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Analysis of Nexus Amongst CAA, NRC & NPR	
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Published on February, 2020	
<b>Abstract</b>	
<p>The terms- Citizenship Amendment Act (CAA), National Register of Citizens (NRC) &amp; National Population Register (NPR) are distinct in theory but their practical implementation would lead to a profound nexus amongst them. The concept of citizenship has become the epicenter of attention from the moment Citizenship Amendment Bill (CAB) was proposed in the Parliament. After the Bill was passed, a huge debate started on the Citizenship Amendment Act while some applauded the steps to mitigate the issue of illegal migrants while some took the streets. Meanwhile, a new controversy brewed over the updating of the National Population Register (NPR). Initially, the NPR was supposed to be prepared between the period of April, 2020 and September, 2020 and expected to be ready ahead of 2021 Census. The background work on NPR has started and is still in progress around several States. S.14A, Citizenship Act 1955<sup>1</sup> provides the legal backup for NPR preparation and thus links it with the Census and NRC.</p>	

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- Authors: Kamaljit Singh<sup>1\*</sup> and Simmi Vashishtha<sup>1</sup>
- Author affiliation: <sup>1</sup>University School of Management, Kurukshetra University, Kurukshetra, Haryana, India.
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- ABSTRACT: In this paper, a discussion has been made about the installed generation capacity, power



## A Performance Analysis of Power Distribution Utilities of Haryana

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript and have an equal contribution.

Original Research Article

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### ABSTRACT

In this paper, a discussion has been made about the installed generation capacity, power availability and power sold the number of electricity consumers, sector-wise electricity consumed, pending electricity bills, credit rating and settlement of pending electricity bills in the Haryana. The one reason behind the pending electricity bills may be the promises made by political parties at the time of elections to waive-off the electricity bills. This provides protection to consumers, especially in political sensitive districts. So, the Haryana Power Utilities (HPUs) are required to be changed adequately from substantial losses to the sound profit-making units by taking legitimate actions. The accessibility and availability of moderate and subjective power offer fuel to the motor of monetary development.

**Keywords:** Power discoms; operational and financial performance; electricity consumption; defaulted amount; credit ratings; UDAY scheme.

### 1. INTRODUCTION

#### 1.1 Background of Haryana Power Utilities

The Haryana Electricity Reform Act, 1997 became effective from 14<sup>th</sup> August 1998. The act established the Regulatory Commission, restructured the electricity sector, and created opportunities for private sector entrepreneurs to participate in the electricity industry [1]. The act also provided for the effective, economical, and sustainable implementation of measures to

facilitate the growth and management of the electricity industry. Haryana Power Utilities currently include four wholly state-owned corporations, namely the Haryana Power Generation Corporation Limited (HPGCL), the Haryana Vidyut Prasaran Nigam Limited (HVPNL), Uttar Haryana Bijli Vitran Nigam Limited (UHBVNL) and the Dakshin Haryana Bijli Vitran Nigam Limited (DHBVNL), which are responsible for power generation, transmission, and distribution. These four utilities are governed by the Haryana Electricity Regulatory Commission (HERC), an independent utility

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Morphotectonic Study of Frontal Siwalik Hills, near Gandhiri, Kangra, Himachal Pradesh, India

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Open Journal of Geology > Vol.10 No.4, April 2020

### Morphotectonic Study of Frontal Siwalik Hills, near Gandhiri, Kangra, Himachal Pradesh, India

Yoginder Singh, A. R. Chaudhri  
Department of Geology, Kurukshetra University, Kurukshetra, India.  
DOI: 10.4236/ojg.2020.104015 PDF HTML XML 405 Downloads 1,002 Views

#### Abstract

The densely populated foothill zone of western Himalaya between the Beas river and the Chakki stream in and around Kangra is being critically examined by us considering the seismo-tectonic destructive potential of the 1905 (Mw 7.8) Kangra earthquake which has not been evaluated so far. We use Resourcesat 1: LISS III Ortho satellite imageries and field studies to qualitatively and quantitatively assess the active tectonic setup of the terrain. Quantitative morphotectonic analysis viz. hypsometric integral, drainage basin asymmetry, stream sinuosity index, ratio of valley floor width to valley

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# Morphotectonic Study of Frontal Siwalik Hills, near Gandhiri, Kangra, Himachal Pradesh, India

