried out in Kanke block and Ranchi Sadar of Ranchi district where most of the colleges are situated. A Sample of 200 tribal college girls were selected through Multi stage Stratified Random Sampling Technique from the five different colleges using PPS sampling method. Data was collected with the help of pre-tested purposely structured interview schedule. In the study area it was observed that communication media had highly significant correlation (0.706\*\*) with the clothing purchasing practices of tribal college girls and statistically significant Correlation (0.289\*\*) was found between respondents education and clothing awareness at 1% level of significant. Enhancement in education and media facilities has brought a change in all sections of contemporary society.*

### INTRODUCTION

The tribal of India are the indigenous, autochthonous people of the land in the sense that they had been long settled in different parts of the country before the 'Aryan' speaking people penetrated India to settle down. Now the 'tribal' word indicates a half-starved community, which is deprived of even the basic facilities like clothing, food, employment, education and health (Singh, 1972). With the opening of several institutions in the tribal area, people of different parts arrived in the tribal area, with these people the tribal came in close contact. They have acted as innovators unconsciously. Besides these, there are the planned schemes various media facilities produced an impact on the tribal. They directly and indirectly affected all sectors of life and in long run being structural change in the society. The consumer of today tends to prefer clothing that is aesthetically attractive, socially acceptable, physically comfortable, economically obtainable, fashionable and at the same time easily maintained. In order to achieve these goals, the consumer needs to improve his knowledge regarding quality, design, finish, properties of textile material and care of clothing. In tribal community deep rooted cultural forces and tradition are prevailing. They have their own dress code. Though, enhancement in education and media facilities has brought a change in all sections of life. Clothing market today is highly complex. However, the intelligent consumer learns about new thing in the market through modern communication media and makes rational purchase. Media is an excellent means of trade and acts as a middleman between producer and the purchaser.

### AIMS & OBJECTIVES

1. To study some personal variables of the tribal girls of Ranchi districts of Jharkhand.
2. To assess the influence of education and communication media on clothing awareness and purchasing practices of tribal girls.

## MATERIALS & METHODS

In Jharkhand, Ranchi district was selected purposively for the study. Kanke block and Ranchi Sadar were selected for conducting the survey work. Data were collected through personal interview method with the help of pre-tested purposely structured interview schedule. A sample of 200 tribal college girls was allocated in different sample college through Multistage Stratified Random Sampling Technique using probability proportional to size method. Observation method was also used to get qualitative information.

Data were analysed by employing percentage distribution, coefficient of correlation and rank weighted average.

$$\text{Rank weighted average} = \frac{\text{(No. of respondents in each rank X Rank No.)}}{\text{Total no. of respondents in all ranks}}$$

Then ranking was done according to the lowest order of magnitude.

## RESULTS & DISCUSSIONS

Table 1 reveals that majority of the respondents (68%) belonged to the age group of 21 to 25 years followed by the age group of up to 20 years (22.5) and very few respondents (9.5%) belonged to the age group of above 26 years. It was also observed that the larger number of respondent (54%) were enrolled in professional courses followed by graduation level and above (36%) and only 10% girls were studying in Inter level under the above age group. It was found that with the efforts of Govt., NGOs and especially the Christian Missionaries tribal have acquired much higher level of education and professional training in the area under study.

**Table 1: Age and education of respondents (N = 200)**

Sl. No.	Variables	No. of respondents	Percentage
1.	Age group		
	(i) Up to 20 years	45	22.50
	(ii) 21 to 25 years	136	68.00
	(iii) 26 years and above	19	9.50
2.	Education level		
	(i) Up to inter	20	10.0
	(ii) Graduation and above	72	36.0
	(iii) Professional	108	54.0

The quality of a fabric is determined by the characteristics of each of its components. To select wisely a better clothing material or garment in less price, one should know about the fabric quality. However in this present study it was found that 40.5% respondents did not have any technical knowledge regarding the fabric quality. Though, they try to check the fabric quality while purchasing. Gayan and Mazumdar (2002) found in their study that majority of the respondents had faced problems regarding quality aspects.

Table 2 reveals that 71% respondents checked about the type of material. 29% of the respondents thought about durability of the dress materials followed by colour fastness (16.5%). Though, the colour fastness is a very important aesthetic quality of a textile material, may be due to negligence many people do not care for that.

**Table 2: Checking of fabric quality by the respondents (N = 200)**

Sl. No.	Fabric quality	Frequency	Percentage
1.	Colour fastness	33	16.5
2.	Durability	58	29.0
3.	Type of material	142	71.0
4.	Print	28	14.0
5.	Blend	3	1.5
6.	Particular finish	14	7.0
Multiple responses were found			

It can be noticed from the above table that very few respondents checked about the blend. Majority of the respondents checked the type of material just by feeling with hands. Statistically significantly correlation was found between respondents education and clothing awareness at 1% level of probability (0.289\*\*). So, definitely education influenced the tribal about selecting best and suitable material to wear and check the fabric quality. Based on the result presented in Table 3, the order of media preferences revealed that 56.4% preferred to see magazines before purchasing of garment followed by television (50.0%) and movie (20.0%), 18.0% respondents preferred to see advertisements of a particular brand or manufacturer, very few preferred internet. It is common practice among the college girls to purchase the women's magazines or fashion magazines and see it in their leisure time or whenever they wanted to see it. With the colourful background and wearing style of the attractive models attract the young generation to imitate them.

