

## CRITERION 3



### 3.3 RESEARCH PUBLICATION & AWARDS



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## CRITERION 3

### 3.3.1

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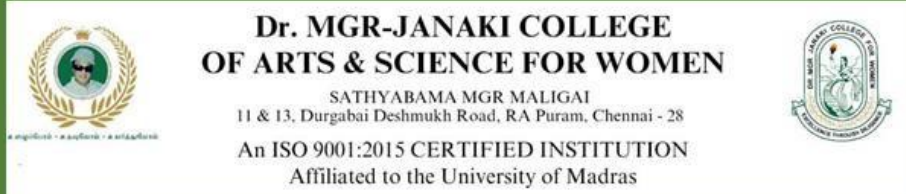
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# Journals



# Academic Year

## 2021-2022



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## Original article

# Combined *in vitro* and *in silico* approach to evaluate the inhibitory potential of an underutilized allium vegetable and its pharmacologically active compounds on multidrug resistant *Candida* species

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## ABSTRACT

*Candida* infections and related mortality have become a challenge to global health. Nontoxic and natural bioactive compounds from plants are regarded as promising candidates to inhibit these multidrug resistant strains. In the present study, *in vitro* assays and *in silico* molecular docking approach was combined to evaluate the inhibitory effect of crude extracts from *Allium ampeloprasum* and its variety *A. porrum* on *Candida* pathogens. Phytochemical screening revealed the presence of phenolic acids and flavonoids in higher quantity. Spectral studies of the extracts support the presence of phenols, flavonoids and organosulfur compounds. Aqueous extract of *A. ampeloprasum* showed a total antioxidant capacity of  $68 \pm 1.7$  mg AAE/g and an  $IC_{50}$  value of  $0.88 \pm 2.1$  mg/ml was obtained for DPPH radicals scavenging assay. *C. albicans* were highly susceptible ( $19.9 \pm 1.1$  mm) when treated with aqueous *A. ampeloprasum* extract. Minimum inhibitory concentrations were within the range of 19–40 µg/ml and the results were significant ( $p \leq 0.05$ ). *In silico* molecular docking studies demonstrated that bioactive phytochemicals of *A. ampeloprasum* and *A. porrum* efficiently interacted with the active site of Secreted aspartyl proteinase 2 enzyme that is responsible for the virulence of pathogenic yeasts. Rosmarinic acid and Myricetin exhibited low binding energies and higher number of hydrogen bond interactions with the protein target. Thus the study concludes that *A. ampeloprasum* and *A. porrum* that remain as underutilized vegetables in the *Allium* genus are potential anti-candida agents and their pharmacologically active compounds must be considered as competent candidates for drug discovery.

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## 1. Introduction

*Candida* species are the most prevalent group of yeast pathogens that are capable of invading the human system. These pathogens can exist as commensals without causing complications until

they are regulated by the co-existing microbiota. They occur as superficial infections in hospitalized or immunocompromised victim right after surgery (Bassetti et al. 2018). Growth and spread of opportunistic *Candida* spp. can trigger minor to severe conditions such as oral thrush, vaginal thrush, genital infections, skin infections, urinary tract infections, and blood stream infections. *Candida albicans* are the leading cause of mucosal infections, but other non-*albicans* species like *C. glabrata*, *C. krusei*, *C. parapsilosis*, *C. tropicalis*, *C. auris* and *C. haemulonii* can also asymptotically colonize the human biota (Berkow and Lockhart 2017). Candidiasis and candidemia have become a global health crisis as more than 250,000 inhabitants are susceptible to these infections every year (Arendrup and Patterson 2017). Azole group drugs (Ketoconazole, Fluconazole, Econazole, Terconazole, Butoconazole and Miconazole)

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# Analysing the Impact of Climate Change on The Crop Yields of Irrigated Crops and their Water Requirements in India Using Neuro Evolutionary Algorithm

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**Abstract:** Global food security, facing the threat of climate change, is one of the major challenges of the 21st century for sustainability that is already under scrutiny with adequate food security for population growth. Current challenges include water shortages, unaffordable costs due to production and demand, and unpredictable weather conditions. They urged farmers to provide improved farming. In particular, uncertainty about climate change, lack of irrigation facilities, lack of land resources, and lack of crops from traditional farming techniques. In agriculture. Different machine learning techniques such as perception, division, regression, and aggregation are used to predict crops. Artificial networks, vector support systems, linear and linguistic lines, decision trees, and Bayesian intelligence are some of the mathematical methods used to implement the prediction. Obviously, choosing the right algorithm for the sample design algorithms presents a challenge for researchers about the selected plants. In this work, research has been conducted on how many algorithms of machine learning can help predict the dissolution of crops. Methods have been developed to generate predictions. Use machine learning technology in a large computer control system.

