

# DUNE REPRESENTATIONS

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# VERNACULAR ARCHITECTURE : A REVIEW

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## ABSTRACT

Vernacular architecture is a form of architecture that considers all of the needs and requirements of the inhabitants, as well as nature, building materials, and cultural traditions and values. It evolves over time to reflect the community's culture, traditions, history, climate, residents' desires and needs, and economy. Structures designed by professional architects are not considered as vernacular architecture. The main concept of vernacular architecture is architecture that is not intentionally or knowingly planned. It is designed specifically for the local environment, using local environment. Architect Paul Oliver stated that vernacular architecture is "the architecture of the people, and by the people, but not for the people". The main purpose of this study is to investigate passive/ bioclimatic/ environmental ecological design principles/ measures/ features to achieve a comfortable living environment, eco-friendly and energy-efficient architecture.

Keywords: Vernacular Architecture, Vernacular Planning, Local Resources, Tradition, Climate Responsiveness, Indian Vernacular Architecture, Sustainability, Building Scale, Vernacular Buildings.

#### 1 Introduction

The term "Vernacular" is derived from the Latin word "vernaculus" which means domestic, native, indigenous. (O. Paul, 1997) Vernacular architecture is now considered a sustainable

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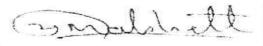


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# DUNERATIONAL JOURNAL OF CONTEMPORARY STUDIES VOL. 6, ISSUE 2

# TRANSITION OF COMMERCIAL INTERIORS THROUGH SYSTEM DESIGN FOR ENHANCEMENT OF WORKABILITY & COMFORT

### Ar. SAMRUDDHI CHITNIS

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## ABS RACT

There is a vast difference between residential & commercial interiors. Houses utilize comfortable stays inside, while commercial structures have very different needs to enhance workability & productivity of employees. There are so many other important factors like an interior environment, and the comfort level for the users which are always followed by the system design & ergonomics which can enhance functionality of furniture & workability of the workers. An interior designer can help a business to make money in various ways. The interior designer balances the functional needs of a commercial building in terms of physical space and its aesthetics using system design principles based on ergonomics and human anthropometry. All type of commercial spaces need some degree of flexibility in design for changing needs. This flexibility also can be achieved by proper system designs. Another aspect of system design is appropriate interior detailing. This paper focuses on the orientation of interior design process of commercial spaces based on the system designs of each & every interior element; truly based on the anthropometry & ergonomics, purpose & keen use of particular furniture element, and the technologies and systems to work out the related task easily in less time span. With this design orientation one can have increased productivity than the conventional approaches.

Keywords: Commercial interiors, interior environment, system design & ergonomics, functional needs, productivity

### INTRODUCTION

We know there is a vast difference between household & commercial buildings; same way there is lot of differentiation in residential & commercial interiors also. A commercial building is one used for some sort of business purpose, such as a store, warehouse, restaurant

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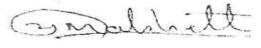


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## INTERIOR FINISHING MATERIALS A REVIEW PAPER

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### ABSTRACT

Finishing can be defined as the final layer which protect and fix the surface of the building elements. This layer plays an important role in visual and psychological definition of interior space. At the period of traditional building techniques; buildings were usually produced by traditional materials such as stone, wood and adobe. They were used uncoated or sometimes plastered. After the transition to modern building techniques; the building section got thinner and new layers had to be added in order to provide comfort requirements. Consequently finishing layers were needed. The main purpose of finishing layer is to fix the surface. Also it is essential to coat wall, floor and ceiling in order to create a suitable appearance and to protect the construction from effects of water, heat, moisture, abrasion

Key Notes: finishing, building, layer, material, techniques

### 1 INTRODUCTION

After the improvement of new building techniques, interior space gained importance. In order to create an esthetic and durable interior space, some factors had to be taken into consideration. At the prehistoric age, human beings built huts in order to defend themselves from environmental factors and other living creatures. They were the first architectural samples. In order to build these huts simple materials, which can be gathered easily from the environment, were used. Afterwards different construction techniques developed and the building materials also improved and evolved. At the beginning, construction and strength of

Ar. GURUPRASAD J. YERNALKAR

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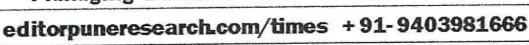




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# COMMUNITY SPACES: UNDERSTANDING THE IMPORTANCE OF COMMUNITY SPACES IN URBAN AREAS

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## ABS RACT

Community spaces play a very important role in the social life of communities. Community spaces in urban areas are present in variety of functions, spaces, activities, etc. Increasing migration of people from rural to urban areas has led to the scarcity of open spaces. Urban living also limits the access to open spaces and further restricts the community life of people. It is important for the architects and urban planners to first understand how the community interacts and behaviour of community to design these spaces. Also, the successful protection and development of community spaces in urban areas is required.

Keywords: Migration, scarcity.

### 2.1 INTRODUCTION



# "TERRACE GARDENS" UTILIZATION OF TERRACES FOR GREEN FUTURE: A REVIEW

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## ABS RACT

In today's urban environment high rise buildings, parking areas, network of roads have acquired major urban land. In such congested environment rooftop and terrace of buildings provide a valuable potential source of outdoor space accessible to users of building. (A. Patel, R. Yadav, B. Singh, 2019) The purpose of this study is to give an insight into what motivates middle-class citizens to engage in gardening. The Indian middle classes are described as well educated with busy, stressful lives and with a high resource use due to consumption, however, also with increasing awareness and practices of pro-environmental behaviour. (Mathur 2010) Balcony and terrace gardens give pleasure to city dwellers and provide an opportunity for enhancing creativity as well psychological benefits. In addition, they change the visual appearance of the building, screening from neighbors, and conceal unwanted pipeline and unappealing scenery (Green, 2004). The findings of this article are based on literature review. The study concludes that, regardless of the type of home, both Individual house and apartment respondents prefer a terrace Gardening for the purpose of relaxation and decreases recorded in global Warming is the greatest benefit.

Keywords: Roof garden, Sustainability, Roof Top Gardening, eco-design, Urban Gardening, Benefits of Terrace Garden

### INTRODUCTION

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Urbanization is not an option but a compulsion. People residing in the city, finds this life very hectic as there is a very rare chance to feel the nature. So, in order to enjoy the country side Id. PRIYA KANDALKAR

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# DINACHARYA' (Daily Regimen): AN AYURVEDIC APPROACH FOR PREVENTION OF COVID-19

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#### Abstract

Ayurveda is the Science of Life. An ancient Indian system of medicine deals with almost all aspects of human life related to physical, mental and social health and overall development of a man. The basic principle of Ayurveda is prevention. Modern science also focuses on prevention when it comes to any viral infection. And thus vaccines (half killed virus) are injected to stimulate acquired immunity. Ayurveda also deals with the maintenance and enhancement of immune power. All of which have become an integral part of our lives nowadays in this pandemic situation. Diracahraya is the one part of Ayurveda which talks about daily regimen. It includes rules and regulations to be followed by an individual to maintain a happy, healthy, active and disease free life. COVID-19 is certainly a preventable disease which can be kept away by following the Ayurvedic principles mentioned in Dinacharya. If one follows the Dinacharya as per Ayurvedic treatises, he will be able to keep himself away from infections and if at all exposed to the infection, can overcome again with a good immune power.

Key words: Ayurveda, viral infection, vaccine, pandemic, dinacharya, COVID-19, immune power.

### Introduction

Health is a state of complete physical, mental and social well-being and not merely absence of any disease or infirmity. According to Ayurveda- an individual is said to be healthy whose humours (doshas), tissues (dhatus), excretory products (mala) and digestive capacity (agni) are in the state of equilibrium along with mental sensory and spiritual pleasantness and happiness. Ayurveda is an ancient Indian Medicine. It is the oldest system of Indian Medicine. Ayurveda means the Science of Life. It teaches us the basic principles of life which are eternal. Ayurveda basically focuses on preventive approach. It deals with the rout causes of any disease rather than focusing symptomatic approach as in allopathic medicine or modern medicine. Ayurveda has given a very comprehensive approach for the prevention

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Department of Food Technology CNCVCW, Kolhapur. Published 2020: PP: 264-278 Copyright © Dr. A. R. Kulkarni ISBN: 978-93-5406-329-9

### A Case Study on Corporate Social Responsibility and Environment

Dr. A. R. Kulkarni College of Non-Conventional Vocational Courses For Women (CNCVCW), affiliated to Shivaji University Kolhapur Corresponding Author Email: drarkulkarni@siberindia.edu.in

### ABSTRACT

Community development through Corporate Social Responsibility (CSR) is one of the statutory requirements for every business houses. It is essential to maintain balance between economy, environment and people. The World Business Council for Sustainable Development stresses, "CSR is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families, as well as of the local community and society at large. Dhangarwadi bauxite mine of Hindalco Industries Ltd. is involved in the production of bauxite for captive consumption for the manufacturing of aluminum at their Belgaum Plant. Dhangarwadi bauxite mine is an open cast mechanized mine operating since 2008. Company has obtained Environmental Clearance from the Ministry of Environment and Forests for the production of 0.6 million tonnes of bauxite per year and also consent to operate from the Maharashtra Pollution Control Board. In accordance with statutory requirement company has defined its CSR policy and spends minimum 2% of net profit on CSR activities in the buffer zone of 5km radius around the mine.

**KEYWORDS:** Bauxite Mine, Corporate Social Responsibility, Company's act, Ecological balance Policy, Sustainable Development

### INTRODUCTION

The concept of Corporate Social Responsibility (CSR) is not new in India. It emerged from the 'Vedic period' when history was not recorded in India. In that period, kings had an obligation towards society and merchants displayed their own business responsibility by building places of worship, education, inns and wells. Corporate Social Responsibility has been defined and conceptualized in several ways during the past four centuries following a process of analysis, debate and scholarly confrontation around the theme. The concept 'Corporate Social Responsibility' (CSR) refers to 'soft', voluntary self regulation adopted by



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NAAC has identified seven criteria / parameters as mentioned below, which serve as quality indicators on the basis of which HEI's are evaluated.<sup>4</sup>

Sr. No.	Criteria	University	Autonomous College	Affiliated / Constituent College
i	Curricular Aspects	150	150	100
Ц	Teaching-Learning and Evaluation	200	300	350
Ш	Research, Innovations and Extension	250	150	120
IV	Infrastructure and Learning Resources	100	100	100
V	Student Support and Progression	100	100	130
VI	Governance, Leadership and Management	100	100	130
ΛII	Institutional Values and Best Practices	100	100	130
	Total	1000	1000	1000

### NAAC - seven criterions

Criteria I: Concerned with an institution in initiating a wide range of programme options and courses that are in tune with the emerging national and global trends and relevant to the local needs. Also focuses on career orientation, multi-skill development and feedback system.

- 1.1 Curriculum design and development
- 1.2 Curriculum Planning and Implementation
- 1.3 Academic Flexibility
- 1.4 Curriculum Enrichment
- 1.5 Feedback System

Criteria II: pertains to the efforts of an institution to serve students of different backgrounds and abilities, through effective teaching-learning experiences. Interactive instructional techniques that engage students in higher order 'thinking' and investigation, through the use of interviews, focused group discussions, debates, projects, presentations, experiments, practicum, internship. Also, it is concerned about continuous professional development of the faculty who handle the programmes of study. The efficiency of the techniques used to continuously evaluate the performance of teachers and students is also a major concern of this Criterion.

