"A STUDY ON THE EFFECTIVENESS OF HANDMADE SOAP TRAINING PROGRAMME FOR EMPOWERMENT OF WOMEN OF SELF HELP GROUPS"

A DISSERTATION

SUBMITTED FOR PARTIAL FULFILLMENT

FOR THE AWARD OF DEGREE

MASTER OF SCIENCE IN RURAL TECHNOLOGY

Session: 2022-23

Supervised To

Dr. Dilip Kumar

(Assistant Professor)

Submitted By

Dipti

M.Sc. (RT) 4th Semester

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DEPARTMENT OF RURAL TECHNOLOGY AND SOCIAL DEVELOPMENT

GURU GHASIDAS VISHWAVIDHYALAYA, BILASPUR (C.G.)

(A Central University established by the central university, Act 2009 No. 25 of 2009)

DECLARATION BY THE CANDIDATE

I, **Dipti**, hereby declare that this dissertation entitled **"A STUDY ON THE EFFECTIVENESS OF HANDMADE SOAP TRAINING PROGRAMME FOR EMPOWERMENT OF WOMEN OF SELF HELP GROUPS"** Submitted to **Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur** for partial fulfilment of the requirements to the award of **Master of Science** in Rural Technology. It is a record of original research carried out by me under the supervision of **Dr. Dilip Kumar (Assistant Professor).** It is my own work and best of my knowledge and belief this work has not been submitted elsewhere for any other degree/diploma. The assistance and help received during the course of this investigation have been duly acknowledged.

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2022-23

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Supervisor
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Head of Department
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CHAPTER – 01

INTRODUCTION

The Government of India and state authorities have now realized the importance of development of rural women and making them self-reliance and empowering them for the overall development of India and its states. The Indian Constitution has addressed that there shall be no discrimination on the grounds of gender. In reality, rural women have harder lives and are often discriminated in the society for various issues. Women undertake the more difficult tasks involved in the day-to-day running of households, moreover their literacy rates are lower than those of men. They are also always entitled lower wages as labor as compared to men. Women earn 121 rupees per day compared to 189 rupees for men (NATIONAL SAMPLE SURVEY ORGANISATION, 2011). For this reason there is a need for an instrument, which helps the rural women to become self-reliance and to earn equal respect as men and to live with dignity. With this keeping in mind, government has initiates the concept of Self Help Groups (SHGs), acting as the key instrument for supporting women's empowerment are self-help groups, whereby 10-20 rural women from the same village, mostly poor women, come together to contribute two-weekly or monthly dues as savings and provide group loans to their members. Another important feature of self-help groups has been the establishment of links between self-help groups and the formal microfinance institutions and commercial banks. Self Help Group is a group of 12 to 20 women of the same socio-economic background who come forward voluntarily to work together for their own upliftment. The unique feature of this group is its ability to inculcate among its members sound habits of thrift, savings and banking (TNCDW, 2013). Self Help Groups through microfinance proves an effective tool in the field of women development. These groups not only provide credit to women for their economic development but also provide training to the women to start income generating activities for their own. It mainly works for improving social status of women; it helps in creating awareness about social issues like, domestic violence, social security. It also works to enhance decision making power, social respect, and mental ability and communication skills of the women. (Baghel at el. (2015)

IDENTIFICATION OF HOSPITAL SITE SELECTION BASED ON ANALYTICAL HIERARCHY PROCESS

A

DISSERTATION

SUBMITTED FOR PARTIAL FULFILMENT OF

DEGREE OF MASTER OF SCIENCE

IN

(RURAL TECHNOLOGY)

SUBMITTED BY

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Prof. Pushpraj Singh

(Department of Rural Technology and Social Development)

Prof. Rajendra Mehta

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The world's growing population presents significant challenges for various sectors, including healthcare (MacIntyre, 2012). The increasing population directly affects the demand for adequate healthcare facilities, particularly hospitals. As more individuals are born and live longer lives, the need for accessible and efficient healthcare services becomes a top priority.

The rapid growth of the population places a strain on existing hospital facilities, creating difficulties in meeting the rising healthcare demands of communities. Many regions experience challenges such as overcrowded hospitals, long waiting times, and stretched resources, all of which can have a detrimental impact on the quality of care provided. Therefore, it is crucial to understand the relationship between population growth and hospital facilities in order to address these issues and ensure the well-being of individuals. (Rekha, 2017)

The growth of population affects hospitals in multiple ways. Firstly, an expanding population leads to an increased number of patients seeking medical care. (Muthukumar S. 2023). This surge in demand requires hospitals to accommodate more individuals, which may necessitate the expansion of existing facilities or the establishment of new hospitals altogether. Without appropriate planning and infrastructure development, hospitals can become overwhelmed, compromising their ability to deliver adequate healthcare services (Lee, 2021).

Secondly, population growth can lead to imbalances in healthcare distribution. In areas experiencing significant population growth, healthcare facilities may struggle to keep pace with the rising demand (Dussault G., 2006). This can result in healthcare disparities, with some communities having limited access to essential medical services (Dehe B., 2015). Such disparities can disproportionately affect vulnerable populations, exacerbating existing health inequalities.

The demand for healthcare facilities has been exponentially increasing worldwide, emphasizing the need for new hospitals (Tripathi, 2021). However, the selection of optimal hospital locations is a complex decision that requires the involvement of various stakeholders and the consideration of heterogeneous criteria. Governments often neglect healthcare during budget allocation and infrastructure development, leading to a disparity in access to healthcare services, especially in urban areas with increasing populations due

A

DISSERTATION

ON

CHRONOTYPE PATTERNS OF MEDICAL SHIFT WORKERS AT GOVERNMENT DISTRICT HOSPITAL OF BILASPUR, CHHATTISGARH, INDIA

DISSERTATION REPORT SUBMITTED FOR THE

PARTIAL FULFILLMENT OF THE REQUIRED FOR THE AWARD OF DEGREE

MASTER OF SCIENCE IN RURAL TECHNOLOGY

(M.Sc. RT)

UNDER THE

SCHOOL OF STUDIES IN INTERDISCIPLINARY EDUCATION & RESEARCH

SUPERVISED BY:

Dr. DEVENDRA SINGH PORTE

ASSISTANT PROFESSOR

SUBMITTED BY:

Ms. JAISHREE SURYAVANSHI

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DEPARTMENT OF RURAL TECHNOLOGY & SOCIAL DEVELOPMENT

GURU GHASIDAS VISHWAVIDYALAYA BILASPUR (C.G.) 495009

2023

FORWARDING LETTER

Ms. Jaishree Suryavanshi student of M. Sc. Rural Technology, IV Semester in Department of Rural Technology and Social Development has completed her dissertation entitled "Chronotype Patterns of Medical Shift Workers at Government District Hospital of Bilaspur, Chhattisgarh, India" under the guidance and supervision of Dr. Devendra Singh Porte, Assistant Professor, Department of Rural Technology & Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), India, in partial fulfilment of the requirement for the degree of M. Sc. Rural Technology.