**Keywords:** Neuroevolutionary algorithm, crop yield, temperature, soil moisture, rainfall, irrigation.

## I. INTRODUCTION

In particular, in India, climate change and precipitation are uncertain, consistent with the analysis that the effects of climate change play an important role in crop production. As the climatic conditions are unpredictable in recent years in India, choosing the crop for cultivation is a biggest challenge for farmers. To overcome this problem there is a need of artificial intelligence in agriculture sector where it can help to effectively predict production of crops in various area in india with respect to various climatic condition. Though various crop can be grown in different climatic or temperature condition. Prediction of climatic condition and based on the climatic condition how the growth of crops got affected are analysed. Yields will be analysed in India between 2000 and 2018, entered into the yield database of crops produced in the growing region of India and analysed the rate of change. temperature during this time. However, in South India, the number of dry days through the budding season is increasing significantly, which indicates a variation

in the rainfall distribution. South Indian rice, wheat and peanuts have diversified over the years without clear practice (30%). And the annual total amount of cotton [15] of maize in the rain. According to the research, climate change has a special impact on rice production in southern India through changes in rainfall distribution [1]. Climate change has had a major impact on India's water resources, scarcity of food, electricity supply and human health. This research shows an impacts of climate change and adaptation strategies is an area of increasing interest in science. Estimates of crop yield and soil moisture are calculated using parameters derived from a variety of conditions. For a standard drinking water house [10], know about the development of crop products. Climate change, on the other hand, is one of the main factors affecting annual crop production, especially in high-yielding areas where increased irrigation or increased irrigation can increase crop yields, which is environmentally damaging. May increase. When climate change affects groundwater balance, soil erosion and resource dispersal change, resulting in shorter crop growth times than in the future, which can affect water volume. Depending on the latitude and irrigation activity of the region, some regional climates will develop and others will decrease. The results of existing product models suggest that increasing rainfall increases crop yields, and crop yields are more sensitive to rainfall than temperature conditions. If the water supply declines in the future, soils with more water can better reduce the effects of drought. produce. Rising temperatures and fluctuations in rainfall may reduce water supply and crop production in the future. As the irrigated area increases, crop yields increase. However, the quality of food and the environment can be compromised.

## II. LITERATURE REVIEW

This work motivates prediction of large Harihu crops in Bishakhapatnam, one of the most expensive regions in Andhra Pradesh. So (MANNs) uses vector regression (SVR) to predict the number of vines that can be harvested using the exact rainfall and the location of the trees. Appropriate agricultural strategies that can be developed to increase - SVR crop yields [4] This paper demonstrates the impact of SVM on yield predictions in the United States. The Indian SVM classification model was tested using the validation



# K-Means Food Object Clustering and Feature Detection using MSERF and SURF Region Points

Publisher: IEEE [Cite This](#) [PDF](#)

S. Anusuya ; K. Sharmila [All Authors](#)

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| Abstract             |
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| II. Related Work     |
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| IV. Results          |
| V. Conclusion        |

**Abstract:**  
Obesity is a perilous consumer of human lives, and is addressed with growing concerns globally. One of the primary reasons for the origination of surgical studies in Bariatrics is the consumption of unhealthy and indolent practices. Multifaceted literary studies are associated with gremlins of the human body, along with food calorie recognition methods. Most commonly many of the health hazards arise with food regimen that individuals choose to consume. Therefore, identification and anatomization of the food and calorie intake is a cardinal aspect which requires meticulous approaches. The whilom approaches relating to food calorie identification and segmentation have been implemented with K-means clustering and color space segmentation approaches. However, this study focuses on the food image enhancement, feature identification and clustering using MSERF and SURF detection parameters. The proposed work also ensures that the implemented work forms a strong pre-processing method to better accuracy of classification for further stages of study. The indagated study is simulated using MATLAB and the results are successfully acquired.