- 2.1 Student Enrolment and Profile
- 2.2 Catering to Student Diversity
- 2.3 Teaching-Learning Process
- 2.4 Teacher Profile and Quality
- 2.5 Evaluation Process and Reforms
- 2.6 Student Performance and Learning Outcomes
- 2.7 Student Satisfaction Survey

Criteria III: Seeks information on policies, practices and outcomes of the institution, with reference to research, innovations and extension. It deals with the facilities provided and efforts made by the institution to promote a 'research culture'. The institution has the responsibility to enable faculty to undertake research projects useful to the society. Serving the community through extension, which is a social responsibility and a core value to be demonstrated by institutions, is also a major aspect of this Criterion.

- 3.1 Promotion of Research and Facilities
- 3.2 Resource Mobilization for Research
- 3.3 Innovation Ecosystem
- 3.4 Research Publications and Awards
- 3.5 Consultancy
- 3.6 Extension Activities
- 3.7 Collaboration

In this perspective, it is essential to develop actions in the community, in order to build new and different knowledge based on the fusion of popular and scientific knowledge ensuring the exchange of experiences, involvement with social issues and the development of health promotion actions from an holistic perspective where the different world points of view can be respected.<sup>5</sup>

Learning activities have a visible element for developing sensitivities towards community issues, gender disparities, social inequity etc. and in inculcating values and commitment to society. Affiliation and interaction with groups or individuals who have an interest in the activities of the institution and the ability to influence the actions, decisions, policies, practices or goals of the organization leads to mutual benefit to both the parties. The processes and strategies inherent in such activities relevantly sensitize students to the social issues and contexts. Sustainable practices of the institution leading to superior performance results in successful outcomes in terms of generating knowledge useful for the learner as well as the community. Extension also is the aspect of education which emphasizes community services. These are often integrated with curricula as extended opportunities, intended to help, serve, reflect and learn. The curriculum-extension interface has an educational value, especially in rural India.

An extension activity is an activity that extends the learning of the lesson. Extension activities can be done in small groups or by a single student. These extension activities are leveled to fit the student. For gifted students these are challenging. For struggling students these activities can be a reinforcing skill activities. Students don't choose their extension activity like the enrichment project.

The reason regular education teachers must have enrichment and extension activities in their classrooms and part of their instruction is because students need to take what they know or what they learned and apply it to the next level. Generally, extension activities are at the upper Blooms Taxonomy levels.

### Examples of various Extension activities6:

- 1. Awareness Program
- 2. Field Visits
- 3. Participation in Seminar/ workshops/guest lectures etc
- 4. Blood Donation Camps
- 5. Health and Career guidance programs for rural areas
- 6. Science and Technology day: Providing information of re-usage of papers, threads and other materials
- 7. Observation of "No Tobacco Day" Pamphlet Distribution
- 8. Importance of Nutrition on occasion of "National Nutritional Week"
- Awareness on home remedy medicines
- 10. Vanamahostav
- 11. Adult literacy,
- 12. women empowerment, human rights awareness,
- 13. legal rights awareness,
- 14. protection of environment,
- rainwater harvesting,
- 16. hygiene and sanitation, prevention of diseases,
- 17. Prohibition of alcohol consumption,
- 18. Power and energy saving strategy

### Impact on students and society?:

#### Extension activities,

- Challenges gifted students without giving extra work when they are finished with classroom work
- Allows students to apply new knowledge to the next level
- Allow gifted students to not do work that are repetitive.
- Allow students to have their own educational experiences.
- Associated with a wide range of positive outcomes including better health and wellbeing, higher social trust, greater political interest, lower political cynicism, and less hostile attitudes towards immigrants (Siqueira).

### Conclusion:

From the numerous example of extension activities mentioned earlier, it can be convincingly concluded that, every act supports the seven criteria's which can be evaluated by using the key indicators. This in-turn

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Indian Journal of Public Health Research & Development Year 2019, Volume 10, Issue : 7 First page (1582) Last page (1587) Print ISSN 0976-0243 Online ISSN 0976-5306 Article DO: 1, 1333 2972-7552 2019 01922 9

# Serving Vegan Palates Nutritiously: Fortification of Vegan Cake with Garden Cress Seeds and Rose Petal Preserve as Functional Ingredients

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Online published on 19 August, 2019

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Background

Vegan ifestive is gaining impetus all over the world in view of its headh benefits and environmental impact. With the growing cletitrends a demand for vegan bakery products are rising.

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The aim of the study was to develop whole wheat vegan cake by enriched with local plant derivatives and assess its overall acceptability compared to vegetarian cake available commercially.

### Method

Vegan cake swap standardized and emiched with gorden cress seeds and rope beta preserve against a commercially available repetation cake. Sensory trads on flavor profile were conducted using 9 point hedging scale on 30 semi trained panel sta. Various good at ceptance range can abered was 70% and above. Notify we value of the cake was determined by proximate analysis. Shelf life of the developed product was checked by microbial analysis. The overall acceptability of the developed product was sheeked against the central product statistically using pared ( test

### Result

The experimental and the control product had sensory acceptability of \$4% and \$3% respectively. There was no sign ficend difference between the overall acceptability scores of two products (p> 0.05). The proximate analysis suggested the experimental cake was high in calones, proteins from and fibre compared to control per 100 grains of the product. The shelf life of control and experimental product was two days at room temperature.

### Conclusion

The developed product has a good scalabrity as a nutritio is alternative to the contemporary vegan nakes available in the market

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# Production From Agricultural Waste: A Case Study In Kolhapur District Of Maharashtra (India)

P. B. Magadum, V. B. Patil

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Names had of the projectation of India theperate on agriculture for their level book. Mainly the printle county depends on agriculture and themestic animals. The works generated from these areas to the ways. The present study is curried out in three villages is I spark. Narannosale and Kanlange district of Malacrashtra to understand the disposal of ogricultural waits, mainly waste from animals for the purpose of energy production. Istal 100 respondence were selected and interviewed and the or self structured questionnaires. The study reveals that many people from rural society fulfil there The same as a same above the amount with the help of blogas plants and it is proved to be beneficial for them in 1000 x 2008. It beins to rectice the environmental issues such as deforestation and air pollution and provides and approximation to the people from rural areas.

wards Rural, Energy, Biomass, Waste

### STRONG CTION:

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assulture is the backbone of our economy and nearly so peoir amends upon agricultural sector. Domestic and an inseparable part of Indian agriculture. In of firm of India, fuel wood is often used as source of um, which leads to air pollution. Instead of that, in are must this waste is used for production of biogas. This was an eris cattle dung and other waste into biogas and amerable fermentation in absence of oxygen. The nature gas consists of 65% methane and it burns cleanly sawa LPG. In developing country like India, this gas of ourse of energy for rural poor. Biogas is a mixture per consisting of methane and carbon dioxide. These And the waste products of respiration of decomposing conganisms. The sludge generated after decomposition "sessican be again used as manure for agricultural crops. prives to be a sustainable and economically feasible is of overey production in rural areas. It helps to protect Whosen from rural masses from various respiratory which can be caused due to burning of fuel wood. the me various factors affecting the process of blogas bloading such as pH, temperature, loading rate, nutrients, Produced from animal waste shear, the source of fuel is never going to run out. So 2000 substitute to traditional fuel such as wood, tensore and coal.

## BESICHVES:

lo study the generation and potential of biogas use in wal areas of Maharashtra.

2 To study the benefits of biogas for energy generation "Haditional measures.

### METHODOLOGY:

#### 1. Primary data

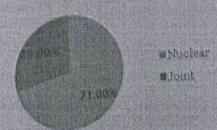
Present study is based on primary data collection. Primary data was collected through questionnaires, A. self structured questionnaire was used to collect the information. regarding generation and use of biogus. The samples were selected by Simple Random sampling. For this, total 130: respondents were selected from 3 villages of Kolhapur district. Questionnaire contained various questions about number of domestic animals, type of domestic unimals, purpose of using biogas plant, efficiency of biogus plant and energy production from biomass.

### RESULT AND DISCUSSION:

### 1. Type of Family

During present study, the type of family was taken into consideration. Type of family has effect on communition of biogas. Generally Joint families have more biogas consumption as compared to micleae families.

### Type of Family



After survey and analysis, it was noted that 71% families were nuclear and 20% families were joint out of total 100

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## भारतीय वन प्रबंध संस्थान INDIAN INSTITUTE OF FOREST MANAGEMENT

(An Autonomous Institute of the Ministry of Environment, Forest & Climate Change, Government of India)

Dr. Jayashree Dubey Faculty, Marketing Management

> HFM/JD/RAC/2020 ) 1558 20th February 2020

By Registered Post

To,
Jyoti Ravindra Hiremath
Department of Fashion Design,
College of Non-Conventional Vocational Courses for Women CSIBER,
Shivaji University Road,
Kolhapur, Maharashtra -416004

### Greetings form IIFM, Bhopal

It's my pleasure to make available a copy of edited book titled "MULTI-DISCIPLINARY APPROACH TOWARDS SUSTAINABLE DEVELOPMENT". The book contains selected full paper received in the International Conference on 'Multi-Disciplinary Approach towards Sustainable Development: Role of Government, Academicians, Corporate, Civil Societies and Citizens, organized by Indian Institute of Forest Management (HFM), Bhopal. The book is published from M/S Bookwell Publisher, New Delhi.

We thank you for participating in the conference and sharing your valuable knowledge. We look forward to your participation in our next international conference.

Kindly acknowledge the receipt of the book over e-mail id conference@iifm.ac.in

Sincerely

(Javashred Dubey)

Encls: Edited book

Department of Fashion Design CNCVCW, Kolhapur

# MULTI-DISCIPLINARY APPROACH TOWARDS SUSTAINABLE DEVELOPMENT

*Editors* Pankaj Srivastava Jayashree Dubey Dharmendra Hota

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Indian Institute of Forest Management, Bhopal



Bookwell Delhi

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# Sustainability and Role of Fashion Design Institutes

Jyoti Ravindra Hiremath Head, Department of Fashion Design College of Non Conventional Vocational Courses for Women CSIBER Kolhapur Maharashtra

#### Abstract

Sustainability speaks all about development and elevating the quality of life without depleting economic, social and environmental balance. The present approach of sustainability has undergone remarkable positive change than that of previous wherein economic development had an adverse impact on social and environmental factors. Usage of newer products was the measure of economic growth. Buying behavior, frequency of buying, disposal of garments drives to produce goods at a reduced cost which has foremost implications on society and environment. It was often observed that in the process of fashion designing and garment making and product life cycle; concern about generated squanders through the entire process of pattern making, production process and usage is overlooked. Technology and science alone cannot solve the above said issues; it needs precautionary action to circumvent serious, irreversible social and environmental hazards. To overcome these problems it is necessary to adopt a wholistic approach towards ethical, sustainable designing, manufacturing and usage of garments. This approach will add significantly for creating a greener. planet and producing new jobs. Ethical, sustainable designing as an integral part of the education process may be an added advantage in the industry, whereas inculcating sustainable practice makes more competitive and encourage eco-designing. Present work emphasizes on developing methods and models for designing, garment making which equips fashion designer at inception level to adopt QBD approach wherein natural resource extraction, manufacturing, usage, recycling and disposal of fashion clothing and garments minimize social, economic and environmental impacts. Moreover, developed design projects will significantly add to knowledge and skills of students in textiles and fashion designing for sustainable development of business, economy, and environment as well.