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## Abstract

The densely populated foothill zone of western Himalaya between the Beas river and the Chakki stream in and around Kangra is being critically examined by us considering the seismo-tectonic destructive potential of the 1905 (Mw 7.8) Kangra earthquake which has not been evaluated so far. We use Resourcesat 1: LISS III Ortho satellite imageries and field studies to qualitatively and quantitatively assess the active tectonic setup of the terrain. Quantitative morphotectonic analysis viz. hypsometric integral, drainage basin asymmetry, stream sinuosity index, ratio of valley floor width to valley height, stream length gradient index, basin shape index and mountain front sinuosity index are being evaluated on high resolution digital elevation model. The five sub-drainage basins of the Gandhiri stream, the Sukar stream and the Duhg stream of Kangra district of Himachal Pradesh, India are being morphotectonically analyzed. The value of hypsometric integral, drainage basin asymmetry, stream sinuosity index, ratio of valley floor width to valley height, stream length gradient index, basin shape index and mountain front sinuosity index reveal that the terrain is tectonically active. An active dextral strike slip fault with significant oblique slip component has been inferred and is being named as the Gandhiri Fault. This fault crosses all the five sub-drainage basins and results in multiple stream offsets. The Index of Relative Tectonic Activity (IRAT) has been established for different sub-drainage basins. The study reveals that the terrain near Gandhiri in Kangra district of Himachal Pradesh is seismo-tectonically active and proper building codes should be followed in construction activity.

## Keywords

Morphotectonic, Shutter Ridges, Gandhiri Fault, Index of Relative Tectonic Activity (IRAT)

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**Geochemistry of volcanic flows of Nakora area of Malani igneous suite,  
Northwestern India: Constraints on magmatic evolution and petrogenesis**

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\* Corresponding Author's e-mail: naveenphdka@gmail.com, Tel: +919017597203.

ORCID ID: <http://orcid.org/0000-0002-1015-1959>**Abstract**

The geochemical characteristics of volcanic flows of Nakora area of Malani Igneous Suite have been determined to understand their magmatic evolution and petro-genetic aspects. Geochemically, they are high in silica, total alkalis, high field strength elements (HFSE), low ion lithophile elements (LILE), rare metals and rare earth elements; represent A-type affinity with potential mineralization associations. Here, we carried out average geochemical data bank of representative samples of 44 individual lava flows of isolated hill-tops. The relative enrichment of trace elements and negative anomalies of Sr, Eu, P and Ti in the multi-element spider diagrams suggests that the emplacement of the lava flows was controlled by complex magmatic processes i.e. fractional crystallization, partial melting, magma mixing, crustal contamination and assimilation. Moreover, NRC magma provides new geochemical approaches to understand geodynamic evolution of MIS and emplaced in plume related extensional geodynamic settings in NW Indian shield.

**Keywords:** Geochemistry; Volcanic flows; Nakora; Malani Igneous Suite; Rajasthan; Rodinia

DOI: <http://dx.doi.org/10.4314/ijest.v12i1.6>

**1. Introduction**

The widely distributed Malani Igneous Suite (bimodal, anorogenic, plume related, area: 55000 km<sup>2</sup> and thickness: 3-7 km) in Trans-Aravalli Block (TAB) has a geodynamic interest as they represent complex magmatic process occurred during Neoproterozoic time. This event indicated multiphase volcanic and plutonic igneous activities in the form of voluminous silicic lava which was erupted between ~780-750 Ma. The geological conditions required to erupt such voluminous felsic magma suggest high rate of magma generation, migration and accumulation in Northwestern peninsular India (Wang et al., 2017; Kumar et al., 2019). The Malani Igneous Suite (MIS) displays cyclic sequence of volcanic flows (felsic and mafic) in association with South China, Seychelles, Madagascar, Australia, Africa, Arabia, Siberia, Somalia, Kazakhstan, Egypt, Namibia and Tarim, which establish co-tectonic linkage in their emplacement (positive test for Rodinia reconstruction) (Kochhar, 2015). In previous literature, many geoscientists carried out field observations, petrography, whole rock geochemical data, isotopic and EPMA interpretations to construct various tectonic models of MIS, but no perfect consensus on chemical stratigraphical study are recorded which could evaluate phase petrology of different volcanic flows. NRC consisting residual hill tops, Inselbergs and scattered hummocks belongs to Neoproterozoic MIS. NRC has been deeply incised, revealing stacks of lava flows. Rock types in the studied area include, in order of decreasing abundance: (a) acid lava flows (rhyolites, trachytes and tuffs), (b) basaltic lava flows and (c) dikes (dolerite, basalt and microgranite). The distribution of elemental abundances and rock-suites marked chemical stratigraphy in the order of their evolution in complex tectonic setting. A-type rock-suites are dominant in TAB of northwestern peninsular India which exposed in the form of scattered and ring structured during Neoproterozoic time. The magma generation of MIS was considered co-magmatic with other segments of anorogenic nature worldwide, during same period of time (Kochhar, 2015). The controversial assumptions are going on to propose a close linkage among the continental blocks of Greater India, South China, Seychelles,