The dissertation is forwarded to the examinee for evaluation.

Date: 25/07/2023

Forwarded by

Prof. Rajendra Mehta
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CERTIFICATE BY THE SUPERVISIOR

This is to certify that **Ms. Jaishree Suryavanshi** Student of Department of Rural Technology and Social Development, Guru Ghasi Vishwavidyalaya, Bilaspur C. G. India has carried the dissertation for partial fulfilment of requirement for the award of degree of M.Sc. Rural Technology entitled "Chronotype Patterns of Medical Shift Workers at Government District Hospital of Bilaspur, Chhattisgarh, India" under my supervision and guidance. It is also certified that the student has complied with all the guidelines designed for the project of report. To the best of my knowledge this report is an authentic record of the work carried out by the student and it is considered fit for being referred to evaluation.

Date: 25/07/2023.

Devendra 25/07/2023

Dr. Devendra Singh Porte

Assistant Professor

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Bilaspur (C.G.)

DECLARATION BY CANDIDATE

This is to understand that I, Ms. Jaishree Suryavanshi student of M.Sc. Rural Technology, IV Semester (Enroll. No.- GGV/21/10704) and I declare that the dissertation entitled "Chronotype Patterns of Medical Shift Workers at Government District Hospital of Bilaspur, Chhattisgarh, India" is my own work conducted under the supervision of Dr. Devendra Singh Porte, Assistant Professor, in the Department of Rural Technology & Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.). This report is an original work carried out by me and the report has not been submitted to any other University for the award of any degree or diploma.

I further declare that to the best of my knowledge this thesis does not contain any part of any work, which has been submitted for the award of any degree either in this University or any other University/ deemed University without proper citation.

(Ms. Jaishree Suryavanshi)

Date: 25/07/2023

Place: Bilaspur

ACKNOWLEDGEMENT

First of all, I avail this opportunity to pay my deepest sense of gratitude and heartfelt regard to my supervisor Dr. Devendra Singh Porte, Assistant Professor, Department of Rural Technology & Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur, C.G. India, for his immense interest, patient guidance, encouragement and advice provided throughout my research work. I have been extremely lucky to have a supervisor who cared so much about my work, and who responded to my queries so promptly. Under his intellectual guidance, I found the passion of doing academic research and the courage of facing the difficulties in this process.

I would like to express my gratitude to Prof. Rajendra Mehta, Head, Department of Rural Technology & Social Development Guru Ghasidas Vishwavidyalaya, Bilaspur, C.G., India, for encouragement and providing necessary facilities for research work. Thanks are also due to him for lending me an opportunity to carry out my dissertation work at Department of Rural Technology and Social Development.

I am very much thankful to the all faculty of the department namely Dr. Pushpraj Singh, Dr. B. Chaurasia, Dr. S. K. Nirala, Dr. Alka Mishra, Dr. Dilip Kumar, and Dr. Lokesh Kumar Tinde for their timely advice. I gratefully acknowledge the help received from Dr. Shailesh Soni and the other supporting staff of the department during my dissertation work.

Above all I would like to thank God for his blessing and also my father Mr. R.K. Suryavanshi and mother Mrs. Manju Suryavanshi to be with me in ups and downs. Things would not have been possible without you, my heartfelt Regards and thanks to one and all involved in my life.

Ms. Jaishree Suryavanshi

CHAPTER-1

INTRODUCTION

Health is a multidimensional concept that encompasses physical, mental, and social well-being. It goes beyond the absence of disease and reflects a state of complete physical, mental, and social vitality. Achieving and maintaining good health is crucial for individuals to lead fulfilling and productive lives (Young *et al.*, 2009). Physical health refers to the overall condition of the body and its ability to function optimally. It involves aspects such as regular exercise, proper nutrition, adequate sleep, and the absence of physical ailments or diseases. Engaging in regular physical activity helps strengthen the cardiovascular system, build muscle strength, improve flexibility, and enhance overall endurance. A balanced diet that includes a variety of nutrients is essential to provide the body with the energy and building blocks it needs to function properly. Sufficient sleep is also vital for the body's restoration and repair processes. Taking care of one's physical health not only prevents the onset of various diseases but also improves the overall quality of life (Corbin and Masurie, 2014).

Mental health is equally important as physical health and refers to a person's emotional and psychological well-being. It encompasses aspects such as emotional stability, the ability to cope with stress, and the presence of positive emotions. Maintaining good mental health involves managing stress effectively, seeking support from others, practicing self-care, and engaging in activities that promote relaxation and mental well-being. Mental health issues, such as anxiety and depression, can significantly impact a person's overall health and functioning. Therefore, it is crucial to prioritize mental well-being and seek professional help if needed (Vázquez et al., 2009).

STUDIES ON ANTI-CANCER PROPERTIES OF MUSHROOMS: A REVIEW

A DISSERTATION SUBMITTED

FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE

IN
RURAL TECHNOLOGY

SUBMITTED BY

JYOTI RAJPUT

M.Sc. IVTH Semester

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2023

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Assistant Professor

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INTRODUCTION

Mushrooms are a kind of organism. Fungi are not animals or plants, but they eat dead ones and take in nutrients from them. The fruiting designs of organisms are essentially known as mushrooms. With the exception of spore-carrying fungi, fungi's bodies lack chlorophyll and differentiation. The beefy spore-bearing designs known as fruiting bodies, or mushrooms, are parasites (Annonymus-1). The regular construction of a mushroom incorporates a stipe (stem), a pileus (cap), and lamellae (gills). In any case, there are a few morphological variations of mushrooms, and only one out of every odd assortment has these qualities. There are approximately 14,000 distinct species of mushrooms, many of which are toxic (Annonymus-2).

Mushrooms are produced by a minuscule structure known as a primordium that develops on a substrate. The primordium matures into a "button," a hyphae-constructed egg-shaped structure. The button is initially enveloped by the global mycelium veil. The cloak parts as the button grows. The remnants of the veil frequently resemble warts or can be seen hanging from the crown of mature mushrooms (Annonymus-2).