Keyword: Sustainable, Fashion, Garments, Textiles, Eco-design, QBD

### Introduction

UNESCO expresses sustainable development as "Ultimate goal of the Man-environment relationship" this drives to adopt a newer approach wherein the entire educational framework is to be modified towards achieving sustainability (UNESCO, 2012). In recent years the concept of Environmental education for sustainable development has come in to focus. Environmental education emphasizes on different methodologies for optimum, careful utilization of natural resources. It's of prime concern to ensure adequate natural resources for us as well as for our generations to come (Sauve, 1996). In this context, sustainable development refers to ameliorating or improvising but not necessarily arresting social and economic development (Robinson, 2004). Conservation of environmental resources has become the need of the hour. The prime aspects revolve around diminishing nonrenewable natural resources, increased population resulting in increased consumption and pollution threat. These are found to be the root cause of environmental degradation. Human has substantially moved away from pure nature. This pure nature is one which is responsible for the enriched quality of human life. Presently, this biophysical nature has affected enormously due to pollution, industrialization, and overpopulation along with irrational extraction of natural

### Recycling of worn and torn textile clothing

In a broader sense garment recycling encircles upcycling (i.e. converting old or obsolete garment into usable one, or using cuttings / pieces produced during garment production for isolating yarn) (Fig 1); downcycling (stripping exhausted cloth for insulation); Further, even exchanging, trading off, or any suitable method to reutilize which will save or delay garment / cloth from being wasted or reclaiming excavated pits (Goldsmith, 2012)

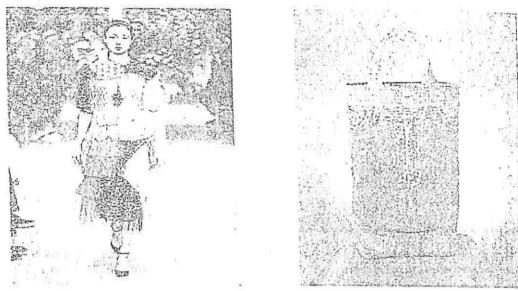


Fig 1: Up cycling and recycling of Textile Clothing

### Multifarious approaches for sustainability

Fashion is a gigantic business having significant influence on social aspects, financial status and environment in varied way. Being a constantly changing trend in fashion; leads to environmental abuse and puts immense pressure on natural resources. Taking into consideration these problems, adopting sustainability in each and every act of human is important and fashion world is remarkably influenced by this constrain. Institutes and people working in fashion or garment industry should shoulder the responsibility to practice sustainability in their field. Concept of sustainability should be implemented while designing be designers i.e. at concept initiation stage. The paper design concepts are adopted for designing more rational and accountable design patterns; which contributes towards sustainability in fashion world. Up to a certain level sustainable fashion has reached by exploring and by making optimum use of existing material, further bringing out best in waste, recycling of cloths, finding diverse applications of finished products, and putting a break on rapidly changing fashion trends, etc (Sharda, 2012).

Developing Sustainable Fashion Design

- a. Wardrobe Staple Piece
- b. Multi Functionality of Garments
- c. Re-construction-Second Life
- d. Emotive Designing for Slow Fashion
- e. Reduce Material and Process Using Modern Technology
- Recycle Best out of Waste
- g. Choosing Artisans Products to Support Small Craft
- h. Modular Clothing

- 7. Putting limits on use of hazardous material.
- Providing stage for stakeholders and giving financial support to discover and implement suggestions and recommendations drafted in this report.

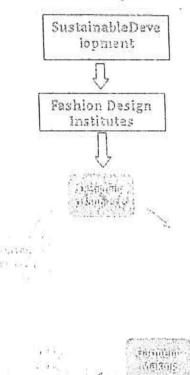


Fig 3: Curriculum development for sustainable development in Fashion and Textile Education Institutes

- Designing Subjects: Drawing figures, Illustrations, Portfolio development
- 2. Pattern Making: Use of Eco-paper, reuse of paper, marker making
- 3. Garment Making: Use of eco-material, waste management
- Business Aspects: Fashion marketing, Customer Buying behavior
- Textile Concern: Use organic fibers, Eco-production technologies, Recycling

### Conclusion

In the past few years, a significant change in approach towards education design was increased. This change emphasizes on consumer demand with more sustainable product development. The present study emphasized on, to address possible aspects in reframing the curriculum in fashion design and textile institutes towards sustainable development. Issues such as crafting, recycling, diverse use and garment designing for sustainability are discussed. This study helps in value addition in end product thereby making it more competitive in changing trends. A garment designer serves to bridge a gap between manufactures and end user. A good design, eco process in textiles, efficient waste management and effective recycling of worn garments adds significantly for sustainable development. This article emphasizes on multifaceted and promising sustainable approach by Fashion and Textile Institutes by imparting and transforming specially designed eco education aspects for sustainable development. This will help improve garment designer knowledge, appropriate extraction of natural resources. These approaches will potentially lower the undesired impact on the environment and bring in a balance between the social, economic and environmental aspect in achieving sustainable development.

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### Ghiya Tori Combo for Junk Food: A Critical Appraisal

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### ABSTRACT

The purpose of the paper was to assess the functional properties of Giya and Tori vegetable gourds combo for Junk food& the validated health claims so as to help the future researchers to locate the gaps. However, emphasizing on the scientifically available reports was required to make information available in a nutshell to the health-conscious consumers, as well as the researcher from the area of functional foods and nutrition. The paper is a mini-review of scientific findings in different studies on Giya and Tori vegetable gourds combo for Junk food gourd vegetables. The approach to information collection was finding the research gaps and potential areas for future work with a nutritional perspective. Giya and tori vegetable gourds have been extensively studied, and several health benefits and functional components, and the therapeutic benefits therefore hence, there lies a scope for researchers. The scarcity of scientific reports compared to the traditional usage and folkloric beliefs was a limitation. Understanding the nutritional potential of Giya Tori gourd vegetables from scientific reports may influence both the work areas and consumers in the appropriate direction.

KEYWORDS: Agricultural products, Benefits, Vegetables, Health, Food

### INTRODUCTION

With changes in lifestyle, there has been an increase in the consumption of junk foods (JF) among school aged children (SAC). High consumption of JF has been identified to have a contributory role in the increasing trend of overweight in India among SAC since (2001-2010). High consumption of JF has also been associated with increased risk of early development of diet related non-communicable diseases, including hypertension, dyslipidemia, impaired glucose tolerance, metabolic syndrome, musculoskeletal disorders, and cancers, indicating burgeoning health concerns in the near future for SAC. JF are

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### Development of Instant Weaning Food from Legumes and Dehydrated Vegetable Powder

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#### ABSTRACT

The study was aim to develop instant weaning foods in combination of legumes and dehydrated vegetable powders. The study was conducted on the physico-chemical properties of raw materials (Split green gram dhal, whole green gram, Green pea, Pumpkin, Carrot, Sweet potato). The soup was prepared using different concentrations of legume and vegetable powder. The formulated instant weaning Legume powder and dehydrated vegetable powders were prepared by using pre-treatments and dehydration methods. Standardization of formulation were done by preparing four different samples S1, S2, S3 and S4 with the various concentrations of dehydrated powder considering its physico-chemical properties. S2 sample was selected for final product. The final product was formulated considering protein content or RDA/day requirement of baby within age of 9 months to 1yr is 1.6gm which was satisfied by analysis of 1.7g protein with fibre content to negligible amount 0.193g. In comparison with other samples, Sample S2 was selected to give appropriate amount of protein, taste, colour, flavour, consistency and appearance in reference to above specified RDA. Hence the developed instant weaning food has the potential to overcome the protein requirements of infants having traditional ingredients and shelflife of 6-12 months at room temperature.

KEYWORDS: Weaning, legumes, dehydrated vegetables, green gram dhal, protein, RDA.

### INTRODUCTION

Weaning is a gradual process the infant becomes accustomed to the adult diet. Weaning foods should be given to the baby at about the age of four to six months. At four months most

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# Formulation of Mead to Study Its Characteristics: A Novel Finding In Alcoholic Beverage

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### ABSTRACT

Wine has been a very popular beverage of mankind for many decades. It is natural fondness to drink wine for its wonderful taste, its nutritional properties and not the least but also the medicinal properties. Actually there is no clear idea about the discovery of wine but there is ancient Persian fable which says the women as discoverer of wine. In Mediterranean region, wine is most preferred beverage which is consumed along with the meal. The main raw material for wine preparation is grapes (both green and black), they are used since it contains pulp, juice, sugar, acids, tannins and minerals. Addition of yeast to the juice increases strength and cane or beet sugar increases the alcoholic content. Sulphur dioxide is added during fermentation to control the growth wild yeast and other osmophile bacteria. Mead is fermented using main 3 basic ingredients i.e. honey, water and yeast. This beverage has been anciently prepared in Europe, Africa, and Asia for many decades. Infusion of herbs into sweet made it more acceptable and different varieties were able to improve digestion and relive the depression. Specific herbal mead are called Metheglin derived from Welsh were which means medicine. There are varieties of mead e.g. sweet, dry, still and sparkling. The present study was aimed at the production and characterization of mead from raw honey. Chemical analysis of developed mead contains glucose-290µg/ml, fructose-14µg/ml and alcohol concentration is 10.6% ABV. The conclusion was given as mead was prepared from honey using yeast culture as fermenting agent, honey was used since it contains 2 sugars i.e. glucose and fructose. Alcohol content was determined to 10.6% ABV using potassium dichromate.

**KEYWORDS:** Wine, Mediterranean region, Tannin, Sulphur dioxide, Osmophile Bacteria, Metheglin, Welsh, Raw honey, Mead, Glucose, fructose, yeast culture, potassium dichromate.

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### Understanding the Conventional Functional Foods for Making Lives Healthier: A Critical Review Defining A Nutritional Perspective

### ABSTRACT

Functional foods are foods which contains some active ingredients that have potentially positive effect on health apart from the basic nutrition. Functional foods can promote optimum health and reduce the risk of diseases. They may prevent nutrient deficiencies and promote proper growth and development. The concept is originated in Japan in 1980s when the government agencies have started approving foods with proven benefits for better health of the population. Functional foods are usually separated into two categories i.e. conventional and modified. Conventional foods are natural, whole food ingredients rich in vitamins, minerals, antioxidants etc. Modified foods are fortified with additional ingredients like vitamins, minerals, probiotics or fibres to increase its health benefits. The present study aims at highlighting on some conventional functional foods like Quinoa, Kale, Blackcurrant, Avocado and Olive oil. Quinoa is a grain crop that is grown for its edible seeds. It is technically a pseudo-cereal that contains metabolically active proteins such as albumins and globulins which accounts for 25-30% of the weight of a Quinoa seed. Quinoa also contains high amounts of flavonoids i.e. kaempferol and quecertin. Kale is a cruciferous vegetable of Brassica oleracea family. It contains chemical called Glucosinolates and sulphur containing compounds i.e. isothiocynates and indole-3-carbinol which are known to have antiinflammatory and anticancer effects. Blackcurrant is a woody shrub in the family Grossulariaceae grown for its berries. It contains anthocyanins, polyphenolic substances, antioxidants, ascorbic acid and gamma-linolenic acid (GLA) which are known to boost immune system. Avocado is the fruit of Avocado tree, scientifically known as Persea Americana. Avocado contains oleic acid which has been associated with reduced inflammation and shown to have beneficial effects on genes linked to cancer. Olive oil is a Published 2020; PP: 216-223 Copyright © Dr. A. R. Kulkarni

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### Study on Formulation of RTC Manchurian Mix

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### ABSTRACT

Studies were carried out for the development and formulation of RTC Manchurian Mix from a premix of Manchurian balls consisting of wheat flour, germinated sprout powder(moth bean powder and green gram powder),corn flour, dehydrated vegetables (cabbage, carrot, capsicum), and the formulated Manchurian mix dried sauce consisting of spring onions, onions, green chilies, tomatoes, soy sauce, red chilies, sugar, citric acid, pepper and salt. The premix has better nutritional attributes as it is rich in protein, iron, and calcium and phosphorous. It consists of 10.79 gm of protein, 3.61mg of iron, 0.20 mg of calcium and 0.09 mg of magnesium per 100 grams. The sensory analysis was carried out by a semi trained panel by using 9 point hedonic test. Wheat flour premix was much preferred by the panelist rather than refined wheat flour premix due to its nutritional qualities and good taste. There is no external addition of artificial MSG. The preparation of balls requires rehydration of vegetables and kneading with flour mix and then frying. Whereas, the preparation of sauce requires addition of water and stirring for 5 minutes. The packaging of the pre-mix was done in food grade polythene bags which were sealed air tight. The shelf life of the product is 6 months.