Madagascar, Australia, Africa, Arabia, Siberia, Somalia, Kazakhstan, Egypt, Namibia and Tarim which we argue, was emplaced due to plume related rift environment. There are mainly two privileges and accepted models for Malani geodynamic system: (a) Plume related extensional model (Pareek, 1981; Bhushan, 1985; Eby and Kochhar, 1990; Baskar, 1992; Dhar et al., 1996; Singh and Vallinayagam, 2003; Singh et al., 2008; Vallinayagam and Kumar, 2008; Kumar and Vallinayagam, 2014; Kochhar, 2015; Sharma and Kumar, 2017; Kumar et al., 2019; Sharma et al., 2019) and (b) Subduction model (Gregory et al., 2009; Ashwal et al., 2013; Wang et al., 2017). There is a direct relationship between mantle plume anorogenic magmatism and



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## Geochemistry of volcanic flows of Nakora area of Malani igneous suite, Northwestern India: Constraints on magmatic evolution and petrogenesis

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### Abstract

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**A RE-EXAMINATION OF THE RELATIONSHIP BETWEEN ELECTRICITY CONSUMPTION AND ECONOMIC GROWTH IN INDIA**

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**ABSTRACT**  
The intent of the study is to re-examine the relationship between per capita electricity consumption and per capita Gross Domestic Product (GDP) from 1971 to 2014. By employing the Granger causality test, the study found that there was absence of a long-term equilibrium relationship between per capita electricity consumption and per capita GDP in India, but the existence of unidirectional causality running from per capita GDP to per capita electricity consumption was revealed in a Vector Autoregression

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**A RF-EXAMINATION OF THE RELATIONSHIP BETWEEN ELECTRICITY CONSUMPTION AND ECONOMIC GROWTH IN INDIA**

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**ABSTRACT**

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**Contribution/ Originality:** This research poses many questions in need of further studies viz. studies regarding creating & spreading awareness among electricity users, studies focusing on challenges & role of electricity utilities & Government in drafting policies of energy conservation and undoubtedly, it will strengthen and contribute to the existing scientific literature.

**1. INTRODUCTION**

India is one of the fastest-growing nations in Asia. Energy consumption is among the key inputs to achieve such development. While India's economic development experience is admired across the world, the growth in power consumption led to import dependence (Bhaskar, 2013). The energy imports are largely in the form of crude oil and oil produces. India became the world's fifth-largest economy by overtaking U.K. and France with a nominal GDP (Gross Domestic Product) of \$2.94 trillion and stood at the third position in electricity consumption. However, India's per capita consumption of energy was just 1,181 kWh (kilowatt/hour) in 2018-19 which continues to be lower than many developed countries (Singh & Vashishtha, 2020). The per capita energy consumption is likely to grow with economic growth in India, thereby increasing the demand for energy.

Chairperson

# Anomaly-Based Intrusion Detection System using Supervised Learning Algorithm Artificial Neural Network and Ant Colony Optimization with Feature Selection



Annu Raj, Monika poriyie

**Abstract:** In the advent of the cyber world, all know that cyber security is randomly used research area for researchers to secure host, network, and data because of increasingly complex attacks. In the advent of anomaly-based intrusion detection system, various techniques are applied to detect intrusion on system or network. This approach attains an extreme detection rate and accuracy but there may be overhead acquired to build and training them. The objective of this paper is to detect the intrusion of a system by proposing a Data mining technique which is based on supervised learning algorithm for training dataset. Artificial neural network (ANN) and Ant Colony Optimization (ACO) with feature selection are the basics of the proposed scheme. ACO work on a population-based algorithm and is motivated by the pheromone trail laying behavior of real ants, in which NSL-KDD Cup99 Dataset is used. Empirical Results clearly explain that the proposed system can attain an overall detection rate of 88% and time complexity of 0.343 sec, which is satisfactory when compared to other anomaly-based schemes.

**Keywords:** Ant colony Optimization, PSO, Detection Rate, False alarm, Data mining, KDD Cup99, Confusion matrix, information security, firewall security.

## I. INTRODUCTION

In the era of digitization of data, security of the Network is the main objective because network services are enormously increasing day by day and they are easily targeted by attackers. These types of attackers are harm network as well as host machine [1]. From past decade intrusion attacks are increased, so recover from this problem there are different approaches like firewall security, encryption, control access, VPN(virtual private network)[2,3], and IDS/IPS are used. Security of network define level of protection and primary objective of security is to achieve these principle; Confidentiality, Availability, and Integrity of data [4]. So that cyber security is subsequently turn to main concern. Researchers create a method for securing the system from an external device, programs, and that user/ attacker who's only goal to destroy security services of the network.