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Published: 2016

# Identifying Retinal Detachment through Snake Contouring-Neumann Boundary Algorithm and Quadrant-Segmentation

Publisher: IEEE [Cite This](#) [PDF](#)

L. Poongothai ; K. Sharmila [All Authors](#)

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| Abstract  | Abstract:  |
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| <div>Document Sections</div> <div>I. Introduction</div> <div>II. Existing Methodologies</div> <div>III. Proposed Methodology</div> <div>IV. Results</div> | <p>Retinal blood vessels are an indispensable entity of the human eye. The requirement to effectively protect the eye forms a censorious part of well-being. Various empirical articulations and simulative studies have evinced the effective processing of the retinal ailments in the form of diabetic retinopathy, macular degeneration, central retinal vein occlusion, central retinal artery occlusion, retinal detachment and branch retinal vein occlusion have been constant surge. However, this paper deals with the agnizing of retinal detachment by utilizing the snake contouring algorithm commingled with the Neumann boundary constraint and Gaussian kernel dissemination fitting. The existing work relevant to retinal detachment have held close significance to the various contouring methods. Nevertheless, in this proposed study, the novel implementation of identification involves the contouring combined with quadrant segmentation. The local area-based, active contours through the iterative,</p> |

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**CONTEMPORARY RESEARCH SURVEY ON THE ALGORITHMS AND TECHNIQUES  
USED IN AUTOMATIC VEHICLE NP RECOGNITION SYSTEM**

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**Dr.R.RADHA** Associate Professor & Research Dean, SDNB Vaishnav College for Women, Chennai.

**ABSTRACT**

Increase in population leads to increase in usage of vehicles which again leads to increase the number of problems in Security and Surveillance, Traffic management, Toll management and Parking management. To manage these problems it is necessary to develop a software system that could be able to detect the vehicles that are indulging in law enforcement problems like violating the traffic rules and regulations. The software system that will be developed must be capable of resolving the above mentioned problems by recognizing the vehicle very accurately and also at the faster rate. The key attribute of any vehicle is the unique feature of the vehicle named number plate or license plate. To recognize this unique tag automatically from any vehicle image, various algorithms and technologies have been designed and developed by many researchers for the past decades. This paper presents the contemporary research survey on different methods, algorithms, tools and techniques that are used in modeling the Automatic vehicle Number Plate Recognition system (ANPR) and focus on the methods that promotes higher accuracy of the ANPR model.

**Keywords:** ANPR, Number plate (NP), Image preprocessing, character segmentation, character recognition, template/pattern matching.

**1. INTRODUCTION**

**1.1. Automatic NPR System**

Vehicle Number Plate Recognition - NPR system is one of the major security based application in the field of image processing. Number plate or the License plate is the unique tag for any vehicle. Vehicle based problems can be detected by using the unique tag of that vehicle. In recent years increase in usage of vehicles makes higher demand for automated NPR system. ANPR system has been developed to solve various traffic security [1] and control problems. Numerous methods are developed to recognize the number plate of the vehicle automatically. NPR system basically consists of six stages [2], namely 1.Image Acquisition, 2 Image Preprocessing, 3.Locating NP, 4.Character Segmentation of NP, 5.Template matching and 6. Character recognition. First step in ANPR is to acquire or capture the input vehicle image. As the input vehicle image will be a colored image it has to be binarized and preprocessed [3]. The region of interest which is the NP is then localized in the preprocessed input vehicle image. Once the vehicle number plate is identified, segmenting the characters of the number plate is done to recognize each character of the number plate using template or pattern matching method. Among these six phases, three phases are considered to be the core part of ANPR system. They are 1.Locating NP, 2.Character Segmentation 3. Character Recognition. Various researchers has designed and developed different methodologies to locate, segment and recognize the number plate with the maximum accuracy under various challenging conditions like low light illumination, unclear number plate or damaged number plate, tilt plate image, speed of the vehicle, font used etc.,

**1.2 Scope of the Survey**

The main objective of the survey is to identify the methods, algorithms and techniques that are used by various researchers in developing the ANPR system. To achieve this goal, more than 100 research papers related to ANPR system were surveyed and categorized based on their core technology and methods. The remaining part of this paper includes the following sections; Section 2 gives the general model of ANPR system. Section 3 gives a detailed literature survey on various techniques used