KEYWORDS: Instant, dehydrated vegetables, RTC, sprout flour.

### INTRODUCTION

The Indo Chinese cuisine has originated from the Chinese people of Kolkata and Chinese food is still popular there. Most of these people are Hakka origin; however, many of modern Indian dishes Chinese cuisine bear little resemblance to traditional Chinese cuisine. Looking at the popularity of the dish we decide to modify Manchurian dish into a healthy one. Formulated RTC Manchurian Mix is a blended form of all ingredients. It is ready to cook product and it is the result of adaptation of Chinese cooking and seasoning techniques to suit Indian taste. The materials used in this product are processed and prepared by dehydration

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# Serving A Baked Multigrain Kachori Fortified With Drumstick Leaves and Curry Leaves: Reformulation of A Popular Indian Snack In A Healthy Way

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#### ABSTRACT

India is a diverse country in terms of geographical and climatic conditions and also in terms of its traditions. The traditional Indian cuisine is highly influenced by all these diversified aspects. The traditional Indian cuisine is rich and has enormous number of snack items. Kachori is one of the most popular Indian snacks originated from Northern part of India. The traditional Kachori is made out of refined wheat flour with a stuffing of Indian spices and is mostly a deep fried snack item. The main ingredient of Kachori i.e. refined wheat flour is not much acceptable when it comes to the nutritional value. Also the cooking method of Kachori i.e. Deep frying is found to increase the saturated fat content of the snack. Replacing the refined wheat flour with multigrain flour (wheat flour, oat's flour, green gram dal flour) may increase its nutritional value in terms of protein and fibre content. Fortification of this flour with drumstick leaves and curry leaves can enhance the micronutrient content of Kachori. Modification of cooking method i.e. Microwave cooking instead of deep frying can help in reducing total saturated fat content of the snack. The present study was aimed at reformulation of this popular Indian snack and had revealed following results after sensory and proximate analysis of developed Kachori: Moisture- 9.63%, Carbohydrates- 34.72%, Crude fat- 31.42%, Crude protein- 17.94%, Total minerals- 4.02%, Crude fibres- 2.27% and Energy- 493.42 kcal. The bottom conclusions of the study have shown that the reformulated Kachori was nutritionally superior as compared to the traditional one and was also sensory wise acceptable. Further research is needed to obtain shelf life of the product.

**KEYWORDS:** Indian cuisine, Kachori, refined wheat flour, deep frying, multigrain, micronutrients, fortification, microwave cooking, reformulation, proximate analysis, sensory analysis, shelf life.

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### Utilization of Underutilized Vegetables in Ready-To-Eat Vegetable Curry Mix with Vegan Meat Balls

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### ABSTRACT

Introduction: Curry is a popular south Indian dish. It is made with adding many species and seasoned in ghee. Tray drying is one of the conventional methods of dehydration. Objectives: This present study aimed to develop Ready to Eat vegetable curry mix with vegan meat balls to reduce difficulty of raw material availability and to save the time of preparation and to optimize the use of underutilized and waste from vegetables which are embedded with essential vitamins, minerals, fibres and especially rich in calcium and iron. Methodology: Instant curry mix is formulated with the use of cauliflower, calocasia, betel, pumpkin, reddish and curry leaves, vegan meat balls and dehydrated carrot. Prepared curry was dehydrated in tray dryer at 65-70°C for 5-6 hrs. Vegan meat balls were prepared with the use of soya chunks, potato and wheat flour. Final product was evaluated on 9-point hedonic scale. The sample which was ranked highest in sensory evaluation was tested chemically. The proximate analysis of final product revealed that per100gm of serving size of curry gives 225 Kcal of energy, 50.26 gm of carbohydrates,7.1gm of fat,6.05 gm of protein,176 mg of calcium and 6.50gm of iron. The moisture percent in final product was 5.24% moisture so it could be stored for longer period.

**KEYWORDS:** Underutilized vegetables, Cauliflower, Calocasia, pumpkin, betel, curry, Radish leaves, Tray dryer, vegan meat.

#### INTRODUCTION

Vegetables are low in calories and high in fiber content. They are also best source of antioxidants and other phytonutrients. An important advantage in using dehydrated

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### Bioengineered Fruits: Genetics, Safety & Health - An Overview

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### ABSTRACT

Genetically modified foods or genetically engineered foods or bioengineered foods are the foods produced from the organisms that have had changes introduced into their DNA utilizing the structure of genetic engineering as opposed to traditional cross breeding. There is a scientific agreement that currently available food developed from genetically modified crops poses no greater risk to human health than conventional food. There are several genetically modified food products available in markets, some of them are directly consumable but most of them are processed to different form or smaller food ingredients. Those foods are alfalfa, argentine canola, chicory, cotton, melon, papaya, pineapple, plum, poplar, soybean, sugar beet, potato, tomato, maize, rice, wheat, etc. The present review aims at underlining on some of genetically engineered foods like Tomato, Pineapple, Papaya and Melon. Tomato is excellent model for genetic transformation of the required genes. The single tomato of new variety was made by introducing a gene from the model plant Arabidopsis thalianacalled AtMTB12 into the tomato genome. Del Monte produced the pink pineapple, simply has some genes toned down to keep the flesh of fruit pinker and sweeter. It has been genetically engineered to produce lower levels of the enzymes already in conventional pineapple that convert the pink pigment Lycopene to the yellow pigment beta carotene. Papaya was the first genetically modified fruit to be grown in commercial production. Two main natural and artificial genetic transformation processes have been used to obtain melon as a transgenetic plant. This review address some major concerns about the safety, health and nutrition engaged with GM foods.

**KEY WORDS:** Genetically modified foods, bioengineered food, genetically engineered food, genetic transformation, safety & health, tomato, pineapple, papaya, melons.

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### Formulation of Instant Soup Mix with Utilization of Raw Banana and Waste from Cauliflower

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### ABSTRACT

Objective: This present study aimed to develop dehydrated instant soup mix to reduce the difficulty and to save time in preparation of soup and to optimize utilization of cauliflower stalks, which is normally thrown out as waste. Methodology: The ingredients used in the instant soup mix are raw banana (as a basic ingredient and replacement for starch), dried cauliflower stalks, dried peas, dried carrot and flavoring agents. The ingredients such as Cauliflower stalk's, raw banana, onion, garlic and peas were dehydrated in a oven (Tray dryer/Cabinet Dryer) using established procedures. The optimum concentration of cauliflower stalk's powder, banana powder (starch), whole milk powder was determined by carrying out preliminary trials using 9 point hedonic scale sensory evaluation tests. Result and Conclusion: The rehydration ratio of instant soup mix: water was 1:12.5. Proximate analysis revealed that the soup mix provides 67.40 Kcal Energy, 0.46gm Fat, 1.64gm Protein, 1.13gm Fiber, 6.06gm Carbohydrate and 4.0% Moisture. The result of the shelf life evaluation studies namely moisture content and sensory evaluation revealed that soup mix could be stored for 6 months without affecting their quality.

KEYWORDS: Instant mix, Dehydrated Vegetables, banana starch, soup mix

### INTRODUCTION

Increase in population and accumulation of industries in a particular area made more people to stay alone after education for employment. Less time is available for them to prepare food. Hence most of them consume what is available or food that requires less preparation time. Hence an attempt is made to prepare soup which requires less time for preparation. As the formulation and development of nutritious complimentary foods from locally and readily available raw materials have received a lot of attentions, the present research work aimed to prepare and supplement dried cauliflower stalk soup (instant soup mix)with cauliflower stalks, banana starch and evaluating their sensory properties [1].



# Food Security in India: Current status and challenges of the future; A Nutritional Perspective.

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Abstract: Food Security as defined by the United Nations' Committee on World Food Security, means that all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their food preferences and dietary needs for an active and healthy life. Food access, food availability and food utilization are said to be the three important pillars of Food Security. According to the Food and Agricultural Organization (FAO) estimates in 'The State of Food Security and Nutrition in the world, 2018' report, about 14.8% of the population is undernourished in India. India ranked 76th in all 113 countries assessed by the Global Food Security Index (GFSI) in the year 2018, on parameters such as; affordability, availability, quality and safety. As per the Global Hunger Index, 2018, India was ranked 103rd out of 119 countries. The National Food Security Act (NFSA), 2013, legally entitles up to 75% of the rural population and 50% of the urban population to receive subsidized food grains under the Targeted Public Distribution System. Climate change, lack of access to remote areas, rural to urban migration, overpopulation, gender inequality, inadequate distribution of food, corruption etc. add to the issue of food insecurity that needs to be addressed. Some National and International initiatives are taken to address these issues affecting Food Security. Newer Agricultural techniques, strategies for food storage, the blue revolution, biotechnology, community education on key family health and nutrition practices, strengthening of existing nutrition programmes and policies to bring together diverse issues such as inequality, food diversity are some of the critical strategies India needs to adopt to ensure sustainable food security.

Key Words: Food security, food access, food availability, food utilization, FAO, GFSI, Global Hunger Index, NFSA, Targeted Public Distribution System, biotechnology.

### INTRODUCTION

India has made substantial progress in improving life expectancy at birth and reducing infant and mortality since independence. Still it shelters a large proportion of population suffering from preventable undernutrition. Undernutrition contributes to 35% of all deaths due to all major causes like diarrhoea, pneumonia, malaria, measals etc [1]. Despite an commitment in the Constitution of India that "State shall regard the raising of the level of the nutrition and the standard of living of its people and the improvement of public health among its primary duties", malnutrition continues to be an important public health problem in India, with a major part of undernourished people in the world.

The UN General Assembly, in the year 2000, adopted the Millennium Development Declaration with nutrition related goal. i.e to have the proportion of the World's people who suffer from hunger by the year 2015; to reduce maternal mortality by three quarters; and under five year child mortality by two thirds, of their current rates. India is

signatory to the Millennium Development Goals. Adequate food and good nutrition are the basic human needs. And thus are recognized in the Millennium Development Goals (MDGs), which emphasize eradication of extreme poverty and hunger and promote the empowerment of women as effective ways to combat poverty, hunger and disease and to stimulate sustainable development. [2]

### HUNGER INDEX IN INDIA

The international Food Policy Research Institute (IFPRI) developed the Global Hurger Index (GHI) as an approach to measuring and tracking progress on hunger and to find solutions to prevent hunger with improvement in nutrition.