Since before time began, individuals have eaten mushrooms as food. In the past, these were considered a delicacy. Mushrooms may serve as a nutritional bridge between meat and vegetables. They are rich in protein, carbohydrates, and vitamins. Mushrooms are suggested for patients with diabetes and heart disease due to their low calory content. They contain more protein than grains, fruits, and vegetables. On a new weight premise, they incorporate proteins (3.7%), carbs (2,4%), fat (0,4%), minerals (0,6%), and water (91%). The nine fundamental amino acids required for human development are available in mushrooms. Thiamine (vitamin B1), riboflavin (vitamin B2), niacin, pantothenic corrosive, biotin, folic corrosive, and nutrients C, D, A, and K are bountiful in mushrooms and are kept up with even in the wake of cooking. Because of their low calory count, high

KABADDI

A DISSERTATION

SUBMITTED FOR PARTIAL FULFILLMENT

FOR THE AWARD OF DEGREE

MASTER OF SCIENCE IN RURAL TECHNOLOGY

Session: 2022-23

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Chapter-01

Introduction

Kabaddi is a traditional contact team sport that originated in ancient India. It is widely popular in South Asia, particularly in India, Bangladesh, and Pakistan, and has gained international recognition in recent years. Kabaddi is often referred to as the "game of struggle" or the "combat sport of Asia" due to its physical and competitive nature.

The game involves two teams, each consisting of seven players. The objective is for one player, known as the "raider," to enter the opponent's half of the playing field, tag one or more members of the opposing team, and return to their own half without being caught by the defenders. The defenders, on the other hand, aim to prevent the raider from returning by tackling or restraining them.

Kabaddi is played on a rectangular court, divided into two halves by a midline. Each team takes turns sending a raider while the opposing team defends. The raider must chant "kabaddi" repeatedly during their raid, without taking a breath, to prove that they are not inhaling and therefore not cheating. The defenders, called "stoppers" or "anti-raiders," work together to immobilize the raider and stop them from reaching their own half.

Points are scored in Kabaddi through various ways. If the raider successfully tags one or more defenders and returns to their half without being caught, their team earns a point for each defender tagged. If the defenders successfully tackle and restrain the raider, their team earns a point, and the raider is declared out. Additional points can be earned through bonus line touches and team infringements.

Kabaddi is known for its fast-paced action, agility, and strategic gameplay. It requires a combination of physical strength, speed, reflexes, and tactical awareness. The sport has gained international prominence, with professional leagues, such as the Pro Kabaddi League in India, attracting millions of viewers and featuring top players from around the world.

Kabaddi promotes teamwork, discipline, and physical fitness among its players. It is recognized by various sports organizations, including the International Kabaddi Federation (IKF), which governs the sport at the international level. The IKF organizes tournaments and championships, including the Kabaddi World Cup, to showcase the skills and talent of Kabaddi players worldwide.

Overall, Kabaddi is a thrilling and culturally significant sport that continues to grow in popularity globally, captivating audiences with its intense competition and unique blend of athleticism and strategy.

IDENTIFICATION OF SUITABLE SITES FOR THE DAM BASED ON ANALYTICAL HIERARCHY PROCESS

A DISSERTATION

SUBMITTED FOR PARTIAL FULFILMENT OF

MASTER DEGREE

IN

(RURAL TECHNOLOGY)

SUBMITTED BY

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Prof. Rajendra Mehta
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CONTENT

INTRODUCTION

Dams are monumental engineering structures that have been of immense importance throughout human history. These impressive constructions are typically erected across rivers and streams to control the flow of water, create vast reservoirs, and serve a multitude of essential functions. The core components of a dam, including the reservoir, spillway, outlet works, and the dam body, work harmoniously to regulate water supply, generate hydroelectric power, mitigate floods, and support agricultural development. (Ger Bergkamp, Dams, Ecosystem Functions and, 2000) By storing water during wet seasons and releasing it in times of drought, dams provide vital water resources for domestic, industrial, and agricultural use, ensuring the sustainable growth of societies. (Tyson Brown, 2022) Moreover, the energy produced through hydropower plants, an outcome of the potential energy harnessed from the stored water, represents a renewable and environmentally friendly source of electricity. Additionally, dams play a significant role in flood control, moderating the flow of water downstream during periods of heavy precipitation or snowmelt, thereby safeguarding downstream communities from disastrous inundations. The regulated release of water for irrigation purposes further amplifies their impact, enhancing agricultural productivity and food security. Beyond their functional significance, dam reservoirs offer recreational opportunities, fostering tourism, and stimulating local economies through activities such as boating, fishing, and wildlife observation. (Jackson, n.d.)

As we look to the future, sustainable dam management practices that prioritize environmental and social responsibility are imperative. Utilizing modern technologies and conducting thorough environmental assessments during the planning and execution phases can help minimize adverse impacts. Balancing the remarkable benefits of dams with their potential consequences will require a holistic and collaborative approach, fostering a harmonious relationship between human development and the environment. Through informed decision-making, we can ensure that dams continue to serve as vital contributors to water resource management and societal progress, while also preserving the delicate ecological balance that sustains life on our planet. (Baran E., 2015).

The process of selecting an appropriate site for a dam is a crucial undertaking with multifaceted purposes and objectives. The primary purpose is to identify a location that can effectively manage water resources, ensuring a reliable water supply for various needs, such as domestic, agricultural, and industrial use (Jamali et.al.2013). Additionally, the selected site should serve the objective of flood control, strategically regulating water flow during periods of heavy rainfall or snowmelt to mitigate downstream flooding and safeguard communities and infrastructure. For dams designed to generate hydroelectric power, the site selection process aims to find suitable terrain with ample (Carvallo2, 2023). By diligently addressing these purposes and objectives, dam site selection can lead to successful projects that promote responsible water resource management, environmental preservation, and overall societal development.

The Analytic Hierarchy Process (AHP) is a structured technique for organizing and analyzing complex decisions, based on numerical data and psychological perceptions of individual experts or groups of expert's committees. It was developed by **Saaty** (1970 & 1990).