**Table 3: Distribution of respondents based on their media preferences (N = 94)**

Sl. No.	Fabric quality	Frequency	Percentage
1.	Television	47	50.0
2.	Internet	6	6.4
3.	Magazine	53	56.4
4.	Movie	19	20.0
5.	News Paper	-	-
6.	Window display	-	-
7.	Advertisement	17	18.0

Multiple responses are possible

N = 94, respondents watched media before purchasing

India is considered one of the biggest markets for retail business with a large base consisting of a population of 1 billion of which 300 million are active spenders. Better organized retailing is slowly and steadily growing in all over India (Roy, 2001).

A critical glance at Table 4 reveals that retail shop was preferred by 53.5% respondents "Always". 61.5% respondents preferred to buy from wholesale shop "Sometimes". 73.5% respondents "Never" purchased from footpath shop and co-operatives (67%).

**Table 4: Preferential choices of place for purchasing clothes (N = 200)**

Sl. No.	Place of purchase	Always	Sometimes	Never
1.	Retail shop	107 (53.5)	79 (38.5)	14 (7.0)
2.	Wholesale shop	27 (13.5)	123 (61.5)	50 (25.0)
3.	Govt. shop	6 (3.0)	96 (48.0)	98 (49.0)
4.	Foot path shop	3 (1.5)	50 (25.0)	147 (73.5)
5.	Door to door selling	3 (1.5)	66 (33.0)	131 (65.5)
6.	Cut piece shop	38 (19.0)	109 (54.5)	53 (26.5)
7.	Show room	36 (18.0)	118 (59.0)	46 (23.0)
8.	Cooperatives	6 (3.0)	60 (30.0)	134 (67.0)

Figures in parentheses indicate percentage of total response

Retail shops were highly preferred because of the provision of credit facilities, discounts as well as bargaining. "Sometimes" respondents preferred to buy from whole sale shop and manufacturer's show room when they wanted to purchase in bulk and give importance to the quality and sticked to the particular brand.

Non-availability of variety, unattractive, unappealing and out dated material were the reason for not preferring co-operative store.

Table 5 reveals about the factors considered by the respondents while purchasing clothes. Cost was the first important factor considered by the majority of the respondents followed by colour combination and design. The result of weighted average rank showed that price, colour combination, design, durability, easy care, fashion and colour fastness in order of preferences. Most of the respondents ranked cost as the first important factor may be due to they have to make provision for clothing purchase within their limited clothing budget. Tribal people love to adorn themselves. Preference for colour combination and design may be due to the reason that they want the clothes should suit to their personality and enhance their personal beauty.

**Table 5: Factors considered by the respondents during their clothing purchase (N = 200)**

Sl. No.	Factors	No. of respondents assigning ranks							Rank Weight Average	Rank
		1st	2nd	3rd	4th	5th	6th	7th		
1.	Cost	72 (36.0)	18 (9.5)	31 (15.5)	22 (11.0)	31 (15.5)	6 (3.0)	19 (9.5)	3.0	1
2.	Fashion	25 (12.5)	17 (8.5)	14 (7.0)	33 (16.5)	22 (11.0)	33 (16.5)	56 (28.0)	4.7	6
3.	Design	14 (7.0)	64 (32.0)	44 (22.0)	36 (18.0)	14 (7.0)	22 (11.0)	6 (3.0)	3.3	3
4.	Colour combination	35 (17.5)	25 (12.5)	56 (28.0)	42 (21.0)	25 (12.5)	14 (7.0)	3 (1.5)	3.2	2
5.	Colour fastness	8 (4.0)	11 (5.5)	3 (1.5)	25 (12.5)	36 (18.0)	64 (32.0)	53 (26.5)	5.4	7
6.	Durability	28 (14.0)	28 (14.0)	28 (14.0)	22 (11.0)	33 (16.5)	33 (16.5)	28 (14.0)	4.1	4
7.	Easy care	17 (8.5)	33 (16.5)	25 (12.5)	19 (9.5)	42 (21.0)	28 (14.0)	36 (18.0)	4.3	5

Figures in parentheses indicate percentage to respective total

The data enfolded in Table 6 reveals that majority of the respondents (51.5%) got the information of sale system from newspaper followed by advertisement on the shop (28.0%). 25% respondents received the sale information through television and 22% by window display.

**Table 6: Distribution of respondents depending on the basis of their source of sale information (N = 200)**

Sl. No.	Source of information	Frequency	Percentage
1.	Advertisement on the shop	55	28.0
2.	Television	50	25.0
3.	Radio	-	-
4.	Newspaper	103	51.5
5.	Pump let/Leaflet	42	21.0
6.	Shop display/Window display	44	22.0
7.	Others	-	-

Multiple responses possible

Newspaper serves day to day news at the door step. It sends a message to the mass anywhere e.g. during traveling, in office, in college library as well as in home etc. So, timely availability of the sale information at the door step may be the cause of referring it by most of the respondents.

Further the study revealed that majority of the respondents considered magazine is the most effective media followed by television and movie. Magazines are stored for future references. College girls may not get much time to sit and watch the television for a specific programme at specific time. Magazine can be referred in their leisure time. If a telecast programme was missed that can not be viewed again. This may be reason for considering magazine as the most effective media for obtaining information regarding clothing and fashion trend by most of the tribal college girls.

An in-depth analysis showed that communication media had highly positive correlation with clothing positive correlation with clothing purchasing behaviour (0.706\*\*) at 1% level of significance.