India ranked 76th in all 113 countries assessed by the Global Food Security Index (GFSI) in the year 2018, on parameters such as; affordability, availability, quality and safety. As per the Global Hunger Index, 2018, India was ranked 103rd out of 119 countries [3]

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containing mainly the coarse grains like millets is showing a significant decline. The surveys conducted by the NNMB indicate that the intake of coarse grains is confined mostly to the States of Gujarat (maize, bajra), Maharashtra (jowar), Karnataka (ragi), and Madhya Pradesh. Even the NSSO surveys indicate that there has been a significant decline in the consumption of millets during 1972-73 and 1999-2000 [6]

Though a majority of the population is non-vegetarian, the contribution of animal foods is very small and infrequent, mainly because of economic reasons. The diets consumed thus are poor in micronutrients. High levels of poly-phenols and phytates (cereal and pulse based diets) in the Indian diets further interfere with the absorption of nutrients leading to inadequacy of micronutrients.

### TRENDS IN NUTRIENT INTAKE LEVELS

About 70% of the Indian children in the age group 1-3 years and 4-6 years consume inadequate amounts of energy. The protein intake is inadequate (< 70 percent RDA) in 40 percent of 1-3 years old children while less than 10 per cent of the 4-6 years old children. Therefore, it is clear that the primary limiting factor in the Indian diets, amongst the poorest segments of rural India, is 'food gap'. However decreasing trend in consumption of pulse is of concern since it would adversely influence the quantity and quality of protein. More than two-thirds of the households and individuals consume less than 70% of RDA of other vital micronutrients like vitamin A. While almost 70 percent consume less than 50% RDA of iron.

The proportion of the adolescent girls consuming less than 50 percent RDA of energy was found to be increased between the years 2002 to 2006. The intake of iron, calcium and vitamin A is still low in this age group.

The average energy nutrient intake among adult women seems to be decreased in all groups of adult women such as non-pregnant-non-lactating as well as pregnant and lactating women. In the case of micronutrients, a very high percentage of women consume less than 50 percent of RDA. [7]

### INTRA-FAMILIAL DISTRIBUTION OF NUTRIENTS

An analysis of intra-family distribution of dietary energy in the households was carried out by comparing the adequacy of energy intakes, as per the RDI, of preschool children in each household with their parents and other elders. The intra-family distribution of dietary energy was assessed from 24-hour dietary recall data which was collected by NNMB in seven states in India during 1996-97. The energy consumption, expressed as percentages of recommended dietary intake (% RDI) for preschool

children, schoolchildren, and adolescents as compared with that of adult men and women in the same households. The results revealed that about one third of the preschool children had inadequate intake of energy even when their adult counterparts had an adequate intake. There were no difference between sexes in any of the age groups, with respect to intra-family food distribution [8].

The time trends in the intra-family distribution of dietary energy were assessed by comparing the data with those collected in 1975-80 using the same procedures in the same villages. The analysis revealed a significant increase in the proportion of preschool children consuming inadequate energy, although both adult men and women were consuming energy adequate diets during 1996-97 as compared to those surveyed in 1975-80. These results are suggestive of the inappropriate child feeding and caring practices prevailing in our society, perhaps due to mother's ignorance about the child's energy requirements which indicates the need for effective nutrition education for parents regarding appropriate feeding of their children for meeting the nutritional needs.

### SOCIOECONOMIC STATUS AND DIET

The socioeconomic status of the households plays very important role in the dietary pattern of the families. The dietary consumption among the landless agriculture labors and the socially backward scheduled castes and scheduled tribes is not satisfactory. Poverty and ignorance are the major detern inants of food consumption among these households. These families are not be able to meet the nutrient requirements. The average per capita consumption expenditure for rural and urban population as per 61st Round of NSSO (2004-05) is Rs. 558.78 and Rs. 1.052.36, respectively. In the rural households, an average consumption expenditure on food is about 55 per cent and remaining 45 per cent is on non-food items. Rural poor (below poverty line/BPL) are found to be spending about 31-35 per cent of their total consumption expenditure on non-food items and remaining on food items [9].

NSSO consumption expenditure surveys are suggestive of decline in expenditure on food declined without any apparent increase in the cereal consumption, except in the lowest income group.

Unfortunately, the pulse consumption among all the segments showed a decline due to continuous increase in prices. Consequently, dietary diversification is evident mainly in middle and high-income groups in urban and rural areas. There has been only a small increase in energy consumption among the poor despite widespread distribution of subsidized foods trough Public Distribution System (PDS) to the BPL families. On the other hand, the

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# Development And Sensory Evaluation Of Cake Supplemented With Water Melon Seed *(Citrullus Lanatus)* Flour

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Sub Theme: Agriculture and Sustainability (Agricultural Waste Management)

Abstract: Objectives: Watermelon fruit is eaten while seeds are thrown away as a waste. They are rich source of protein and fat such as polyunsaturated fatty acid i.e. omega 6 (Linoleic acid) and monounsaturated fatty acid (Oleic acid). This present study aimed to develop protein rich bakery product and to optimize utilization of watermelon seeds (agricultural waste) in cake. Methods: The basic ingredients used in the cake are whole wheat flour, ragi flour, eggs, butter, sugar and baking powder. Cake was prepared by supplementing water melon seed flour at different concentrations. The optimum concentration of water melon seed flour was determined by carrying out preliminary trials using 9-point hedonic rating scale. Cake was highly accepted at 50% concentration. Result: Proximate analysis of cake supplemented with 50% watermelon seed flour revealed that the cake provides 436.91 Kcal energy, 26.27 gm fat, 13.10 gm protein, 32.02 gm carbohydrate and 2.52 mg iron. In conclusion, the conversion of such agricultural waste into value added products would be a big step towards the global sustainability efforts.

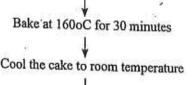
Key words: Cake, Watermelon seeds, Ragi flour, Whole wheat flour, Supplementation.

### INTRODUCTION

Watermelon (Citrullus lanatus) a fruit crop, is a herbaceous creeping plant belonging to the family cucurbitaceae. It can be grown along the coastal areas of Ghana, the forest zone and especially along river beds in the Northern Savannah areas [1]. Watermelon seeds are one among the underutilized fruit by products. Watermelon seeds are known to be highly nutritional; they are rich sources of protein, vitamins B,

minerals (such as magnesium, potassium, phosphorous, sodium, iron, zinc, manganese and copper) and fat [2]. The seeds of watermelons are known to have economic benefits especially in countries where cultivation is on the increase. The seeds are for instance used to prepare snacks, milled into flour and used for sauces. Oil from the seeds are used in cooking and incorporated into the production of cosmetics [3]. Recently there has been the practice of fortifying bakery with nuts [4] and beans to improve the





Demould the cake

Figure 1. Flow diagram for cake preparation

# Chemical Composition of Cake

Moisture, protein, fat, fiber, ash, iron, carbohydrates and Energy contents were determined according to the official methods of the AOAC (2005) [13].

### Sensory Evaluation of Cake

Sensory evaluation was conducted to assess the degree of acceptability of cakes. A slice from

each lot of cake was presented to 15 semi trained panelists as randomly coded samples and the taste panelists were asked to rate the sample for color, flavor, texture, taste and overall acceptability on a 1-9 point hedonic scale where 1=dislike extremely; 2=dislike very much; 3 dislike moderately; 4=dislike slightly; 5= neither like nor dislike; 6=like slightly; 7= like moderately; 3= like very much; 9=like extremely [15].

### RESULT AND DISCUSSION

# Proximate Composition of Watermelon Seed Flour

Table 2 shows the proximate composition of watermelon seed flour. The chemical analysis showed highest percentage of crude protein and crude fat as compare to other chemical components. The results obtained are closer to the results reported by [16, 17] who used watermelon seed powder for preparation of cookies and soup respectively.

Table 2. Proximate composition of Watermelon Seed Flour

Parameters	Composition (%)		
Moisture	8.35		
Crude protein	16.37		
Crude fat	15.44 3.32		
Ash			
Crude fiber	5.10		
Carbohydrates	51.40		

### Chemical Analysis of Cake

In the present study, five different cake samples (T1 - T5) were prepared with the variation in their formulations. The different formulations were made using different levels of watermelon seed flour (20% to 60%). The proportions of whole wheat flour and ragi flour were in the ratio 1:1 in all the formulations. The moisture content of the control cake (T0) was 20.12 %. The percentages of moisture were

21.02, 22.78, 23.32, 23.94 and 24.50 for cake sample T1 to T5 respectively. There was direct relation of moisture and watermelon seed flour as the moisture percentage of cakes increases with increase in amount of water melon seed flour (From Table 3). This may be the result of hygroscopic nature of watermelon seed flour [18]. The percentage of protein, fat, ash and fiber also increases with increase in proportion of watermelon seed flour. Thus from the Table 3, it was reported that, the addition of watermelon seed flour in cake significantly increases nutrient content of cake.

Table 3. Chemical Composition of cake

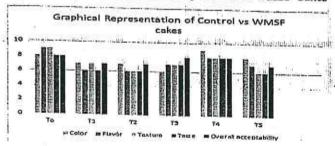
Parameters (%)	Cake Samples						
	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>s</sub>	
Moisture	20.12	21.02	22.78	23.32	23.94	24.50	
Protein	6.19	7.60	9.86	11.50	13.10	15.06	
Fat.	23.34	23.96	24.12	25.33	26.27	27.07	
Ash	1.09	1.30	1.43	1.94	2.02	2.50	
Fiber	1.83	2.80	3.40	4.28	4.72	4.78	
Carbohydrates	47.53	43.22	38.50	33.75	30.02	26.19	
Iron - 0.5	1.47	1.52	1.88	2.37	2.52	2.60	
Energy (Keal)	424.94	418.92	410,52	408.97	436.91	408.63	

\*WMSF = Watermelon Seed Flour

### Sensory Evaluation of Cake

The sensory characterization (color, flavor, texture, taste and overall acceptability) of the cakes supplemented with different proportions of watermelon seed flour are graphically depicted in figure 2. The measured average values of sensory evaluation were used to plot the responses. It is clear from the chart (Fig. 2) that the formulated product T4 was more accepted among all samples. Color, flavor, texture and taste of cake prepared by addition with watermelon seed flour were improved in the 9-point hedonic scale. However, overall acceptability was not affected and remains non-significant in all samples. Results of sensory evaluation are similar to that of [18, 19].

Figure 2. Graphical Representation of Control vs. WMSF Cakes



#### CONCLUSION

This research has demonstrated the possible fortification of cake with watermelon seed flour. The overall nutritional characteristics of the fortified cake showed significant enhancement in terms of protein, fat, fiber and essential



2818.

ess Story of Sikkim State - 100% of organic

rogress takes time and Sikkim has given its time to a fully organic state by awaring the future hurdle to ronment and health issues. In 2003 it faced many ornmantal and health problems. As a measurement im's Chief Minister Pawan Chamling announced his on for India's first organic state and stable government he state achieved his vision after 12 years, when the eminister declared on 18th January 2016, at Sikkim's anic festival as 100% organic state. He said"If the criment succeeds, farmers in other places will follow it heir own. Farmers may not be influenced by any amount actures by scientists... For them seeing is believing".

# w this has been achieved?

# he Sikkim Organic Project:

state has made organic policy and spread awareness in the importance of organic farming. This has ome popular when talk show as arranged in 2012.

# Added in School Curriculum:

Use of organic farming and methods of cultivation is led as subject in syllabus that from primary level child become aware of the organic farming.

# Training Facility:

Training facility from experts made available to the mers that they can take large production scientifically.

### Use of Indigenous Technology:

Indigenous techniques like pheromone traps to control it flies, biopesticides and biofertilizers.