IDS are mostly used as a tool for secure network from intrusion type attacks. The IDS decide that supervised network traffic or system movement is nasty /malicious and triggers an alarm [5].

IDS are a most convenient tool for protecting network and system from an intrusion attack. IDS are work on both Network as well as Host. Network-based IDS are normally monitoring activities of network and Host based IDS are used for detecting attacks that it observes individual machines.

IDS work on knowledge and behavior bases, on bases of these, two types of techniques are defined named signature-based detection and Anomaly-based detection [6]. Signature-based (misuse detection) uses previously preserved database of known attacks and analyze data. If patterns are matched, an attack is detected. The strength of misuse detection is low false alarm rate and weakness is, not detecting unknown new attacks and also a variant of known attack [7].

Anomaly-based (behavior detection) scheme are used to detect the behavior of network if it is according to previously defined behavior, then this will be approved else generates an event. The network administrator is specialized skilled or trained w.r.t. the accepted behavior of the network. This method is capable of detecting unknown/new attacks using the behavior detection of the network if it is according to the previously working of a network then normal otherwise an intrusion occurs. [8].

For achieving high accuracy of behavioral decision researchers used Hybrid detection approach because this approach based on signatures and anomaly and improve false positive rate which was low in anomaly-based IDS. The main objective of the hybrid approach is to improve false alarms. Hybrid detection gives better performance in term of false positive rate and accuracy.

In this paper, supervised learning is used for detecting the behavior of network which is a Data mining technique. Supervised learning is used for training every data with reference to the targeted output, and after enough training, this will be capable to present a target for new inputs. The learning algorithms have various algorithms for individual input. Some of techniques are defined in Fig1. Here, ANN is used for making efficient result for the fast training of dataset and detects dangerous attacks. The attack may be smurf (a Trojan attack), satan (Ransomware type attack) [9], Dos, and probe etc.

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## URBAN LAND USE/LAND COVER CHANGES IN GURUGRAM DISTRICT, HARYANA USING LANDSAT IMAGES

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# Active Tectonic Strike-Slip Fault Development near Goran, Samba and Kathua Districts, Jammu and Kashmir

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## Abstract

Active tectonic morphometric studies of the sparsely investigated frontal Siwalik terrain around Goran in the Samba district bordering the Kathua district of J&K reveal the presence of NW-SE trending active sinistral strike-slip fault with oblique slip component which is parallel to the Surin-Masatgarh anticline. The Basantar River, the Tarnah stream, the Ujh River, the Sahaar stream and the Ravi River exhibit significant stream offsets where the fault crosses these channels. The values of the morphometric indices viz. stream sinuosity index ( $S$ ), stream length gradient index ( $SL$ ), valley floor width to valley height ratio ( $V_f$ ), mountain front sinuosity index ( $S_{mf}$ ), hypsometric integral ( $Hi$ ), basin asymmetry ratio ( $AF$ ) and basin elongation ratio ( $Eb$ ) calculated along the linear river offsets with respect to longitudinal River segments of the Rivers Basantar, Tarnah, Ujh, Sahaar and Ravi Rivers reveal that terrain is tectonically active and can be placed in tectonic active class I. The fault has an apparent offset of about 2000 m with it as it crosses the Basantar, the Tarnah, the Ujh, the Sahaar and the Ravi Rivers. The stream offsets upon field and laboratory investigations are developed due to an active sinistral strike slip fault which is being named as Goran fault. This fault has a surface expression of 100 km extending from the Basantar in the northwest up to the Beas River in the southwest whereas the remaining segment may exist as a hidden fault all along the Himalaya.