## **CONCLUSION**

Based on the overall findings it can be concluded that respondent preferred to see magazine and television to know the fashion trend, brand etc. before clothing purchase. Retail shop was preferred for purchasing. Cost was the important factor considered during clothing purchase. Newspaper was the source of getting sale information. Though, magazine was considered as the most effective media for getting the information regarding clothing and fashion. Highly significant correlation was found between communication media and clothing purchasing behaviour. The finding of the study would help the entrepreneurs, garment industry, textile and accessory industries and other related industries to promote sale providing information regarding new technical advancement in the area of clothing and textile and their products through the most preferred media. A good number of respondents did not know about the quality of the fabric, though statistical significant correlation was found between respondents education and clothing awareness. Training can be imparted to teach textile quality, performance and care of particular fabric and garment.

## **RECOMMENDATIONS**

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## Impact of Handloom Weaving Training on Socio-Economic Status of Rural Women

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### **ABSTRACT**

Women's participation in income generating activities is believed to increase their status and decision-making. Women empowerment is an important tool for bringing change in their mental set-up which ultimately leads to change in their living pattern. For this purpose six month training on handloom weaving and decoration was conducted among socially backward class of rural society. Personal interview schedule was used for collection of data to study the impact of training on knowledge gain, change in social status and standard of living through well structured questionnaire. Ensuring a rightful place for women in the family and society and recognizing her contribution to the family income was one of key areas that received attention under the training. Women started tackling money matters of their own contribution of income which finally resulted into better access to resources. Being an earning member with increased, knowledge and awareness, their social status changed and they could afford better food, clothing, education and standard of living and looked for still better things in life. Active involvement in decision making, interacting with others and with exposure to communication media changed their family life styles.

### **INTRODUCTION**

Woman plays an important dual role in the society. Though her role in the society is very important the rural women are often physically visible but conceptually invisible. The best way to make optimum use of rural women as an important human resource is to provide them opportunities for self development through technological trainings which improves the existing knowledge, skill and enhances capabilities thereby improving competency to meet the ever changing society. It ultimately leads to change in their living pattern. Women empowerment brings change in their mental set-up enhancing their possibilities to adapt to social change. Women's participation in income generating activities is believed to increase their status and decision making power. The economic contribution of rural women is related to their status and role in family and in the society. If women are economically a parasite, they can never contribute and keep pace with the changing society. The problem of rural poverty cannot be tackled without providing opportunities of productive employment to women, contribute a large share of what they earn to basic family maintenance. Economic independence by means of small scale enterprise of handloom weaving will keep pace with far reaching social change.

### **AIMS & OBJECTIVES**

1. To study the socio-personal characteristics of trainees.
2. To study the impact of training on socio-economic status of family and gain in knowledge

### **MATERIALS & METHODS**

The six months training programme on handloom weaving and Decoration was imparted at the Department of Textile and Apparel Designing to thirty trainees who were selected from socially backward class of rural society

around the Pusa Block of Samastipur district. The study was conducted among these thirty selected trainees purposively considering the access to the researcher. The pre-post research design was utilized for collection of data. Tools used for the study was interview schedule, knowledge test. To assess the knowledge gain, a well structured questionnaire containing eighteen questions was formulated. Knowledge items were distributed before and after they were exposed to the training. Each correct answer was assigned a score of one whereas zero was assigned to a wrong answer. The maximum score attainable by respondent could be eighteen. The difference between pre and post exposure was taken as knowledge gain of an individual. Questionnaire regarding change in status, income level, adoption of training as an enterprise were personally monitored through personalised interview. The proper statistical methods used were mean, frequency percentages.

## RESULTS & DISCUSSION

Socio-personal characteristics/profile of respondents is given in Table 1. It was evident that age of the respondents ranged from 18 to 35 years with an average age of 19.3 years. Most of the trainees were from middle age group, i.e. 60 per cent. The group comprises of young and middle aged women. Sixty percent of the respondents were having high school education. Twenty percent of the respondents had graduation degree. Majority of the respondents, i.e. sixty per cent had joint family system and forty per cent had nuclear family system.

**Table 1: Socio-personnel profile of respondents**

Characteristic	Category	Frequency
Age (years)	Young (Upto 18 years)	12 (46.00)
	Middle (18-35 years)	18 (60.00)
	Old (above 35 years)	0
Education	Middle	6 (20.00)
	High	18 (60.00)
	Graduate	66 (20.00)
Family type Nuclear		12 (40.00)
	Joint	18 (60.00)

Figures in parenthesis indicate percentages

- Gain in knowledge: It is seen from the Table 2 that 86 per cent of the trainees had low level of knowledge score regarding handloom weaving and decoration before the training. After the training two-third of the trainees, i.e. 66.6 per cent had gained medium level of knowledge. The gain might be attributed to the fact that most of the trainees were voluntary participant with zeal to earn income. Also they had paid for high fees of training in order to acquire skill to become entrepreneur.

**Table 2: Distribution of respondents according to gain in knowledge**

Level of knowledge Pre-training	Frequency Post-training	level	Gain in knowledge
Low level (0-6)	24 (80.00)	2 (6.60)	0
Middle level (7-12)	6 (20.00)	20 (66.6)	14
High level (13-18)	0	8 (26.6)	8
Mean	8.31	15.20	6.89

Figures in parenthesis indicate percentages

- Increase in income level: One of the key areas that received attention under the training was ensuring a rightful place for women in the family and society by recognizing her contribution to the family income.

**Table 3: Distribution of respondents according to income level**

Level of income	Frequency	
	Pre-training	Post-training
1. Upto 2000	26 (86.66)	21 (70.00)
2. 2000-4000	3 (10.00)	8 (26.66)
3. Above 4000	1 (3.33)	1 (3.33)
Figures in parenthesis indicate percentage		

Perusal of Table 3 showed that there were only 10 per cent of the respondents in income group of Rs. 2000-4000 whereas it increased to 26.66 per cent of the respondents. It was due to the efforts of respondents taking up handicrafts, embroidery work after attending to their domestic chores. Most of the respondents were direly in need of an opportunity to earn to serve their families.