# Establishment of organic retail stores:

offers pulses, rice, ginger etc. set up the government

in New Delhi, Due to the surge in demand for sikkim's organic produce farmers are now earning 20% more.

# > Way to make organic food cheap:

One entrepreneur put like this "What happens ordinarily in organic is that a retailer deals with small quantities from wide range of farmers. The supply chain is broken and disorganized. This adds to the cost of produce. When the state is organic, then the costs tat go into segregating, packaging, labeling and differential pricing is saved. When everything is organic price automatically falls".

# Conclusion:

Green revolution occurred in 1967 made drastic change in agricultural production. Modern methods of agriculture like tractor, high yielding variety seeds, use chemical fertilizers made large production in farm land. The states like Haryana, Punjab become rich countries by using modern methods of cultivation. But day by day soil fertility is decreasing and this decline in fertility made land available for cultivation very less. So it is needed to go for organic farming both in terms of availability of land and health consciousness. No doubt it will take the time but as soil fertility increases it will fulfill the growing need of the population. My only suggestion is that each and every state of India should follow the Sikkim State for sustainable agriculture by using organic farming.

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# Restructure In Indian Banking Sector By Way Of Mergers And Acquisitions Towards Sustainable Development

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Abstract: Sustainable Development initiatives are pivotal in efforts to make life of all living beings on our planet Earth, sustainable for the future. These efforts are directed towards aspects such as environment, economic and social wellbeing. The first goal in the order of seventeen sustainable goals agreed upon by 193 countries is to end poverty. Decent work, economic growth, industry, innovation and Infrastructure, reduced inequalities also feature in this line of major goals. It is understood by world at large that regulation of financial markets and institutions, delivering development aids in places of need and safe migration for better life prospects is



# Energy Production From Agricultural Waste: A Case Study In Kolhapur District Of Maharashtra (India)

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Abstract: Nearly half of the population of India depends on agriculture for their livelihood. Mainly the people from rural society depends on agriculture and domestic animals. The waste generated from these areas is disposed in various ways. The present study is carried out in three villages i.e. Ispurli, Navatawade and Kendage of Kolhapur district of Maharashira to understand the disposal of agricultural waste, mainly waste from domestic animals for the purpose of energy production. Total 100 respondents were selected and interviewed with the help of self structured questionnaires. The study reveals that many people from rural society fulfil their energy needs in sustainable manner with the help of biogas plants and it is proved to be beneficial for them in various ways. It helps to reduce the environmental issues such as deforestation and air pollution and provides Reywords: Rural, Energy: Biomass, Waste

#### INTRODUCTION:

Agriculture is the backbone of our economy and nearly 50% people depends upon agricultural sector. Domestic animals are inseparable part of Indian agriculture. In rural parts of India, fuel wood is often used as source of energy, which leads to air pollution, Instead of that, in many areas this waste is used for production of biogas. This process converts cattle dung and other waste into biogas through anaerobic fermentation in abacace of oxygen. The generated gas consists of 65% methane and it burns cleanly · smilar to LPG. In developing country like India, this gas is a source of energy for rural poor. Hogas is a mixture of gases consisting of methane and earbon dioxide. These gases are waste products of respiration of decomposing microorganisms. The sludge generated after decomposition of waste can be again used as manure for agricultural crops. Thas it proves to be a sustainable and economically feasible hay of energy production in rural areas. It helps to protect the women from rural masses from various respiratory diseases which can be caused due to burning of fuel wood. There are various factors affecting the process of biogas formation such as pH, temperature, loading rate, nutrients, Fressure etc. As this energy is produced from animal waste Moduets, the source of fuel is never going to run out. So hogas is a good substitute to traditional fuel such as wood, herosene and coal. OBJECTIVES:

 $\frac{1.7_0}{1.3}$  study the generation and potential of biogas use in areas of Maharashtra.

2 To study the benefits of biogas for energy generation a hadalonal measures.

# METHODOLOGY:

# 1. Primary data

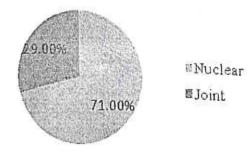
Present study is based on primary data collection. Primary data was collected through questionnaires. A self structured questionnaire was used to collect the information regarding generation and use of biogas. The samples were selected by Simple Random sampling. For this, total 100 respondents were selected from 3 villages of Kolhapur district. Questionnaire contained various questions about number of domestic animals, type of domestic animals, purpose of using biogas plant, efficiency of biogas plant and energy production from biomass.

# RESULT AND DISCUSSION:

### 1. Type of Family

During present study, the type of family was taken into consideration. Type of family has effect on consumption of biogas. Generally joint families have more biogas consumption as compared to nuclear families.

# Type of Family

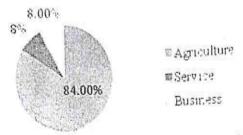


After survey and analysis, it was noted that 71% families were nuclear and 29% families were joint out of total 100 families.

### 1. Occupation

For this study, the occupation of the people was added to questionnaires as it has major effect on standard of living of people and their ability to meet their day-to-day needs.

### Occupation

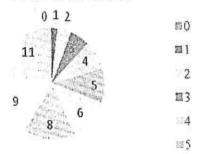


Among the surveyed respondents, 84% people were involved in agricultural activities, 8% people were doing service and 8% people were having their own business. It was observed that farmers were having domestic animals and they owe biogas plant.

#### 3. Number of domestic animals

Domestic animals are main source of biogas, so the number of domestic animals was considered.

### Number of Cattles



After this study, it was noted that 9% people were not having domestic animals. 9% people were having I domestic animal, 25% people were having 2 domestic animals, 29% were having 3 domestic animals, and 16% were having 4 domestic animals, 5% people were having 5 domestic animals, 3% people were having 6 domestic animals, 2% people were owing 8 domestic animals. 1% were having 9 domestic animals and remaining 1% people were having 11 domestic animals.

### 4. Type of Domestic animals

Many respondents were having domestic animals at their home. The information was collected from owner regarding type of domestic animals. These were mainly buffalo, sheep, cow etc.

During this study, it was noted that 42% people were having buffaloes, 6% people were having sheep, 1% people were having goats, 18% people were having cow, 17% people were having both buffalo and cow, 1% were having

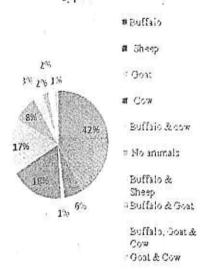
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both goat and cow, 3% were having buffalo and sheep both goat and cow.

both goat and cow.

2% were having buffalo and goat, 2% people were having and cow and remaining 8% people. 2% were having to and remaining 8% people are having huffalo, goat and cow and remaining 8% people are her having any type of domestic animal.

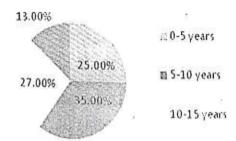
Type of Cattles



#### 5. Years of Use

During the present study, the years of use of biogas were known from the owner of biogas. Then these years were classified into groups.

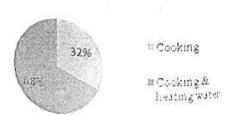
#### Years of Use



It was observed that, 25% people were using biogas for 0-5 years, 35% people were using biogas for 5-10 years, 27% people were using biogas for 10-15 years and remaining 13% were using biogas plant for more than 15 years.

# 6. Purpose of using biogas:

### Purpose





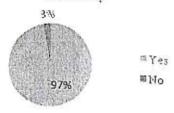
The use of biogas varies from person to person. In bouseholds, biogas is mainly used for cooking and heating water.

It was observed that 32% people were using biogas only for cooking and 68% people were using biogas for both cooking and heating water for bath.

### 7. Efficiency of biogas plants :

It was surveyed whether; the biogas is working efficiently or not. Efficiency denotes the generation of biogas.

### Efficiency

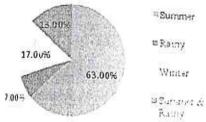


It was seen that out of 100 biogas plants, 97% biogas plants were working efficiently and remaining 3% were not working efficiently.

# 8. Efficiency According to Seasons:

The efficiency of biogas plants was considered according to seasons. It was surveyed that in which season biogas plant works more efficiently.

### Efficiency According to Season

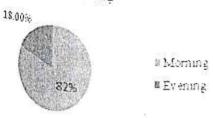


During this study, 63% respondents responded that biogas plant works more efficiently in summer season, 7% respondents replied that biogas plant works more efficiently in rainy season and 17% respondents replied that biogas plants works more efficiently in winter season and 13% biogas plants works more efficiently in summer and rainy season.

# 9. Feeding of Biomass

For this study, the time of feeding was noted down.

### Feeding

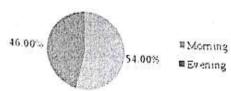


After survey, it was noticed that feeding of biomass is performed in morning case of 82% respondents and feeding is done in evening in case of 18% of respondents.

### 10. Time of Use

During this study, the time of use of biogas was taken into consideration. It shows at which time biogas is used more.

### Time of Use

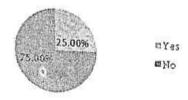


After this study, it was noticed that biogas is used more in morning in case of 54% respondents and in case of 46% respondents biogas is used more during evening.

# II. Problem Related to Biogas

Sometimes problems may occur with functioning of biogas plant. The people were asked whether, there occurs any problem with functioning of biogas plant.

# Problems Related to Biogas

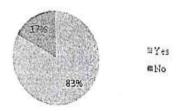


It was reported that in case of 75% people that there was no any problem in functioning of biogas plant and there was some problem in functioning of biogas plant in case of 25% respondents.

### 12. Energy Production

During this project work, it was checked whether biogas plant produces sufficient energy to meet energy needs of respondents.

### Energy Production



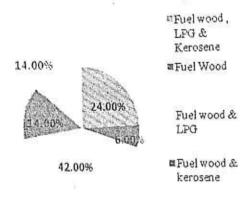
After this survey, 83% respondents replied that biogas plant produces sufficient energy to meet their energy needs and remaining 17% replied that sufficient energy is not

produced by biogas plant to meet their energy needs.

### 13. Other Sources of Energy

In rural areas many people use various sources for energy production in households. These sources are fuel wood, kerosene, Biogas and LPG. In this study, it was studied which energy sources are used other than biogas.

### Other Sources of Energy



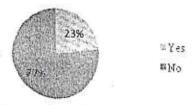
LPG

After this study, it was seen that out of 100 respondents 14% people are using fuel wood and kerosene as other source of energy and 24% people are using fuel wood, kerosene and LPG as other sources of energy, 14% are using both fuel wood and kerosene, 6% are using fuel wood and 14% are possessing LPG as other source of energy.

### 14. Foul Odour

During this project work, it was checked whether biogas plant produce any foul odour.

### Foul Odour



It was observed that foul gas is generated from 23% biogas plants and foul odour is not generated from 77% biogas plants.

# 15. Use of Slurry as Compost

# Use of Slurry as Compost



The slurry generated from biogas plant is disposed by

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various methods. Mainly it is used as compost and applied various methods. Washington to find out the use of this slurpy as compost in farm.

During present study, it was seen that out of log During present or 100 respondents are using slurry as compositions are not using the slurry as compositions are not using the slurry as compositions. and 5% respondents are not using the slurry as compost

# 16. Benefits of Compost

Respondents were asked whether the slurry is more beneficial as compost when compared to chemical fertilizers

# Benefits Of Compost

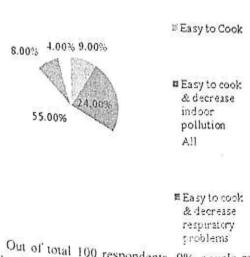


It was observed that 81% respondents feel that slurry generated from biogas plant is more beneficial as compost when compared to chemical fertilizers and remaining 19% respondents feel that it is not beneficial as compared to chemical fertilizers.