# CONTOUR BASED NUMBER PLATE RECOGNITION SYSTEM USING EM SEGMENTATION METHOD

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## ABSTRACT

*Vehicle number plate recognition systems are considered to be the core part in parking management, toll management, vehicle speed control management. Many algorithms and techniques have been developed by many researchers for detecting the number plate of any vehicle which is the unique tag . The purpose of this research paper is to effectively locate and segment the number plate. Contour based technique is used to locate the number plate with higher accuracy and extension maximization clustering method is applied to effectively segment the number plate from the given input image. Experimental results show the effectiveness of EM segmentation method to crop the plate region very accurately.*

**KEYWORDS:** Number Plate, Image processing, Edge, Contour, Localization, Segmentation

## INTRODUCTION

In this research paper, an efficient segmentation approach based on contour method for locating the number plate is identified. The number plate under complex background such as poor lighting can also be located very accurately with the clustering based algorithms. ANPR is the challenging and interesting research background field in image processing. The low quality and poor contrast in the obtained vehicle images are improved by using various image contrast preprocessing techniques and the best one is selected. At the second part, a canny edge detection algorithm is used to extract the edges of the enhanced image and the clustering algorithm is used to generate the contours. The Median filtering is used in the proposed method to remove the unwanted noises from the given input image. As a result of eliminating the several features such as region area, edge density and the aspect ratio , the number plate region is identified using contour based technique. Expectation maximization algorithm is used to reduce the contours, so as to locate the region of interest very efficiently.. The number plate is then segmented from the input image using EM segmentation method. The proposed method is experimented on images of vehicles that



## Analysis on Detecting DDoS Attack in IoT Environment

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**Abstract:** -The IoT is a major characteristic in the internet for connecting the devices over the web to share the information. The security issues are a major challenging task in IoT environment due to heterogeneous of connected objects. Among the several of security issues, distributed denial of service (DDoS) attack is a major common security issues on the IoT environment. DDoS attack is an attempt completely or partially disturbed the targeted server by sending floods of internet traffic. Hence, this presented paper is conducting comprehensive reviews regarding DDoS attack detection mechanism by using machine learning algorithms. The details of datasets and performance measures are also discussed. The present review paper can helps researcher to know the challenges of DDoS attack detection in the IoT environment.

**Keywords:** Internet of Things (IoT), Security issues, Distributed Denial of Service (DDoS), machine learning, deep learning

### I. Introduction

#### 1.1 Internet of Things

In the web, the lots of network devices are connected for sharing the data called Internet of Things (IoT). The connections of network devices are called smart devices such as sensor and actuators. Such a smart devices are implemented in various applications such as smart homes, public health, smart cities, smart grids, smart transportation, energy and waste management system [1]. It can connect the various devices including vehicle, home appliances, wearable things, and electronic devices. The connected devices can recognizes the identification, monitoring, and tracking the location [2].

Different roles are performed at different stage in the entire IoT environment to accomplish the desired goal of every smart application. Three layer architecture is defined in IoT environment according to R. Vishwakarma et al. (2010)[3] such as perception layer (edge device layer), network layer and applications layer. The architecture of IoT layers is shown in Figure 1.





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## Materials Today: Proceedings

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# S<sup>2</sup>OPE security: Shuffle standard onetime padding encryption for improving secured data storage in decentralized cloud environment

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## ABSTRACT

Blockchain is one of the most promising and service resourceful technologies for cloud architecture security in development. Specifically for Check transactions in data storage, access control, and key management in a Distributed Database System (DDS). By the consequences, the Blockchain is very proactive for access control by verified integrity proofing system when it comes to using encrypted data structures. Due to this access control probably affect by various attacks because of key leakage concerns by improper security. In this paper, we propose a shuffle standard onetime padding encryption (S<sup>2</sup>OPE) for improving secured data storage in a decentralized cloud environment to resolve the security problems. To strengthen the security level we have proposed a hierarchical security system which is more secure than any of the single level encryption type. Initially, we make a shuffle standard cryptography key policy with optimized Key Digital Signature Policy (KDSP), besides, one-time padding makes legitimate key for integrity proofing to improve the access control by which the cloud data can only be accessed by legitimate users. Our algorithm is fast and secure in both directions to base on owner policy to request access to the files. If some data is lost, there is a hierarchical possibility of decoding technique, the data is very difficult to decrypt to improve the integrity of the security.