" Change in social status: Bringing women along the mainstream through training showed remarkable change in participation in taking decision (60%) awareness level of modern living standards (56.6%) and acquiring leadership qualities (66.6%). It finally resulted into improvement in managerial autonomy as well as social recognition.

**Table 4: Distribution of respondents according to factors contributing to social status**

Characteristics	Frequency	
	Pre-training	Post-training
1. Decision making	10 (33.3)	18 (60.0)
2. Leadership	6 (20.0)	20 (66.6)
3. Awareness and knowledge of modern living	5 (16.6)	17 (56.6)
Figures in parenthesis indicate percentages		

Active involvement in decision making, interacting with other trainees, exposure to communication has changed their lives.

- Spending pattern: Table 5 showed that women start tackling money matters of their own contribution of income which finally resulted into better access to resources. Most of the respondents showed happiness and satisfaction by spending their money on most important aspect of household work. Spending on proper education of children (66.66%) and purchase of simple devices for kitchen (73.3%) were their first priority followed by clothing, accessories and food items. Being an earning member with increased knowledge and awareness, their social status changed. They can now afford better food, clothing, education and standard of living and look for still better things in life

**Table 5: Distribution of respondents according to spending pattern of their own income**

Activity	Frequency
1. Education of children	20 (66.66)
2. Food items	10 (33.30)
3. Clothing	15 (50.00)
4. Purchase of kitchen wares	22 (73.30)
5. Jewellery and accessories	18 (60.00)
Multiple choices possible	

## **CONCLUSION**

### **RECOMMENDATIONS**

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## Value Addition of Jainsem from Meghalaya with Indian Embroidery

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### ABSTRACT

India has its own traditional arts and crafts. One of the most beautiful legacies of the Indian crafts is the ornate embroideries. Jainsem the traditional costume of Meghalaya are not embroidered. They are made of different fabrics worn either plain or printed. In this study an attempt was made to enhance the Jainsem of the Khasi tribe from Meghalaya by the incorporation of India traditional embroideries; Chikankari and Phulkari. A variation in designs was made in terms of layout. Based on the result of first survey, twenty-four Jainsem were hand embroidered, with both Chikankari and Phulkari embroidery. The hand embroidered Jainsem were evaluated by conducting survey for their acceptability and suitability by consumers and retailers in Shillong. From the results of the survey it was seen that a similarity exists between retailer's and consumer's preferences. The embroidered Jainsem was well accepted by both retailers and consumers where in, Chikankari embroidered Jainsem was preferred over Phulkari embroidered Jainsem.

### INTRODUCTION

Meghalaya or 'abode of the clouds' is a source of inspiration to any poet, a dramatic canvas for an artist's dream, and the ideal retreat for people in search of beauty and solitude.

- **Costume:** The Khasi lady wears a dress called 'Jainsem' on a regular daily basis which flows loose from the shoulders down to the ankles, and is not caught in the waist. The 'Jainsem' consist of two identical piece of cloth depending on the height of the wearer. One of the two ends of the Jainsem is passed under the left armpit and its two corners are pinned onto the right shoulder similarly the other Jainsem is passed through the right armpit and pinned onto the left shoulder in which the right overlaps the left. The upper part of her body is clad in a blouse beneath the Jainsem.
- **Chikankari:** Chikankari is a fine and intricate shadow-work type of embroidery done by white yarn on colourless muslins called **tanzeb** (tan meaning body and zeb meaning decoration).
- **Phulkari:** The origin of phulkari could well be traced to the 15<sup>th</sup> century- and is mentioned in the Guru Granth Sahib the holy book of the sikhs. Phulkari literally means flower embroidery, a form of craft that became synonymous with dupattas or shawls which were embroidered over.

### AIMS & OBJECTIVES

'Jainsem' is a traditional costume of the Khasi tribe from Meghalaya. The Khasi's has *no origin* for embroideries; enhancement by embroidery is not a common practice though simple machine embroidery designs for border scallops are used. The study explores the possibility of incorporating Indian embroidery on Jainsem; with an expectation that this would contribute to utilizations of these ornate embroideries that are little known to the Khasi tribe. and provide product diversification to the traditional Jainsem. The aim of the study is to enhance the outlook of Jainsem by hand embroidering, using Indian traditional embroideries.

Also the study was carried out with the objective to involve and collaborate with a non-governmental-organization based in Shillong for training and implementing the study so as to introduce Indian embroidery in the region of Shillong.

## MATERIALS & METHODS

**Fabric type:** Cream colored georgette fabric

**Thread type:** different colored cotton anchor embroidery threads and silk floss

The methodology followed was:

- Collection of relevant data leading to compilation of motif and layout applicable for the two embroideries.
- Rendering on paper, designs based on border and spaced-out lay suitable for Chikankari and Phulkari embroideries.
- Designing of questionnaire and conduction of the survey to short list six preferred designs for border and spaced-out layout by textile experts
- Hand embroider 24 Jainsem using chikankari and phulkari embroidery stitches (12 each) using border and spaced out layout.
- Formulation of second questionnaire, conducting the second survey, so as to evaluate the preference and acceptance of the embroidered Jainsem by the 30 retailers based in Shillong (9 male and 21 female)
- Formulation of questionnaire no. 3. Conduction of survey no 3 so as to evaluate the preference and acceptance of the embroidered Jainsem by 70 consumers of Jainsem in Shillong and Mumbai. (30 and 15 working women in Shillong and Mumbai respectively, and 25 housewives in Shillong.)
- Analysis of the cost of the embroidered Jainsem and determination of selling price.
- Planning of the training programme.