The AHP is a tool that is used for any complex decision-making. In land suitability analysis, AHP is the most widely used and is considered the most reliable method for multi-criteria decision-making (MCDM). (Saaty, T. L. 1990) The AHP helps structure both subjective and objective

LESSER KNOWN FRUITS AND EXPLORATION OF ONE SELECTED FRUIT FOR VALUE ADDITION

– A

DISSERTATION

ON

DISSERTATION REPORT SUBMITTED FOR THE

PARTIAL FULFILLMENT OF THE REQUIRED FOR THE AWARD

OF

DEGREE OF

MASTER OF SCIENCE IN RURAL TECHNOLOGY (M.Sc. RT)

UNDER THE

SCHOOL OF STUDIES OF INTERDISCIPLINARY EDUCATION AND RESEARCH

(SESSION - 2021 – 23)

UNDER SUPERVISION OF:-

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FORWARDING LETTER

Ms. Nidhi Tiwari student of M. Sc. Rural Technology, IV Semester in Department of Rural Technology and Social Development has completed his dissertation entitled Documentation of lesser known fruit and to prepare the value added product from lesser known fruit under the guidance and supervision o Dr. Alka Mishra, Assistant Professor Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), India, in partial fulfilment of the requirement for the degree of M. Sc. Rural Technology. The dissertation is forwarded to the examinee for evaluation.

Supervisor

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CERTIFICATE BY THE SUPERVISIOR

This is to certify that Ms. Nidhi Tiwari Student of Department of Rural Technology and Social Development, Guru Ghasi Vishwavidyalaya, Bilaspur C. G. India has carried the dissertation for partial fulfilment of requirement for the award of degree of M.Sc. Rural Technology entitled under my supervision and guidance. It is also certified that the student has complied with all the guidelines designed for the project of report. To the best of my knowledge this report is an authentic record of the work carried out by the student and it is considered fit for being referred to evaluation.

Date:
Place:- Bilaspur

Dr. Alka Mishra
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Guru GhasidasVishwavidalaya,Bilaspur (C.G)

DECLARATION BY CANDIDATE

This is to understand that I, Nidhi Tiwari a student of M.Sc. Rural Technology, IV Semester (GGV/21/10706) and I declare that the dissertation entitled "Documentation of Lesser known fruit and to prepare the value added product from Lesser known fruit." is my own work onducted under the supervision of Dr. Alka Mishra, Assistant Professor, in the Department of Rural echnology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.). This report an original work carried out by me and the report has not been submitted to any other University the award of any degree or diploma. I further declare that to the best of my knowledge this thesis s not contain any part of any work, which has been submitted for the award of any degree either is University or any other University/ deemed University without proper citation.

Date:.....
Place: Bilaspur

Nidhi Tiwari
(Name and Signature of theStudent)
M.Sc. RT, IV Semester

CONTENTS

CHAPTER I

INTRODUCTION

Fruits are indeed a valuable source of essential nutrients and are widely recognized for their role in promoting overall health. They provide a variety of vitamins, minerals, and antioxidants that contribute to the prevention of deficiencies and certain chronic diseases. By incorporating fruits into a balanced diet, individuals can reduce their risk of developing various health conditions **(Normah. 2003).**

Fruits serve as a mechanism for flowering plants, known as angiosperms, to spread their seeds. Through a symbiotic relationship, edible fruits have evolved to entice humans and animals to disperse their seeds, while providing them with nourishment in return. This mutual dependency has led to humans and many animals relying on fruits as an essential food source. As a result, fruits play a significant role in global agriculture, contributing to a substantial portion of agricultural output. Some fruits, such as apples and pomegranates, have gained cultural and symbolic significance over time **Benzing, D. H. (2000).** .

The consumption of fruits as part of a healthy eating pattern offers several advantages. Firstly, fruits are rich in vitamins C and A, which are crucial for maintaining good health and preventing deficiencies related to these vitamins. Secondly, fruits are a great source of important minerals such as potassium, which plays a vital role in various bodily functions. Additionally, fruits contain folate (folic acid), which is essential for proper cell division and the production of DNA. **McKevith, B. (2004)**

Antioxidants, including polyphenols, are abundant in fruits. These compounds help protect the body against harmful free radicals, which can cause oxidative stress and contribute to the development of chronic diseases. Some fruits like blueberries, cranberries, strawberries, and citrus fruits also contain phytochemicals, which are currently being studied for their potential health benefits. **(Akbari,et al 2022)**

Fruit cultivation has been deeply intertwined with Indian culture since ancient times. The historical records and literature of India mention the medicinal uses of various fruits, highlighting their importance in traditional medicine. Fruits such as aonla, bael, wild dates, grapes, hog plum, jackfruit, wild fig, monkey jack, jamun, ber, karonda, lemon, lime, mango, mulberry, orange, sour orange, phalsa, banana, pomegranate, walnut, almond, pistachio nut, and woodapple have all been documented for their medicinal properties.**(Handa,et al 2016)**

Certain fruits like mango, banana, bael, aonla, and coconut hold special significance in Indian festivals and rituals, symbolizing abundance, prosperity, and auspiciousness. These fruits are often associated with religious ceremonies and cultural practices.

Among the many fruits consumed in India, mango, banana, fig, grape, and date palm have gained particular popularity and are widely enjoyed. They are cherished for their taste, versatility, and nutritional value.

Overall, the cultivation and consumption of fruits have deep-rooted connections to Indian traditions, literature, festivals, and rituals. The wide variety of fruits available in India has not only played a significant role in traditional medicine but also contributed to the diverse culinary landscape of the country.

Early humans relied on wild plant products for sustenance and food preparation before the advent of agriculture. These wild edible plants (WEP) occur naturally and provide a dietary source for humans, apart from cultivated species. It is estimated that there are approximately 75,000 edible plant species worldwide based on a review of 100 published documents. In Indian epics such as the Rāmāyana and Mahābhārata, there are references to characters consuming wild fruits, roots, and stem tubers to satisfy their hunger during the period of banishment in the forest (Vanavāsa). An example mentioned

Inventorization of leafy vegetables of Bilaspur and janjgir champa district

A DISSERTATION

ON

DISSERTATION REPORTSUBMITTED FOR

ARTIAL FULFILLMENT OF THE REQUIRED FOR THE AWARD

OF

DEGREE OF

MASTER OF SCIENCE IN RURAL TECHNOLOGY (M.Sc. RT)

UNDER THE

SCHOOL OF STUDIES OF INTERDISCIPLINARY EDUCATION AND RESEARCH

SESSION: 2022 -2023

SUPERVISED TO
DR.ALKA MISHRA
ASSISTANT PROFESSOR

SUMITTED BY
PRABHAT SHANKAR SAHU
GGV/18/6127

DEPARTMENT OF RURAL TECHNOLOGY AND SOCIAL DEVELOPMENT

GURU GHASIDA VISHWAVIDYALAYA

A CENTRAL UNIVERSITY ESTABLISHED BY THE CENTRAL UNIVERSITY, ACT 2009 NO.25 OF 2009)

FORWARDING LETTER

This is certify that MR. PRABHAT SHANKAR SAHU student of M. Sc. Rural Technology, IV Semester inDepartment of Rural Technology and Social Development has completed his dissertation entitled; Inventorization of leafy vegetables of Bilaspur and janjgir champa district under the guidance and supervision o Dr. Alka Mishra, Assistant Professor Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), India, in partial fulfilment of the requirement for the degree of M. Sc. Rural Technology. The dissertation is forwarded to the examinee for evaluation.