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## 1. Introduction

Cloud Security preventions to record all the information during a Blockchain transaction, almost anyone can make changes about the data if it comes to Blockchain maintenance. This Blockchain technology is used to facilitate on data storage, it is more suitable access control security principles. Mostly the Peer to Peer (P2P) Networks are widely implemented in cloud under we use unstructured P2P networks under construction so the security is defending on the communication, specifically at the end of the delivery. In a P2P system, the nodes are bundled together to deliver their network resources with carried integrity proofing techniques Table 1.

The block chain security integrates secured distributed service in the cloud, it is possible to compile the free storage capacity of all users to provide cloud storage service by another user with a limit of authorized storage access based on the security policy. Security access control gives importance to the specific P2P verification as it stands outside verification. To address the weaknesses mentioned

above, we propose a Blockchain-based decentralized cloud storage construction that can provide access control security and integrity proof to reliable cloud storage services to companies and separate users. To our knowledge, this paper is a fully distributed cloud storage and Blockchain-based architecture first. The cryptography encryption techniques use the public sharing called public-key cryptographic to secure the data using key encryption to access the control.

The above Fig. 1 shows the blockchain security model in distributed cloud services. To propose an optimized shuffle standard-based Cloud Storage Construction to provide secured access control to the user's rights using key verification policy. The blockchain structure holds the hash code with a timestamp encryption model to get the security based on the request and response access control mechanism. To improve the encryption model using hash code generation model in blockchain security with DSA optimized algorithm in the form of public-key cryptography encryption techniques with one-time padding techniques, also this can make single signing techniques in a shared cloud storage environment with multiple users of key authentication access control mechanism Fig. 2 Fig. 3.

E-mail address: [renuga.scs@velsuniv.ac.in](mailto:renuga.scs@velsuniv.ac.in) (R. Renuga Devi)<https://doi.org/10.1016/j.matpr.2021.01.254>

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# Timestamp Hashtag for BC-LPBF: Block Chain Security Using Lattice Verified Pair-Block Folding Encryption For Improving Integrity Proofing In Cloud Environment

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## Abstract

Blockchain is one of the developing security strategies to allow the transaction based on cryptographic approaches. Due to security breaches in data sharing and privacy vulnerabilities that cannot be ignored for a long time due to attackers. To address these shortcomings, this paper proposes a blockchain-based method of sharing data with decent security. We propose a Timestamp Hashtag-based blockchain security using Lattice Verified Pair-block Folding Encryption (BC-LPBF) for improving integrity proofing in the cloud environment. Initially, access credential-based security was created based on integrating Lattice-based Access Control Generation (LBACG). This creates user and owner policy roles to access the data on each authentication and verification. Lattice point creates Access Control Role Matrix (ACRM) to provide permission. Then the blockchain process creates a Timestamp HashTag Key (TSHT) for each block random session key with the same length of the key with equalized block size. Further, the key is embedded with each block to make Pair-Block Folding Encryption (PBFE), during this encryption the blocked data are streamed into Lattice Bit Plane Transformation (LBPT) at running encoded data length to decrease the storage size and performed into folded blocks. Finally the Roll Back Key Verification (RBKV) the key is singularized to encrypted, during decryption keys are verified at each block to retrieve the original data. This proposed system produces the best performance compared to the other system as well in security improvement.

**Keywords:** blockchain security, Hash function, Pair-Block Folding Encryption, cryptography, key verification, timestamp security.

## 1. Introduction

Cloud computing offers various levels of data management processing, storage from a decentralized environment. This provides user-friendly services based on the end-user requirement. Cloud environments maintain different data resources for different organizations. Due to the nature of centralized data processing and storage, security is an important concern to protect user data from outside of unauthorized user access. Depending on the user requirement services to be provided through software system storage,

network, and virtualized environment service access to the user. The cloud service provider offers various data to access cloud resources. So all the service providers improve the security maintenance in different concerns based on role-based accessed secured concerns

Blockchain security plays an important role in the field of information security in a transactional environment. Widely used to provide data integrity, message authentication, digital signatures, and password protection. Therefore, we have proposed Blockchain technology so that you can pay a fee to provide access to patient medical reports. It uses Blockchain technology 3 levels 1. Authentication, 2. Encryption and 3. Data recovery.

This framework proposed may ensure patient safety and maintain the safety and reliability of private data sharing systems. Analysis of existing programs reveals that cryptographic failures and sharing of a program based on Blockchain cannot successfully implement data-intensive access control of existing personal health records. These centralized management systems are at risk of privacy leaks. It requires the integration that the user wants to check the cloud. Aiming at these issues under the existing plan, in this paper, we will examine that we propose a new personal health record that completes the plan based on the data and shares Blockchain.