### 17. Benefits of Biogas

Respondents were asked to tell about the benefits of using biogas as compared to traditional sources of energy such as fuel wood.

### Benefits of Biogas



Out of total 100 respondents, 9% people relied that it helps for easy cooking, 24% replied that it helps for easy cooking and decrease indoor pollution, 4% people replied that it decrease indoor pollution, 8% people replied that it balas is it helps for easy cooking remaining 55% people feel that biogas is beneficial in all the three given ways.

# 18, Economically Beneficial

Biogas is generally cost efficient and can be used in rural areas by poor people also. The respondents were asked

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whether the biogas plant is economically beneficial or not.

Economically Beneficial

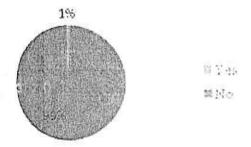


87% respondents replied that biogas is economically teneficial and remaining 13% respondents replied that biogas is not economically beneficial.

### 19. Subsidy

study also tries to find out whether respondents got subsidy from government for installation of biogas plant.

### Subsidy



After this survey, it was observed that 99% respondents did not get any type of subsidy from government and 1% respondents got subsidy from government for installing bio plant.

### ELUSION:

After the present study, it can be concluded that, majority of the people from surveyed villages were involved in agricultural activities and allied sectors and these people

were using waste from domestic animals as a major source of biogas generation, biogas is better alternative over traditional measures of energy production such as fuel wood. The slurry generated after generated after biogas generation is used as compost in farms which promotes use of organic manure instead of chemical fertilizers. Thus it helps to decrease soil and water pollution. Biogas is economically beneficial as compared to other sources of energy production. In many cases, it was observed that along with biogas other sources such as fuel wood, Kerosene are also used for energy supply. Many times biogas does not produce sufficient energy to meet all energy needs, thus other sources are used.

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Proceedings of the International Conference on Architecture, Built Environment & Urban Planning 2018

# "HUMAN RESEARCH MANAGEMENT IN CONSTRUCTION INDUSTRY WITH SPECIAL REFERENCE TO TRAINING AND MOTIVATION".

### AR. BELA SHYAM JOSHI

Abstract: The construction industry is one of the very big global employment sectors. It provides work for large proportion of labour market. The market of construction business is both domestic as well as global. Construction is the most complex project based industries in which there is need to apply good human resource management practices. Labour is an important factor in construction industry. It operates equipments in which huge investments are made. Hence effective training for them is very much essential. This will enable them to perform well and increase the speed and productivity of construction work. The success of construction organization also depends upon morale of its people. Companies need to ensure all the learning achievements by their staff are recognized by appropriate promotion and reward. So it is necessary for successful construction organization to make use of principles of training and motivation in HRM practices.

Keyword: Construction Industry, Human Resource Management, Training, Motivation.

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# (E)

# CLIMATE SENSITIVE BUILDING FORMS

## AR. RUTIKA TENDULKAR

Abstract: We shape our buildings; thereafter they shape us - (Winston Churchill). Infinite varieties of forms can mould a building. Suitability of specific forms with respect to their respective climates, and their response to environment shall be analyzed. The building itself is the third basic factor that influences the heating and cooling requirements. These depend on its shape, form and construction as it is directly exposed to outdoor environment & hence responsible for solar heat gain or loss through the building envelope. Dealing with various building forms with respect to climate (Thermal Environment) will help in analyzing the advantages and disadvantages of various forms in that specific climate.

Keywords: Building Orientation, Building Shapes and Forms, Thermal Environment, Solar Access, Surface Area to Volume Ratio.

Ar. Rutika Tendulkar Assistant Professor, CNCNCW CSIBER, Affiliated to Shivaji University Kolhapur. SIBER Shivaji university Road, Kolhapur.416004, Maharashtra, India 2-0166 - 7511

Quality Enhancement and Skill Development in Higher Education

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# Retrofitting of a Residential building in Hot and Dry climate by using Passive Design strategies

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### ABSTRACT

Buildings in developing countries are often designed without taking sufficient account of the climate. Factors such as the urban surroundings or site characteristics, orientation and architectural design of the building, choice of building materials, etc. are not given enough importance. Consequently buildings often have a poor indoor climate, which affects comfort, health and efficiency. The problem is found in dwellings as well as workplaces or public buildings. As living standards rise people want to install heating and/or cooling equipment to improve thermal comfort. For buildings not adapted to the climate, the amount of energy to run the equipment, and its cost, will be excessively high, and it will have a negative impact on the environment. A good or at least acceptable, indoor climate can often be achieved with little or no extra input of energy. The objective of this study is to present information about the climatic design of buildings today, using passive techniques. It explains central concepts in climatic design and gives recommendations on how to carry out the design or retrofit an existing building in hot and dry climates. The focus is on interior design, but building scale design is also considered. This study aimed at identifying passive design features for a residential building in hot and dry climatic zone through extensive literature study that can be incorporated in building interiors to make them energy efficient.

Keywords passive strategies, retrofit, cooling requirements, human comfort, indoor air quality.

### INTRODUCTION

Renovation, retrofit, and refurbishment of existing buildings represent an opportunity to upgrade the energy performance of building assets for their ongoing life. The design that maintains a comfortable temperature within the building using the climate and natural elements to get the optimum benefit and to reduce or eliminate the independence on

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# Study of Laterite: A Sustainable Building Material in the Context of Southern India

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#### ABSTRACT

Shelter is one of the prime needs of every human, especially low income group in India. A sustainable and affordable shelter for poorer is a challenge in front of engineers and researchers. Use of modern building materials like cement, concrete, steel and plastic has already crossed its limits in terms of energy consumption and expenditure, making it unaffordable to low income group. Also it has resulted in adverse effects on environment like pollution and global warming, creating major health issues among people. It has given rise to non eco friendly concrete jungles which are ever enchroaching the rural parts of India. To resolve this problem efforts are to be made to use natural and sustainable building materials for construction. This paper is an attempt to study and explore 'Laterite', locally known as 'Chira', one of the sustainable building materials commonly found in the southern part of India.

**KEYWORDS** Sustainable, eco friendly, affordable, natural, Laterite, environment Characteristics of Laterite.

### INTRODUCTION

"An ideal house in an ideal village will be built using materials that are found within 5 miles radius of the house. - Mahatma Gandhi.

Construction of a sustainable shelter in minimum expenditure is a present day challenge. Earlier people built houses using locally available building materials like stones, mud, wood, bamboos, etc. The stones used for building varied from places to places in India depending upon its availability in close proximity, since transportation was a major problem.

Laterite is a cost effective, energy efficient and environment friendly material abundantly found in southern region of India including south west parts of Maharashtra, Karnataka, Tamilnadu and Kerala. It is a Ferruginous rock commonly considered to have formed in hot

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# Vertical Greening Systems for Facades as a new Approach towards Sustainability

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24/12 19

### ABSTRACT

The built environment is a major consumer of energy across domestic, industrial and service sectors. The construction and operation of buildings are responsible for about one third of the energy use and one half of the electricity use is associated with protection from the external climate and operation of systems necessary to give the occupants a comfortable indoor environment. For various reasons, sustainability today is producing an important and interesting approach between architecture, interior and the environment. Architects and interior designers have started to address the quest of energy demands in the buildings. One of these approaches is façade greening which started to take important place in last decade. Vertical greening can provide a cooling potential on the building surface which is very important during summer time in hot climates. This has effect on the inner climate in the building by preventing warming up the facade. This research paper focuses on the types of façade greening and its benefits and their thermal effect.

KEY WORDS green facades, energy efficiency, sustainability etc.

### INTRODUCTION

The built environment is a major consumer of energy across the domestic, industrial and service sectors. The construction and operation of buildings are responsible for about  $^{1}/_{3}^{rd}$  of the energy use  $^{1}/_{2}$  of the electricity used in most industrialized countries. A large share of the energy use is associated with protection from the external climate and operation of systems necessary to give the occupants a comfortable indoor environment within the challenges of energy crisis and climatic changes architects and interior designers started to develop new approaches to address the quest of energy demands in buildings. One of the approaches is facade greening which started to take important place in last decade.

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### Biomimicry

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### ABSTRACT

Nature is best friend of man. It is inspiration for many artist, poets, sculptors, biologist; one always tries to find roots in nature. Nature has been the best and greatest teacher...As it knows...What works? What is appropriate? What lasts?

Today, with the present level of energy consumption and rapid urbanisation we are exceeding the capacity of natural system. Now a day's world is facing issues of global warming, pollution, ozone depletion, clean drinking water, resources depletion, deforestation, soil degradation, and waste, extinction of flora and fauna and population. The two areas of imminent resource stresses-fossil fuels and climatic instability are both directly influenced by decision made by architects and designers. Building consumes half of all fossil-fuels energy and our decision as building designer are crucial to survival not just for mankind, but for the entire ecological system.

There is a dire need to develop new sustainable technologies to deal with our present day crises and those we will encounter in the near future. Nature being the oldest friend of man has always inspired, shown way, to address many issues like environment and climate in its own way. It is time we temper our human intellect and listen to nature

Bio-mimicry is applied science which studies nature's model and takes inspiration from its design and process to solve human problem. My research paper aim at the study of biomimetics approaches to formulate strategies for sustainable development with the help of different case studies.

This is an attempt to bring to the notice of designers, architects, engineers this new way of designing with biomimetics. It is an attempt to inspire and change their perception of nature, re-start the process of going back to the root concept.

Introduction to Biomimicry: The word Biomicry derived from Greek words Bios: life, Mimesis: imitation. Itis a new discipline that studies nature's best ideas and then imitates

Quality Enhancement and Skill Development in Higher Education

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# Importance of Eco-friendly Material in Construction

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#### ABSTRACT

The term Eco-friendly material means the material which is not harmful to the environment. Modern fast economic growth of industrialization and urbanization creates huge problems to the environment and human health. Production of building materials leads to irreversible impact on environment. Hence, there is need to reduce this impact by the use of eco-friendly material in construction. There are many different materials that can be used that are eco-friendly from the foundation to insulation, to interior and exterior wall finishes, flooring and countertop materials. This material causes minimum damage to the environment right from the manufacturing to final product and requires minimum energy during manufacturing. It can be extracted from the nature very easily. The best way to build a eco-friendly building is by using eco-friendly materials. Eco-friendly materials normally used in construction are Bamboo, Reclaimed lumber, recycled metal, dimension stone, sheep's wool, precast cement, sun dried bricks, clay roofing tiles etc. Eco-friendly materials are long-term cost savings, environmental protection and infrastructure preserving.

KEYWORDS Environmental material, economic growth, etc.

### INTRODUCTION

Eco-friendly means environment friendly or not harmful to the environment. More people and sectors of the economy are paying attention to the environmental impact while making daily living and business decisions Eco-friendly construction involves the use of materials and processes that are resource-efficient and environmentally throughout the life cycle of a building. An eco-friendly material in construction is one that increases the efficiency of energy used and reduces impact on human well-being and the environment. These materials must be used in such a manner that a building's maintenance and costs are reduced. These

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## Comparative Study on Sustainable Fashion and Garment Industry

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### ABSTRACT

Textile and fashion products are manufactured, distributed, sold and used worldwide, so the textile and fashion industry have a major impact on the environment. Environmental issues are playing an increasingly important role.