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Forwarded by 4/8/2023

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4.8.2023

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Dr.Alka mishra

Assistant Professor

Department of Rural Technology and

Social Development

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DECLARATION BY CANDIDATE

This is to understand that I, Prabhat shankar sahu a student of M.Sc. Rural Technology, IV Semester (GGV/21/10706) and I declare that the dissertation entitled Inventorization of leafy vegetables of Bilaspur and janjgir champa districtis my own work conducted under the supervision of Dr. Alka Mishra, Assistant Professor, in the Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.).

This report is an original work carried out by me and the report has not been submitted to any other University for the award of any deg diploma. I further declare that to the best of my knowledge this thesis does not contain any part of any work, which has been submitted for the award of an degree either in this University or any other University/ deemed University without proper citation.

PSahu

Date:.....

Place: Bilaspur

Prabhat shankar sahu

(Name and Signature of theStudent)

M.Sc. RT, IV Semester

INDEX

INTRODUCTION

Indian Vegetables are an indispensable ingredient of Indian food and medicine. Vegetables contain lots of minerals and vitamins and mainly served as side dishes with an Indian meal. But in Indian cooking and culture, the place of vegetables is not restricted to only side dishes. The vegetables were present in the Indian cuisine since the Vedic era. The first vegetables mentioned in the Rig Veda are the lotus stem (visa) and the cucumber (urvaruka).

Most of the vegetables are mentioned in the Ramayana. Vegetables in Indian food find their mention in Sanskrit and other literatures as well.The major vegetables of India are those which are raised by ploughing, namely cereals, pulses and oilseeds. All these food grains find references in Sanskrit Vedic literature. The collective term for vegetables was 'Shaka', which comprised five kinds. These were ripened vegetables, leaves, roots, flowers and pods. Leaf type vegetables are plant leaves that are eaten as a vegetable, sometimes accompanied by petioles and shoots. Most of the leafy vegetables come from herbaceous plants such as lettuce and spinach. Food is specific to season. India has six different seasons, namely vasanta ritu (spring), grishma ritu (summer), varsha ritu (monsoon), sharad ritu (autumn), hemanta ritu (fall winter), and shishira ritu (winter). Studying and knowing about seasons is important to make an efficient diet plan.

Chhattisgarh state is situated in the central part of India and is also known as the 'Bowl of rice'. Paddy is the principal crop of this state, and rice is the staple diet of the people. The state largely maintains its ethnic food culture as most of its population continues to live within rural and tribal areas. The state has nearly 44% of forest cover which serves as a decent source of food. People here prefer a vegetarian diet, and over 70 varieties of leaves, 25 varieties of tubers and roots are used here as vegetables.

The present article is an attempt to explore the ethnic food culture of Chhattisgarh and to provide information about leafy vegetables which are consumed here. Irrespective of all the modern changes in food habits, the people of Chhattisgarh still preserve their traditional food culture.

This article also focus on economic importance and seasonal changes of Leafy vegetables. So many species and varieties of leafy vegetable are being consumed by people of Chhattisgarh and

A

DISSERTATION

ON

"TESTING AND EVALUATION OF COW DUNG PRODUCT PANCHDRAVYA AAHUTI"

DISSERTATION REPORT SUBMITTED FOR THE

PARTIAL FULFILLMENT OF THE REQUIRED FOR THE AWARD OF

DEGREE OF

MASTER OF SCIENCE IN RURAL TECHNOLOGY

(M.Sc. RT)

UNDER THE
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DEPARTMENT OF RURAL TECHNOLOGY AND SOCIAL DEVELOPMENT

GURU GHASIDAS VISHWAVIDYALAYA BILASPUR (C.G.)

495001

2023

2
2022-23

FORWARDING LETTER

Pukendra Kumar, student of M. Sc. Rural Technology, IV Semester in Department of Rural Technology and Social Development has completed his dissertation entitled "Testing and Evaluation of Cow Dung Product Panchdravya Aahuti" Under the guidance and supervision of Dr. S. K Nirala, Assistant Professor, Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), India, in partial fulfilment of the requirement for the degree of M. Sc. Rural Technology.

The dissertation is forwarded to the examinee for evaluation.

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4-8-23

Date:

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Assistant Professor

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DECLARATION BY CANDIDATE

This is to understand that I, Pukendra Kumar a student of M.Sc. Rural Technology, IV Semester (Enroll. No. GGV/21/10710) hereby declare that the dissertation entitled **"Testing and Evaluation of Cow Dung Product Panchdravya Aahuti"** is my own work conducted under the supervision of **Dr. S. K Nirala**, Assistant Professor, in the Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.). This report is an original work carried out by me and the report has not been submitted to any other University for the award of any degree or diploma.

I further declare that to the best of my knowledge this thesis does not contain any part of any work, which has been submitted for the award of any degree either in this University or any other University/deemed University without proper citation.

(Pukendra Kumar)

Date:

Place: Bilaspur

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CHAPTER - I

INTRODUCTION

In recent times, the pressing need for sustainable practices has led to a resurgence of interest in traditional resources and ancient knowledge. Among these resources, cow dung holds a special place, revered for its multifaceted utility and sacred significance in various cultural and religious traditions. One remarkable application of cow dung lies in the preparation of "Panchdavya Ahuti," an offering that combines five sacred elements -cow dung, ghee, loban, Kapur and Saw Dust. This sacred concoction, when burned as an offering during religious ceremonies, is believed to purify the environment, promote spiritual well-being, and invoke divine blessings.