All the users still have access service differently and specifically, the services offer a storage medium based on the log of account to store the data. This depends on sharing the registering assets among the servers and the applications, additionally, it has risen as another worldview for facilitating and conveying the security services over the Internet is role-based access control. Users must be controlled to accessing data with various restrictions. It can find any information about multiple users who have to protect the cloud from access to wrong access. To solve this, here novel security based on crypto policy approaches are used to increase the security in services against attacks

Storing sensitive data is an essential need for each user to keep the personal data safely without access from another user in the cloud. So security and privacy is an important factor consideration to protecting the sensitive data. In this way, the personal health records contain sensitive data about the patient's information which keeps private information in the



## The Relationship Between Green Human Resource Management Activities And Corporate Commitment: An Overview

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### ABSTRACT

Human Resource Management is an important managerial role that deals with an organization's most valuable asset: its employees. Today, the entire history of HRM is being investigated for its long-term feasibility. To be clear, we all believe that Green Human Resource Management is the most important aspect of long-term sustainability. Green HRM is a form of human resource management that focuses on a company's environmental concerns. Green HRM is described as the application of human resource management policies to encourage the productive use of resources within businesses and to support environmental causes, thus raising employee morale and organisational engagement. The aim of this study was to look at the relationship between green human resource management activities and organisational engagement.

**Keywords:** Green HRM, E –HRM, Organizational commitment, environment impact etc.,

### INTRODUCTION

The use of HR strategies, principles, and practices to encourage the efficient use of market resources while avoiding detrimental consequences created by environmental issues in organisations is referred to as green HRM. Campaigns to promote green human resource management are part of larger corporate social responsibility programmes. Environmentally sustainable HR activities and information resource management are the two core elements of green HR. In all staff positions, green human resources relates to fostering recycling practises and raising worker consciousness and commitment to environmental issues. Green HR is the use of human capital management practises to help organisations use energy more sustainably and, more broadly, to foster environmental sustainability. Campaigns to promote green human resource management are part of larger corporate social responsibility programmes. At any employee contact point/interface, green human resources refers to promoting sustainable practises and increasing employee understanding and dedication to environmental issues. Which involves implementing eco-friendly HR policies that result in increased efficiencies, lower salaries, and higher workforce engagement and retention, all of which help companies minimise their carbon footprints. A few examples include automated filing, carpooling, job sharing, teleconferencing and video conferences, recycling, telecommuting, multimedia planning, and energy-efficient office spaces. The term "green HRM" has recently become a buzzword in the industry, and its significance is growing exponentially with the passing of time. As global understanding of environmental sustainability and sustainable development increases by the day, this concept has also emerged as a hot topic in recent research studies. Green HRM covers not only environmental consciousness, but also the general social and economic well-being of the organisation and its workers.

GHRM is in charge of recruiting, engaging, educating, compensating, improving, and advancing the company's human resources, as well as ensuring that the company's green goals are met in the HRM phase of attracting, hiring, training, compensating, developing, and advancing its human capital. It applies to the policies, techniques, and activities that an organisation uses to keep its workforce green for the good of the employees, society, the community, and the company. Management professionals around the world are currently researching various managerial approaches that can help companies achieve GHRM goals while simultaneously improving their environmental competitiveness.

### GREEN HUMAN RESOURCE MANAGEMENT AS HIGH-PERFORMING HUMAN RESOURCE PROCESSES

Product and production businesses have a once-in-a-lifetime chance to boost supply chain efficiencies that would help the economy and the world in the long term. Creating a sustainability strategy in HR's transformation, as well as extending HR's reach into conventional workforce and staffing areas, would have a huge effect on an organisation. Through lowering operating costs, can revenue in developing markets, training workers, and fostering an employee-centric culture, environmental sustainability can – and should – have a financial effect on a company. However, the degree to which this method can be used in most industries is minimal. Employees are unlikely to be as invested in helping a company thrive as they are in helping the company succeed by successful environmental management.

### MANAGEMENT OF THE ENVIRONMENT

An environmentally conscious, labor-efficient, and socially responsible workplace is referred to as a Green Workplace. The definition of green management for sustainable development has a multitude of interpretations in the environmental literature; all of them, in general, aim to illustrate the need for a balance between economic growth and environmental conservation in order for future generations to succeed.





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