## RESULTS & DISCUSSION

The result and the findings obtained are reported under following section related to the three surveys.

- **Experts' responses regarding layout of the design:** According to selection of design placement by experts the analysis revealed that majority of the experts' preferred border layout over spaced-out layout. Amongst the 20 design rendered on paper for each embroidery, the textile experts ranked design number 20 of border layout and design number 7 of spaced-out layout as the first rank with 55% rating
- **Result of the two survey related to retailers and the consumers**
  - a) The finding reveals that the retailers and the consumers preferred chikankari embroidery over phulkari embroidery.
  - b) The expert's layout preference in comparison with the layout preferences for the embroidered Jainsem by the retailers and consumers did not match.
  - c) The 'over-all appearance' of chikankari embroidered Jainsem was the main factor considered for the selection by the retailers and consumers.
  - d) The motif of Phulkari embroidered Jainsem was the criteria for selection by the retailers whereas both 'placement of motif' and 'motif' it self was the main factors for selection by the consumers.
  - e) The data reported that both the group of respondent ranked Chikankari embroidered Jainsem as 'excellent' and phulkari embroidered Jainsem as 'good'.
  - f) The data analyzed showed that respondents indicated preference for gold and silver embroidery as the other alternative embroidery on Jainsem.
  - g) The price range which the retailers suggested the consumers would pay for these Jainsem was Rs 500 and The consumers were willing to pay Rs 401 – Rs 501 for the Jainsem.

- h) The retailers and the consumers felt that the embroidered Jainsem would be readily accepted by the Khasi people, thereby a high local market potential for embroidered Jainsem.
- **Cost determination of the embroidered Jainsem :** The cost price of the embroidered Jainsem varied depending on the size of each motif, material and labour charge. The material cost was Rs 184. The labour charges for embroidery varied from Rs 10 to Rs 60 depending upon the width and length of the border and the size of the motif.
- **Training programme:** Details were planned for conducting 3 to 4 weeks training programme in collaboration with a non-governmental organisation based in Shillong. The aim was to train girls in skills related to Indian traditional embroideries.

## **CONCLUSIONS**

Enhancing Jainsem by the incorporation of Indian embroideries was accepted by the Khasi people. Indicating that these embroidered Jainsem would have a high potential value in the local market of Shillong. Further incorporation of such embroideries would enhance the appearance of Jainsem adding more variety and grace to its total outlook.

## **RECOMMENDATIONS**

The recommendations for the study are as follows:

- Fusing of both border and spaced-out layout.
- Making variation by use of other type of material, colour and all over embroidery including the back side of Jainsen.
- Incorporation of other Indian embroideries.

## A Study on Buying Behaviour and Construction of Jeans for Females According to Preference

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Jeans are a way of life for people of all ages from all walks of life. Designers and merchandisers must be aware of the fashion change and how it will affect development and marketing of jeans. Keeping this objective in mind, a study on various product characteristics influencing selection of jeans was undertaken. Jeans with ten innovative patterns were constructed and their acceptance by the target group was studied. The study was conducted using a structured questionnaire for a purposive random sample of 150 females. The data collected was analyzed by percentage, ranking, hypothesis z and chi-square tests. 15 designs were sketched and 10 designs were finally selected for construction by taking opinion of 10 judges. The design features included dart equivalent seamlines, stylelines, godets, fullness in form of pleats and gathers. Jeans designed with pleats were preferred over the ones with gathers. Designs broken up by many seamlines detracted from the beauty of surface texture, which explained rejection of the sample constructed with many seamlines and acceptance of ones with adequate seamlines. The study also revealed that some respondents did not prefer the constructed jeans over the regular ones available in the market. Thus, a new product although being innovative still needs an effective promotional mix to be accepted by consumers.

## Probing Entrepreneurial Qualities of Students in Professional and Non-Professional Courses Studying Fashion and Textiles

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The main objective of the study was to find out the difference in entrepreneurship skills of female students of professional and non-professional courses. The data was collected by questionnaire method from 132 students from professional and non-professional courses related to textiles and fashion. It was observed that the students who are doing a professional course scored significantly high in the areas of Self Perception of Entrepreneurship Traits and Organization Ability and Managerial Skills. They scored above average in the area of Human Engineering, Personality Maturity and Executive Reaction Pattern. However, no significant difference was found regarding human relations between the two groups. On the other hand, students from non-professional course scored above average only in the areas of Self Perception of Entrepreneurship Trait and organization Ability and Managerial Skills, average in the areas of Human Relation and Human Engineering, below average in the area of Personality Maturity Scale and extremely poor in the area of Executive Reaction Pattern. Taken as a whole, the students pursuing professional course scored higher in all the areas of entrepreneurship than students from non-professional course. However, students of non-professional course are not totally devoid of these qualities although they scored slightly low in these areas.

## A Comparative Study of Non-Working and Working Wives on the Role Played by Them in the Selection of their Husbands Clothing

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The present study was undertaken with an aim to find out the influence of different factors on the selection of clothing by non-working and working wives for their husbands and to understand their choice of clothing. The study was conducted using a structured questionnaire for a purposive random sample of 200 females – 100 each of non-working and working wives. The data collected was analyzed by percentage, chi-square tests and ranking. It was found, shopping jointly is preferred as combined decision helps in making better selection and judging the quality of fabric. Husbands of working wives prefer readymade garments where as those of non-working prefer combination of material and readymade. Quality of the fabric and occasion were ranked 'first' by non-working and working wives when considering factors before purchasing material and garments respectively. Occasion and budget are ranked first by non-working and working wives when considering personal factors respectively. It can be concluded that husbands from both the category give importance to the suggestions of their spouses while selecting their apparel. Thus business entrepreneurs dealing in men garments must take into consideration the influence that the homemakers who are also decision makers have on the sales while planning their marketing campaign.