The term "Aahuti" is derived from Sanskrit, which is an ancient Indian language and the primary liturgical language of Hinduism. The word is made up of two parts: "aa," which means "to bring" or "to offer," and "huti," which means "oblation" or "offering." Together, the word Aahuti refers to the act of bringing or offering oblations into a sacred fire as part of a Hindu religious ritual. In the Rigveda, one of the oldest Hindu scriptures, there are many hymns that describe the importance of fire and the offerings made into the fire during religious rituals. These offerings, or Aahutis, are believed to symbolize the offering of oneself to the divine and to seek the blessings of the gods. Similarly, the Yajurveda, another important Hindu scripture, provides detailed instructions on how to perform various fire rituals and the significance of the offerings made into the fire. The text emphasizes the importance of Aahuti as a means of invoking the blessings of the divine and achieving one's goals and desires.

Aahuti is a term that is used specifically in the context of Hinduism and its religious practices. It is an important concept in many Hindu rituals, such as yajnas, havans, and homas, and it is believed to have a powerful spiritual significance for those who participate in these rituals.

"MONKEY MENACE ON GROWN FIELD CROPS IN SARANGARH-BILAIGARH DISTRICT (C.G.) INDIA": THREATS TO SUSTAINABLE AGRICULTURE PRODUCTION AND LIVELIHOOD

A DISSERTATION WORK REPORT SUBMITTED FOR THE PARTIAL FULFILLMENT REQUIRED FOR THE AWARD OF THE DRGREE OF

MASTER OF SCIENCE

IN

RURAL TECHNOLOGY

SUPERVISED BY

Dr. LOKESH KUMAR TINDE

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M.Sc. (RT) 4th Sem.

(Roll No.21049112)

DEPARTMENT OF RURAL TECHNOLOGY AND SOCIAL DEVELOPMENT

GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR-495001(C.G.)

(A Center University Established by the central university, Act 2009 No.25 of 2009)

2023

CERTIFICATE OF THE SUPERVISOR

This is to certify that **Mr. Rakesh Jaiswal** student of Master of Science (Rural Technology) 4 th semester in the Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.) as completed his dissertation work entitled "**MONKEY MENACE ON GROWN FIELD CROPS IN SARANGARH-BILAIGARH DISTRICT OF CHHATTISGARH STATE": THREATS TO SUSTAINABLE AGRICULTURE PRODUCTION AND LIVELIHOOD** under the guidance of **Dr. Lokesh Kumar Tinde (Assistant Professor)**, has submitted to the Department. The dissertation is the partial fulfillment of the requirement to receive the degree in **Master of Science (Rural Technology)**.

Supervisor 31/07/2023

Dr. Lokesh Kumar Tinde

Assistant Professor

4/8/23

Dean & Head of Department

Prof. Rajendra Mehta

HEAD
Department of Rural Technology
& Social Development
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4.8.23

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CHAPTER - 01

Introduction

Background

Monkeys are highly social animals, and almost all live in troops consisting of several females with young and either a single male (as in baboons, mandrills, most guenons, and most langurs) or several males (as in savannah baboons and macaques). Monkeys have large brains and are known for their inquisitiveness and intelligence. Brain development, combined with the freeing of the hands and well-developed vision, allows them a great latitude of activity.

Monkeys are found in two main regions of the world, so scientists have grouped them as either Old World monkeys or New World monkeys. Old World monkeys are found in Africa and Asia. Some examples are guenons, mangabeys, macaques, baboons, and colobus monkeys. New World monkeys are found in Mexico, Central America, and South America. Some examples are woolly monkeys, spider monkeys, howler monkeys, capuchin monkeys, and squirrel monkeys. Marmosets and tamarins also live in New World habitats but are different enough to be in their own different scientific grouping. (https://animals.sandiegozoo.org/animals/monkey)

In India, three primate species in particular are strongly commensals, namely the bonnet macaque (*Macaca radiata*), the hanuman langur (*Semnopithecus entellus*) and, of course, the rhesus (*Macaca mulatta*). Despite the damage they are capable of causing, monkeys have benefited from India's tradition of veneration for them.

The population of monkeys has grown at an alarming rate during the last decade. According to the last count there were 50 million monkeys in India which has resulted in their migration from the forest areas towards towns and cities and also to the cultivated areas.

Among all other macaques in India, rhesus monkey (*Macaca mulatta*) is the most common monkey and occupied an important role in the cultural and traditional aspects of the country.

Monkeys are fascinating animals to watch and interact with. They are incredibly intelligent creatures and are very close relatives of humans. Just like humans, we classify monkeys as primates. Primate have relatively larger brains than the size of their body and a higher degree of intelligence.

Monkeys come in different sizes, types, colors, and shapes. There are over 200 different species monkeys all over the world (Malik I. 1999).

A

DISSERTATION

ON

MORNINGNESS-EVENINGNESS PREFERENCES AMONG STUDENTS OF GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

DISSERTATION REPORT SUBMITTED FOR THE

PARTIAL FULFILLMENT OF THE REQUIRED FOR THE AWARD OF DEGREE

MASTER OF SCIENCE IN RURAL TECHNOLOGY

(M.Sc. RT)

UNDER THE

SCHOOL OF STUDIES IN INTERDISCIPLINARY EDUCATION &

RESEARCH

SUPERVISED BY:

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ASSISTANT PROFESSOR

SUBMITTED BY:

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(GGV/18/6145)

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(2023)

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The dissertation is forwarded to the examinee for evaluation.

Date:

Forwarded by

4/8/2023

Prof. Rajendra Mehta

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Bilaspur (C.G.)

CERTIFICATE BY THE SUPERVISIOR

This is to certify that **Saket Nirala** Student of Department of Rural Technology & Social Development, Guru Ghasi Vishwavidyalaya, Bilaspur, (C.G.), India has carried the dissertation for partial fulfilment of requirement for the award of degree of M.Sc. Rural Technology entitled **"Morningness-Eveningness Preferences Among Students of GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)"** under my supervision and guidance. It is also certified that the student has complied with all the guidelines designed for the project of report. To the best of my knowledge this report is an authentic record of the work carried out by the student and it is considered fit for being referred to evaluation.

Date: 25/07/2023

25/07/2023

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Assistant Professor

Department of Rural Technology
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DECLARATION BY CANDIDATE

This is to understand that I, **Saket Nirala** student of M.Sc. Rural Technology, IV Semester (Enroll. No.- GGV/18/6145) and I declare that the dissertation entitled **"Morningness-Eveningness Preferences Among Students of Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)"** is my own work conducted under the supervision of **Dr. Devendra Singh Porte**, Assistant Professor, in the Department of Rural Technology & Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.). This report is an original work carried out by me and the report has not been submitted to any other University for the award of any degree or diploma.