Sustainability is a systemic concept, relating to the continuity of economic, social, institutional and environmental aspects of human society.

Upcycling is essentially the "Reuse" in "Reduce, Reuse, and Recycle." The textile and fashion industries consume huge quantities of resources, such as water and energy, use toxic chemicals, rely heavily on transportation which uses additional resources, produces a large amount of waste, and are implicated in human rights violations in developing countries. Upcycling is designed to work in opposition to consumer culture, encouraging people to think of new and innovative ways to use things, instead of simply buying new consumer goods. In this paper researcher have tried to find out the way for Upcycling of wastage from the apparel industry.

KEYWORDS Sustainability, Eco fashion, Upcycling, Garment waste

### INTRODUCTION

### Concept of Sustainability

Environmental issues are playing an increasingly important role in the textile industry, both from the point of view of government regulation and consumer expectations. Almost every where in the world and in all industries, the sustainability movement has been manifested. In this context, it has to be mentioned that the textile industry is one of the biggest polluters. Sustainable textile has grown in popularity because of the moral consciousness that many

HOD

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# Sustainability of Indian Handicraft Industry in World Market

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#### ABSTRACT

The Indian handicraft industry forms a major part of rich cultural heritage of country. It is an unorganized, decentralized, labour intensive cottage industry. Some of the strengths identified are availability of abundant & cheap labour in the country, use of local resources, low capital investment and unique craftsmanship in manufacturing of products along with increasing appreciation by international consumers. Despite the strengths, the industry faces a number of problems in the country such as low literacy and education levels, lack of modern / technological skills & lack of adequate finance. The planning commission acknowledges the fact that the unorganized sector that constitutes about 93% of the workforce doesn't have a structured system to support acquiring or upgrading of skills. The 12th Five Year Plan's vision for the handicraft sector includes creation of globally competitive handicrafts and provision of sustainable livelihood opportunities to the artisans through innovative product designs, better product quality & use of technology while preserving traditional art. Various schemes have been designed and efforts have been taken to achieve this vision. How effective are these efforts, remains questionable. This case, through a secondary literary study presents the current situation of the handicraft sector and the artisans alike in order to facilitate analysis of problems and identification of developmental pathways.

KEY WORDS: Handicraft, sustainable, designs, traditional, artisans, art

### INTRODUCTION

Handicrafts are mostly defined as "Items made by hand, often with the use of simple tools, and are generally artistic and/or traditional in nature. They are also objects of utility and objects of decoration." The uniqueness if Indian handicraft lies in grace, rich variety, and

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# Banana Fabric - An Alternative to Eco-Friendly Fabrics

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### ABSTRACT

After the industrial revolution and the fashion industry leads towards a future where synthetic fabric have been developed to increase the production to fulfill the needs in the textile industry. But it is highly affecting on the environment, especially water and soil pollution. While producing the synthetic fabric it releaseschemicals which are very harmful to the water and soil resources. It is also polluted the air because of its fame. Because of all the pollutions the textile industry promotes the natural fiber which remains sustainable alternative fibers and fabrics. Other fibers such as cotton, silk, jute, hemp, linen, rayon, including the manmade fibers using petroleum to increase the fiber properties and these fibers are increasingly popular. Banana is one of the plants currently grown all around the world. It is a global fruit crop that serves needs including fruit as food, leaves as wrapping and stem for fiber and paper pulp. In banana plantation after the fruits are harvested, the stem will be wasted. More than a billion tons of banana tree stems are thrown away each year. These fibers were extracted from the banana stem. These fibers can provide a large variety of uses in textile as well as fashion industry. The focus is on banana fiber because it is 100% bio degradable. As India is one of the largest bananas producing country. The use of its fibers and its wastes for producing innovative and useful products would be attractive for the economy. So the increase in the production of banana fabric will increase the scope and better future to the textile industry. As it is the natural resource the future of the environment will less affected. So the awareness for the environment issues through the use of eco-friendly material that is available easily is very helpful to develop the textile industry.

KEY WORDS-Eco friendly fibers, banana fiber, bio degradable, recycle.

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## Strategies in Sustainable Fashion

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### INTRODUCTION

Textiles/Garment is one of the essentials commodities for a mankind. Garment industry transformed from mere protecting a body to daily changing fashion as per need. Industrial revolution brought new inventions which are having thrust on higher production. Customer became the king and consumerism became buzzword in industry. Developed and developing countries are having high perishable income to spend. Companies are producing more and consumers are using more. The cost of goods is fallen down further due to economies of scale. Companies framed their marketing strategies suitable for higher consumption. Consumer generate a throw away approach due to cheaper cost which increase further consumption. Different brands like ZARA cater the need of market by adopting fast fashion strategies which is followed by others. This increases a lot of waste which became environmental hazard. The garments are landfilled for disposal. The man made/synthetic garments are not bio degradable and further pose a threat to environment. Different textile chemicals increased this threat further. The Different scientists worked on alternate strategies of waste disposal, reducing the consumption of garments, prolonging the life of a garment, recycling of garments etc.

Textile & Garment industry is the second largest industry in terms of the use of water after agriculture. Water consumption for textiles throughout the world is approximately 79 billioncubic mtrs annually. It has been estimated that in the UK alone around 350,000 tons of clothing ends up as landfill every year. 25% of the world's pesticides are used to grow non-organic cotton. Some of the clothing remains unsold and the sale becomes the permanent phenomenon in fashion industry. The defective garments and their parts are directly going to

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# Quality by Design in Apparel Industry

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### ABSTRACT

In an attempt to keep the price low and importance given to technological aspects by garment /apparel industry, knowingly-unknowingly results in negligence towards designers, manufacturers, sellers and consumers in whole process. Quality by Design (QbD) is a concept wherein previous experience, knowledge and expertise was used and the entire process is designed in such a way to achieve the goal of quality product the satisfy consumer needs and increase customer compliance. Four major components of QbD(Defining product design goal, Discovering process design space, Understanding Control space, and Targeting operating space) are to be addressed systematically, to reach the goal. There are various factors on which quality fitness of apparel industry is based such as - performance, reliability, durability, visual and perceived quality of the garment. Establishing quality requirements, setting quality objectives of industry, and proper understanding of product, process and QbD assure good business, no batch failures in production, no deviations from designed protocols, cost effective, developmental decisions and empowerment of personnel involved in the process. It can be concluded that implementation of QbD concept may lead to improvement in quality output of designed products resulting in enhanced market acceptance and increased profit. Also, an improved competitiveness of firms with developed work procedures are the outcomes of QbD.

KEY WORDS QbD, garment, apparel industry, designers

#### INTRODUCTION

Until now, textile and apparel/garment industry has emphasized on technological and cost issues of the product. Always, focus was to keep price of manufactured garment low with

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# Incorporation of Flax Seed Flour and Soy Flour in Traditional Khakra

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#### ABSTRACT

Khakra is Indian customary item prominent in India It is favorite ethnic food of vegetarian Gujrati people. It is eaten as snack food. It is like readymade roasted papad and is made from whole wheat flour ,oil and spices. The present study was carried out to increase the nutritive value of khakra by mixing the whole wheat flour with flax seed flour and soy flour. Different combinations of flour were tried for the preparation of khakra. The final test sample was set up with 40, 12.5 and 12.5 percent of whole wheat flour, flax seed flour and soy flour respectively. The test sample was compared with control sample by sensory evaluation and proximate analysis The test sample was found to be acceptable and proximate analysis of test sample showed 12.78 % protein, 15.36 % fat ,59.67 % carbohydrate and 9.99 % moisture whereas the proximate analysis of control sample showed 9.07 % protein, 12.57 % fat, 61.13 % carbohydrate and 9.91 % moisture. Thus test sample was found to be protein rich along with the health benefits of flax seeds which is rich in phytochemicals protecting the body against cancer, diabetes, heart diseases and lowering cholesterol levels.

KEY WORDS flax seed flour, sensory evaluation, proximate analysis, phytochemical

### INTRODUCTION

Khakarais one of the popular vegetarian roasted thin cracker bread or snack from the Gujarati cuisine. Khakara is simple to prepare and is made from whole wheat flour adding other ingredients and spices and eaten with chutney, pickles, ghee or yoghurt. The Khakara is

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# Studies on Development and Evaluation of Vegan Kheer Mix

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### ABSTRACT

Present study was investigated to develop and standardize the vegan kheer mix made up of malt blend using combination of non-dairy milks. The study included evaluation of organoleptic characteristics and shelf-life of the developed vegan kheer mix. The technology included for preparing vegan kheer mix was using freeze drying method. Freeze drying process was aimed to minimize the drying time by traditional drying and increasing shelf-life and ultimately the quality of product. The vegan kheer is developed using blend of malts of Cow pea (Vigna unguiculata), Green gram (Vigna radiate) and Lentil (Lens culinaris) and non-dairy milks of soyabean (Glycine max) and Almond (Prunus dulcis). Malt blend was prepared using standardized procedure. The prepared malt was formulated with different concentrations of non-dairy milks. The selected sample contained base ingredients as Soy milk: Almond milk (1:2) and malt blend (1:1:1), sugar 20 gm, dry fruits and flavouring agent. The optimum concentration of malt kheer ingredients were determined by conducting preliminary trials using 9 point Hedonic scale rating test. Samples of kheer were studied for sensory properties viz. color, flavor, texture, appearance and overall acceptability. Proximate analysis revealed that the vegan kheer mix provides 151.51 Kcal energy, 3.62 gm protein, 28.52 gm carbohydrate, 2.55 gm fat and 61.44 mg calcium. The shelf-life study of vegan kheer mix revealed that it could be stored for 12 months. The study also revealed that the product is preservative free. It is a rich source of energy, fat and calcium. It can be preferred by all age groups and can be used as a Weaning food.

KEY-WORDS Kheer, Freeze-drying, Malt, Non-dairy, Vegan

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# Assessment of Climacteric Symptoms among Post-Menopausal Women in Kolhapur City, Maharashtra

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#### ABSTRACT

Objective: To assess climacteric symptoms among post-menopausal women in Kolhapur city of Maharashtra.

Methods: purposive sampling method. Setting: 300 post-menopausal women between the age group of 50-59 yrs. were selected from Kolhapur city. Tool: Self-structured questionnaire comprising socioeconomic, anthropometric, body composition and clinical assessment was devised.

Result: The mean age (yrs.) of the participants was  $54.51 \pm 4.90$ . The majority of the postmenopausal women in all the categories were married and housewives having natural menopause. The mean age (yrs.) of menopause of was  $44.24 \pm 5.71$ . Majority of study population (33.0%) were hypertensive with mean systolic blood pressure (mm of hg) of subjects was  $132.6 \pm 23.29$  and mean diastolic blood pressure (mm of hg) was  $83.76 \pm 11.18$ , which are considered as Stage I Hypertension (AHA, 2017). Mean weight (kg), body mass index (kg/m²) and mean WHR of study population was  $63.97 \pm 13.01$ ,  $27.64 \pm 4.43$  and  $0.90 \pm 0.15$ , respectively. Body composition of selected post-menopausal women shows that mean total body fat (%) was  $41.52 \pm 9.27$  and mean visceral fat was  $8.67 \pm 2.3$ . Most of the post-menopausal women suffered from hot flushes, night sweats, palpitation, insomnia, loss of memory, poor concentration, tiredness, anxiety, depression, irritability, mood swings, frequent headaches, frequent urination, constipation, joint pain and weight gain after menopause.

Conclusion: Anthropometric measurements shows that selected post-menopausal women were obese. 1/3rd of study population was hypertensive with BP at Stage I Hypertension. The