## Designing of Utility Garments for Spastic Persons

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Clothing is one of the basic necessities of human life. Clothing can improve appearance, hide physical defects and give aesthetic pleasure to the wearer. To help the persons with disabilities to cope with their physical restrictions and at the same time to provide them with attractive style becomes a challenge. An investigation was conducted to design suitable functional clothing for individuals having cerebral palsy in Kanpur. The study was carried on 40 respondents, selected through purposive sampling in the age group of 10-21 years. It was found that most of the respondents faced problems in donning, doffing and manipulating the fasteners. Precoded interview schedule was used for collection of data and was analyzed by frequency, percentage, weighted score, mean and rank methods. A total of 20 garment designs were sketched according to the need and suggestions of the respondents. The features included easy to manipulate fasteners, large crotch length, large armhole, shoulder openings, opening for incontinence and unequal front and back length of the garment. The sketches were shown to a panel of 15 judges. Out of 20 sketches, the 4 most preferred sketches were selected for construction. Satisfaction of the respondents for the constructed garments was also assessed through acceptability scale and it was found to be satisfactory.

## Antimicrobial Finishes Using Medicinal Herbs

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Textiles come to our help in every walk of life, in either conspicuous or in conspicuous form. The fields of application of technical textiles are unlimited and the ideas often revolutionary. Healthcare is a serious business which is not only influenced by practicing medical professionals. Good hygiene is an aid to health, comfort and social interactions. It directly aids in disease prevention or disease isolation. Textiles being vulnerable to microorganisms attack would cause many cross infections and allergic reactions. The number of bio-functional textiles with an antimicrobial activity has increased considerably over the last few years. The awareness of health and hygiene for consumers has increased the demand for antimicrobial textiles whilst in the past it was predominantly technical textiles, which had, antimicrobial finishes in particular protecting against bacteria and fungi, now-a-days textiles worn close to the body have been developed for a variety of different applications as far as medical and hygienic tasks. Antimicrobial finish on fabrics can minimize the transfer of microorganisms onto the wearer by creating a physical barrier. It prevents the skin diseases caused by the microorganisms. The various medicinal plants found in nature exhibit excellent anti-microbial properties. A new approach is made to make the textile material antimicrobial using natural medicinal herbal extracts on cotton fabrics. The herbs, Marigold and Cassia Senna easily available in Tamil Nadu, was chosen for the study. The plant extract was screened by qualitative antimicrobial test for the presence of active principles. It involves the applications of Marigold and Cassia Senna floral extracts of the plant onto cotton fabric by optimizing the process conditions-pH, time and temperature. The fabrics were treated with 50%, 75% and 100% concentrations. Methanol was used as a solvent for extraction. The extract was applied on cotton fabric by pad -dry- cure method with cross-linking agents (alum). The treated samples have been tested for activity as per AATCC147, AATCC100 and AATCC30 agar diffusion test methods. Fabric property tests for all treated and untreated samples were carried out, which indicates a little change in the properties. 100% treated fabric was found to be much softer and its washing fastness was found to be better than all the other treated samples. Antibacterial and antimycotic tests were carried out for all the treated and untreated samples. 100% Marigold petal and 75% Cassia Senna petal treated sample was found to be the best of all exhibiting a good dye shade and antimicrobial activity

## Trial for Utilization of Bio-Waste from the Non-Mulberry Silk Industry (A.Assama Ww) of Assam

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This paper reports the result on the re-use of pupae, a by-product of reeling which is a bio-waste from the silk industry of *Antheraea assama* (Ww). Attempt has been made to utilize this bio-waste to produce economically viable product i.e. "Regenerate protein fibres", like other protein fibre produced from casein, aralac, ardin, zein etc. The attempt of the present investigation will also prevent environmental pollution caused

by the putrefaction of pupae. After reeling the pupae are thrown out as waste which is to the tune of 23,334 tons (dry weight basis) annually which constitute 60 percent of the dry weight of cocoon. This results in wastage of potential resource. A systematic study of the chemical components of waste pupae of *A.assama* were carried out, protein was analyzed, partially characterized and found to be suitable for producing regenerated fibres and attempt was made to utilize the protein extract to produce fibres. The resultant product was tested for fineness, strength and elongation and compared with other regenerated protein fibres.

TSDCFS /Poster/12

### **Application of Madhubani Designs for Apparels Using Screen Printing Technique**

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India had always been known as the land that portrayed cultural and traditional vibrancy through its conventional arts and crafts. Every region in India has its own style and pattern of art, which is generally known as folk art. Perhaps the best-known genre of Indian folk paintings is the Madhubani paintings from the Mithila region of the state of Bihar. Traditionally Madhubani paintings were done by hand which was a tedious, time consuming and laborious process but in due course of time with easy availability of different styles of printing, these paintings can be done on cloth by using various printing techniques. Hence in the present study an attempt was made to develop designs inspired from Madhubani paintings of Bihar for ladies kurtis and sarees. Total twenty designs, ten each for ladies kurtis and sarees were developed manually and these designs were subjected to visual evaluation for selection of two best designs from each category in order to apply these on various articles. Screens were prepared for selected designs by photochemical method. Cotton fabric samples were printed with two classes of dyes namely pigment dyes and poly vinyl chloride (PVC) inks. The printed samples were subjected to colour fastness testing for selection of best dye to print final articles using screen-printing. The cost of each product was calculated including the expenditure on raw materials, transport and labour charges. The sale price was calculated after adding 25% profit to the calculated cost of the products. Final products were printed with PVC colours as this showed best colourfastness. The total cost of printing ladies kurtis ranged from Rs. 456.6 to Rs. 469.1; whereas for sarees it was Rs. 1476.27 to Rs. 834.83 depending on the screens involved and the colours used for printing of articles. All the articles were highly appreciated by the entrepreneurs and they were also willing to accept these designs.