I further declare that to the best of my knowledge this thesis does not contain any part of any work, which has been submitted for the award of any degree either in this University or any other University/ deemed University without proper citation.

Saket Nirala

(Saket Nirala)

Date: 27/07/2023

Place: Bilaspur

CHAPTER-1

INTRODUCTION

Circadian rhythms – the cycles of our internal clock influence our daily activity and productivity. Achievements in academic studies [1], programming [2], and other domains are affected by circadian rhythms. Chronotype, or diurnal preference, is a person's tendency toward activity at certain times of day and is thought to be a natural characteristic of an individual [3]. Circadian typology or chronotype is a concept based on an individual's predilection to exhibit morning or evening trait, a property acquired because of the inter-individual variations in organising various biological and behavioural activities in a 24-hour period. Inter-individual differences in sleep-wake pattern, peak alertness times and diurnal preferences lie behind the phenomenon of morningness-eveningness [1]. Literature investigating the morningness-eveningness dimension is scarce especially in the context of Indian population. It is a little explored entity representing a novel, interesting topic of research for researchers/clinicians/educators.

Morning chronotypes (M-types) are individuals who exhibit morning tendencies like rising early in the morning and also who are at their best both physically and mentally in the early hours of morning [2]. Evening chronotypes (E-types) are individuals who prefer to get up late in the morning and stay awake till late night and also perform their best during late afternoon or evening [2]. The aforementioned M-type and E-type categories are regarded as the two extremes of a continuum, on which Intermediate type (I-type) or Neutral type (N-type) individuals represent the largest category. The sleep-wake pattern, preferred times of physical and mental performance and subjective alertness after arising and before going to bed of intermediate type persons are in between M-type and E-type. A combination of internal- (e.g., clock genes, cortisol and

STUDIES ON MUSHROOM GROWING KIT PREPARATION OF OYSTER MUSHROOM

A DISSERTATION SUBMITTED

FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE

IN

RURAL TECHNOLOGY

SUBMITTED BY

SNEHLATA

M.Sc. IV Semester

ROLL NO: 21049114 ; ENROLLMENT NO: GGV/21/10708

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DEPARTMENT OF RURAL TECHNOLOGY AND SOCIAL DEVELOPMENT

2023

DEPARTMENT OF RURAL TECHNOLOGY AND SOCIAL DEVELOPMENT

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CERTIFICATE

This is to certify that **Miss Snehlata** Student of Master of Science (rural technology) 4th semester in the Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh India, has completed his dissertation work entitled **"Studies on Mushroom Growing Kit Preparation of Oyster Mushroom"** under the guidance of **Dr. Bhaskar Chourasia, Assistant Professor,** Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur has submitted to the Department. The dissertation is the partial fulfillment of the requirement to receive the degree in Master of Science (Rural Technology).

21/08/2023

Supervisor
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Assistant Professor

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Prof. Rajendra Mehta

Head

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Bilaspur, Chhattisgarh

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CHAPTER-I

INTRODUCTION

The fruiting bodies of some fungi, a lower class of plants, are known as "Mushrooms." The bodies of fungi, with the exception of those that carry spores, are undifferentiated and devoid of chlorophyll. Mushroom fruiting bodies are spore-bearing fungi with fleshy structures. (Kanani, *et al.* 2023). They are filled with spores, which serve as the fungi's seeds, much like the seeds of higher plants.

Since the beginning of time, humans have been attracted to mushrooms, which appear after rain in a variety of sizes, colors, and shapes. Even when people lived as hunters and gatherers, mushrooms were sure to catch their interest. Despite the fact that man first practiced agriculture 10,000 years ago, the growing of mushrooms is a relatively recent phenomenon that just began to gain popularity globally in the last century. The Chinese were reportedly the first to artificially cultivate tropical and sub-tropical mushrooms thousands of years back, but commercial production started in Europe with button mushrooms in caves during the 16th and 17th centuries. (Boa, 2004).

These fungi, which are minuscule in size, develop a mycelium throughout their growth stage and spread via saprophytic mode, producing spores in the gills of their fruiting bodies, or what we call mushrooms, for dispersal, completing their life cycle. In a favorable climate and on suitable substrates, the disseminated spores produce hyphae or mycelium, and the life cycle process continues. Because they lack chlorophyll, mushrooms cannot photosynthesize, or use sunlight's energy to create energy, the way green plants can. The majority of mushrooms that grow in forests are deadly if eaten raw, and people frequently get sick after eating such mushrooms.

Mushrooms are a good source of protein, vitamins, and minerals and are known to have a broad range of uses both as food and medicine. These are often found as saprophytes on soil, open fields, farmlands, wood, and roadsides. The fruiting bodies are large enough to be visible to

"Long-Term Spatiotemporal Dynamics of Rainfall Trend over Arpa River Basin"

A DISSERTATION

SUBMITTED FOR PARTIAL FULFILLMENT

FOR THE AWARD OF DEGREE

MASTER OF SCIENCE IN RURAL TECHNOLOGY

Session: 2022-23

Supervised to

Dr. Lokesh Kumar Tinde

(Assistant Professor)

Submitted by

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GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR (C.G.)

(A Central University established by the central university, Act 2009 No. 25 of 2009)

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This is to certify that **Miss Suneha Singh Thakur** student of Master of Science (Rural Technology) 4th semester in the Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya Bilaspur (C.G.) as completed his dissertation work entitled **"Long-Term Spatiotemporal Dynamics of Rainfall Trend over Arpa River Basin"** under the guidance of **Dr. Lokesh Kumar Tinde (Assistant Professor),** has submitted to the Department. The dissertation is the partial fulfillment of the requirement to receive the degree in Master of Science (Rural Technology).