TSDCFS /Poster/13

### **A Study on Purchasing Practices of Mothers Residing in Different Apartments with Special Reference to Pre-School Children's Clothing**

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Knowledge and practices regarding selecting and purchasing of suitable clothing for pre-schooler are found to be limited in different sections of our society. Considering the importance of studying this aspect, the present study was undertaken to study the socio-economic status of the respondents residing in different

apartments of Guwahati city, to find out the clothing purchasing practices of respondents in respect to pre-school children and suggest measures, if any, for improving the existing practices of respondents regarding purchasing of children clothing. The descriptive method of research was adopted. The locale of the study was Guwahati city of Kamrup district of Assam. Altogether 150 respondents having pre-school children were selected randomly. The data was collected with a help of a structured, pre-tested, reliable and valid interview schedule and were calculated using suitable statistical analysis like frequency and percentage. Majority of the respondents purchased clothing during festivals, and factors considered were price, design and print etc. 100 percent of the respondents preferred cotton fabric as summer wear. A great majority (96.00%) of the respondents had never lodged any complaints in the Consumer Court to establish their rights regarding purchasing of children's clothing. It was suggested that vocational courses on clothing construction should be conducted to develop skills in planning, selecting and purchasing children clothing. Consumer awareness program should be planned and organized for the mothers. Orientation programme can be organized by NGOs and Department of Clothing and Textiles on shopping hints / tips for purchasing clothing especially for young children.

TSDCFS /Poster/14

## A Comparative Study of Handmade and CAD Created Textile Motifs & Prevalence of CAD Software's in Textile Export Units of Jaipur

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In the era of mass production and mass customization, the world is also demanding an energy efficient manufacturing practice. This paper aims at comparison between the handmade design and digitalized designs. In the study various experimental abstract CAD designs were developed using Auto CAD and Photoshop technique and were compared with handmade designs. On the other hand survey was conducted to study the prevalence and usage of CAD software's in textile units of Jaipur region. As a result of comparative study significant difference was observed among both the designs. CAD generated designs scored better in colour, design and presentation categories and also time consumed was reduced and beautiful effects were produced. Whereas survey finding in Jaipur showed that just 5.33% of garment manufacturing units used CAD system and 12.5% of home furnishing / printing units used CAD for design development. 84.6% of textiles/ fashion training institutes had CAD as their core subject. Thus, it can be concluded through the study that CAD process is economical for customized production and at the same time pollution and fabric wastage can be controlled. A designer can produce numerous effects and designs in a short time by incorporating this modernized technology in their day-to-day designing process.

TSDCFS /Poster/15

## Studies on Repeated Dyeing of Silk with Red Sandalwood Using Selective Mordants

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The draw backs of synthetic dyes based on limited and irreplaceable petro-chemicals have prompted environmentalist to look for eco-friendly products and technologies. In the recent years a number of studies have been carried out to study the different methods of application of natural dyes on various natural as well as

synthetic fibres, using various mordants by different routes. However, not much has been appraised regarding ways of obtaining darker hues which is difficult to achieve with most natural dyes, or ways to improve the fastness properties of textile materials dyed with natural dyes. Further, very few studies have reported the use of natural mordants. Most natural dyes have to be used in huge quantities to get an appreciable depth of shade. This along with relative high cost of the natural dyes makes the process economically unviable. Thus, with an objective to reduce the amount of dye required to get an appreciable depth of shade, degummed silk fabric (100% mulberry silk) was pre-mordanted with different mordants in various concentrations followed by dyeing with different amounts of red sandalwood by the exhaust method. Additionally, for comparison purpose the same sample was repeated dyed (twice & thrice) to appraise whether such treatment could improve the fastness and the depth of shades thus produced. Repeated dyeing of the pre-mordanted silk fabrics yielded darker shades with improved wash and rubbing fastness. Among the mordants, ferrous sulphate in various concentrations imparted darker shades, while the shades obtained with stannous chloride and aluminium sulphate (alum) as a mordant were duller in comparison. It was also found that pomegranate rind could be used as a mordant to improve the fastness of silk when dyed repeatedly in multiple stages as it gave satisfactory results.

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TSDCFS /Poste/16

## Sari – A Rite of Passage

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A sari is traditionally perceived as a symbolic icon. It was first worn by a girl on the commencement of her menstrual cycle. This was an occasion of celebration and a milestone for the young girl. Draping the sari was thus used as a rite of passage from girlhood to womanhood. In a cosmopolitan metropolis like Mumbai the rituals surrounding this milestone are slowly dying away. Mumbai is slowly being enveloped by the styles and tastes of the western milieu. The vast choices in dressing styles, extensive daily commuting and increase in educational levels are slowly pushing the ritual of the first draping of a sari to a later date. Thus, with the objective of exploring and understanding the changing perspectives of teenage girls towards the sari a qualitative study was undertaken in the western suburbs of the city of Mumbai. This paper seeks to relocate the sari not only as an essential in a teenage girl's wardrobe but also as an instrument used to cultivate her identity, as a platform for negotiations, as a statement or simply to honor a rich heritage.

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but there is nothing else that  
so beautifully furnishes a house.”*

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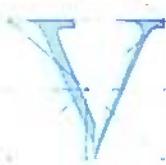
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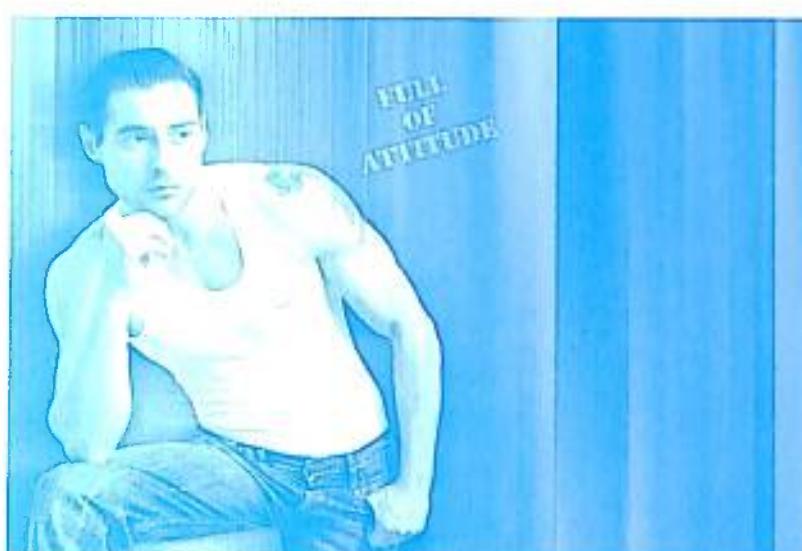
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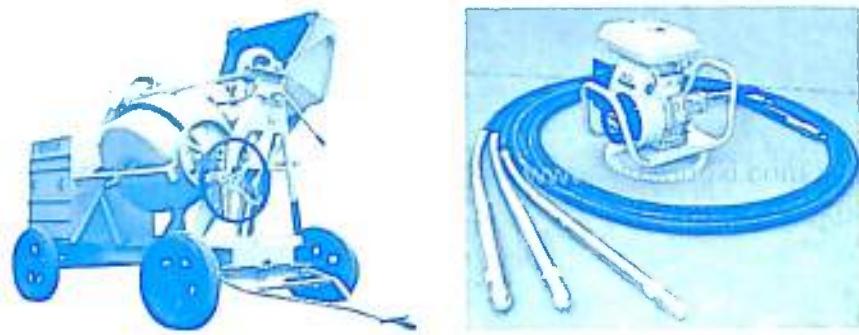
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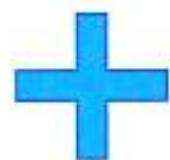
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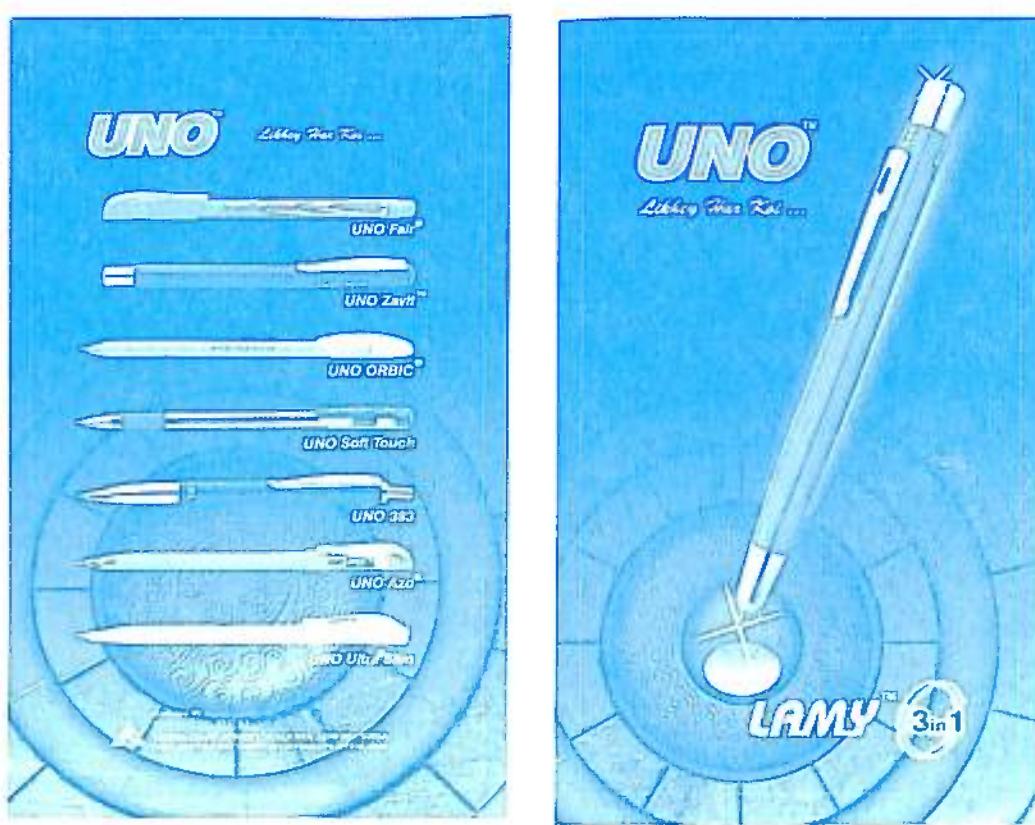
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