Supervisor 25/07/2023

Dr. Lokesh Kumar Tinde

(Assistant Professor)

4/8/2023

Dean & Head of Department

Dr. R. K. Mehta

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HEAD
Department of Rural Technology
& Social Development
Guru Ghasidas Vishwavidyalaya
Bilaspur (C.G.) 495009

Valued
4 8 2023

TABLE OF CONTENTS

CHAPTER - 01

Introduction

Background

Climate is the key components of the earth system. There are many variables in the form of weather parameters such as rainfall, temperature, humidity and atmospheric pressure that constitute climate and weather. The amount of the variability or fluctuations of the parameters varies according to stations locations (Panda and Sahu 2019). Agricultural farming and related various enterprises sectors, food security, and energy conservation of India are mainly dependent on adequate amount of water. The rainfall received in a catchment area is main factor in determining the amount of available water to explore the various demands, such as agricultural farming, industrial uses, and domestic water supply and for generation of hydroelectric power. Global climate changes may affect long-term rainfall patterns impacting the amount of water, along with the increasing droughts and floods in the economical area (Jain and Kumar 2012). It has noticed that most of the studies are conducted on the changing patterns of precipitation and temperature only. There are also some other parameters in universe which may influence the climatic condition (Deb *et al.,* 2019). Rainfall is one of the single most important key parameter in planning for farming in rain-fed ecological situation. Around 60% of the Indian farmers are dependent on rain (Pradhan *et al.,* 2020). Many researchers have examined the variability and patterns of weather parameters across the world (Westra *et al.* 2014, Thornton *et al.* 2014, Addisu *et al.* 2015, Ay and Kisi 2015, Du *et al.* 2017, Seo and Ummenhofer 2017, Kala and Vaidyanathan 2018, Arabeyyat *et al.* 2018, Gedefaw *et al.* 2018). Indian researchers also have several studies carried out to know the variability and trends in annual and seasonal rainfall (Sinha et al 2018, Mondal et al 2018, Chandniha *et al.* 2017, Swain *et al.* 2015, Pandey and Khare 2018, Nikumbh *et al.* 2019, Meshram *et al.* 2017, Pal and Mishra 2017, Markand and Kishtwal 2014, Kumar and Jaswal 2016). Fluctuation of climate has become a most significant challenge for development of sustainability. In 2018, Intergovernmental Panel on Climate Change (IPCC) explained that it would significantly impact on human lives and ecology (Bora *et al.* 2022). Studies on rainfall variability and patterns lead to a better knowledge of drought-related problems, flood and extreme climate conditions (Myhre *et al.* 2019, Papalexiou and Montanari 2019).The precipitation variability and pattern of rainfall give vast results about the increasing or decreasing of trend pattern with the help of statistical hypothesis testing tools such

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DISSERTATION

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PARTIAL FULFILLMENT OF THE REQUIRED FOR THE AWARD OF

DEGREE OF

MASTER OF SCIENCE IN RURAL TECHNOLOGY

(M.Sc. RT)

UNDER THE
SCHOOL OF STUDIES OF INTERDISCIPLINARY EDUCATION AND RESEARCH

SUPERVISED BY: -

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(ASSISTANT PROFESSOR)

SUBMITTED BY: -

TINKLE

(GGV/21/10710)

DEPARTMENT OF RURAL TECHNOLOGY AND SOCIAL DEVELOPMENT

GURU GHASIDAS VISHWAVIDYALAYA BILASPUR (C.G.)

495001

2023

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FORWARDING LETTER

Tinkle, student of M. Sc. Rural Technology, IV Semester in Department of Rural Technology and Social Development has completed his dissertation entitled "Preparation and Making of Cow Dung Product Panchdravya Aahuti" Under the guidance and supervision of Dr. S. K Nirala, Assistant Professor, Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.), India, in partial fulfilment of the requirement for the degree of M. Sc. Rural Technology.

The dissertation is forwarded to the examinee for evaluation.

Date:

Forwarded by

4/8/2023

Prof. R. Mehta
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Valued
4/8/2023

CERTIFICATE BY THE SUPERVISIOR

This is to certify that Tinkle, Student of Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur C. G. India has carried the dissertation for partial fulfilment of requirement for the award of degree of M.Sc. Rural Technology entitled "Preparation and Making of Cow Dung Product Panchdravya Aahuti" under my supervision and guidance. It is also certified that the student has complied with all the guidelines designed for the project of report. To the best of my knowledge this report is an authentic record of the work carried out by the student and it is considered fit for being referred to evaluation.

4-8-23

Date:

Dr. S. K Nirala
Assistant Professor

Place: - Bilaspur

Department of Rural Technology
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Guru Ghasidas Vishwavidyalaya,
Bilaspur (C.G)

DECLARATION BY CANDIDATE

This is to understand that I, Tinkle a student of M.Sc. Rural Technology, IV Semester (Enroll. No. GGV/21/10710) hereby declare that the dissertation entitled **"Preparation and Making of Cow Dung Product Panchdravya Aahuti"** is my own work conducted under the supervision of **Dr. S. K Nirala**, Assistant Professor, in the Department of Rural Technology and Social Development, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.). This report is an original work carried out by me and the report has not been submitted to any other University for the award of any degree or diploma.

I further declare that to the best of my knowledge this thesis does not contain any part of any work, which has been submitted for the award of any degree either in this University or any other University/deemed University without proper citation.

Tinkle

(TINKLE)

Date:

Place: Bilaspur

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CHAPTER - I

INTRODUCTION

India has the highest number of cattle and buffaloes in the world. As of 2021 the cattle's population in India is 306.7 million (Mani *et al.*, 2021) but in 2022 in will be increased to 308 million (A. Minhas, 2022). Cow dung can be defined as the undigested residue of consumed food material being excreted by herbivorous bovine animal species. Total Bovines animal species population in 2019 is 302.3 by livestock Census. In India, 69.9 % population resides in rural areas (The Hindu 2011), where cow (Bos indicus) is major cattle and generates 9–15 kg dung/day (Werner et al. 1989; Brown 2003). The cow is revered in Hinduism as a symbol of nonviolence, a mother goddess, and a bringer of good fortune and wealth. In Hinduism, the cow is still regarded as a sacred, faith-filled, and protected animal. The Hindu religion recognises the rights of animals to co-exist with humans; therefore, people are taught to love, nurture and worship them. The religion promotes the belief that various Hindu gods and goddesses incarnate in various animal forms. In the past, kings and emperors used various species of animals in their emblems to show their respect. Many festivals in India are still being celebrated to honour different animals (Agoramoorthy & Hsu 2006). The cow is the most sacred of all the animals of Hinduism. It is known as Kamadhenu, or the divine cow, and the giver of all desires. Historical evidences states that the divine "Kamdhenu" was served by Maharishi Vasishta. Panchagavya, a wonderful medicine (a formulation consisting of all the five products of cow such as urine, dung, milk, curd and ghee) was presented by Maharishi Dhanvantari. Also, the Vedic period of Indian civilization describes cow as Kamdhenu, meaning "which fulfils the wishes asked". Cow is trusted as a "mobile hospital" to treat various diseases and deficiencies. In Sanskrit, an individual product is called as "gavya" and the combination of five ("panch"means five) is named as "panchagavya". Panchagavya has been mentioned in the holy scripts of Vedas.