## Keywords

Active Tectonics, Goran Fault, Stream Offsets, Himalaya

## 1. Introduction

The Himalayan frontal thrust marks the southern boundary of the deformation





Original Research

**Ethno-medicinal and AMF diversity conservation aspects of some weeds  
of Himachal Pradesh, India**

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AMF spores

Root colonization

Weed

**ABSTRACT**

The present investigation was focused on enumeration of medicinal potential of weeds and biodiversity of Arbuscular mycorrhizal fungi (AMF) associated with them. For AMF analysis, fourteen medicinal weeds were selected, roots and their respective rhizospheric soil samples collected from different localities of Hamirpur district, Himachal Pradesh. The results revealed that number of AM spores in the rhizosphere of plant was not correlated to percent of AM root colonization. The highest percentage of root colonization was reported in *Solanum nigrum* (73.54±07.15 %) and minimum in *Ageratum conyzoides* (22.22±00.55 %). AM spore count was recorded maximum in rhizospheric soil sample of *Parthenium hysterophorus* (135.32±06.05 spores per unit 50g soil) and minimum (32.26±04.10 spores per unit 50g soil) in *Fumaria officinalis*. Twenty five AM species belonging to four genera i.e. *Acaulospora*, *Entrophospora*, *Gigaspora* and *Glomus* were isolated during course of study. *Calotropis procera* preserve maximum AM spore richness in their rhizospheric soil followed by *Solanum nigrum* and least in *Amaranthus viridis*. Among variety of spores, *G. geosporum* is most frequently occurred species in studied soil samples. The study confirmed the weeds potential to provide hostile environment for conservation, sporulation and propagation of competent AM spores to ensure their ubiquitous distribution.

**Introduction**

Utilization of plant and their products are as old as human civilization. Despite of reaching advancement in healthcare system, modern civilizations still depends on plant products. Plants are generally rich sources of herbal products and most of them used for human welfare especially to reduce the human pain and suffering from many diseases. Now-a-days throughout the world

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## Vitamin and mineral content of *Agaricus bisporus* (white button) and *Pleurotus sajor-caju* (dhingri) mushrooms

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### Abstract

The present study was aimed to determine the contents of vitamins (thiamine, riboflavin and ascorbic acid) and minerals (K, P, Zn, Cu, Mn, Ca and Fe) in cultivated mushrooms viz. *Agaricus bisporus* and *Pleurotus sajor caju*. Both *Agaricus bisporus* and *Pleurotus sajor caju* mushroom were found to be an excellent source of potassium and phosphorus. The contents of K, P, Ca, Zn and Fe in *Agaricus bisporus* was 4015, 1350, 47 and 13.23 mg/100g dry weight respectively, whereas in *Pleurotus sajor caju* mushroom the contents of K, P, Ca and Zn was found to be 3218, 1246, 73 and 12.77 mg/100 dry weight, respectively. However, comparison of both the mushrooms revealed that *Agaricus bisporus* mushroom contained significantly higher amount of phosphorus, potassium, zinc, copper and manganese and lower amount of calcium and iron as compared to *Pleurotus sajor caju* mushroom. Both the mushrooms contained good amount of water-soluble vitamins namely, thiamine, riboflavin and ascorbic acid. The amount of ascorbic acid (4.43%) was almost double in *Pleurotus sajor caju* as compared to *Agaricus bisporus* mushroom (2.25%).

**Keywords:** Mushroom, *Agaricus bisporus*, *Pleurotus sajor caju*, vitamin, mineral

### 1. Introduction

Mushrooms are one of the marvelous food items which are cultivated in many parts of India and commercially available throughout the year. Mushrooms have been used both as a food as well as medicine since ancient civilization. They have gained wide popularity as nutraceuticals owing to their higher nutritional and medicinal value as well as their ability to grow on agricultural wastes. The disposal of agricultural waste is of the primary concern now a days. Mushrooms helps to overcome this problem as they need organic matter to grow. They secrete enzymes to digest surrounding foodstuff and to get nutrients from organic matter, which is generally called as compost. The nutrients absorbed by the mycelium out of decaying organic matter accumulate and get transformed into various constituents of fruit body. As a result, nutritional value of mushroom largely depend on chemical composition of the compost which is a mixture of wheat straw, paddy straw, rice straw, rice bran, banana leaves, cotton straw, cotton seed meal and nitrogen supplement [1]. The cultivation of mushroom does not compete with food crops for land and they help in providing ecofriendly solution for proper recycling of agricultural wastes. Therefore, mushroom production is being encouraged in India [2].

Mushrooms are rich source of proteins and can be used as alternative source of meat for vegetarian population which is quite dominant in India. The protein content generally ranges between 20-30% by dry weight [3, 4]. The use of mushrooms as a food item is advocated because the protein content in most species is higher than in most vegetables, the cultivation takes a short time and it is inexpensive as fertilizers are not needed [5]. They are low in fat content and high in fiber. Besides, studies have shown that mushrooms

are rich in polyunsaturated fatty acids and linoleic acid being the predominant one [6] which makes mushroom a preferred food for persons suffering from diabetes, heart disease and hypertension.

They have high contents of vitamins and minerals, which act as protective foods. As compared with vegetables, mushrooms have been found to contain reasonably higher amount of many minerals especially potassium, phosphorus, magnesium, copper and zinc [7, 8]. Potassium is an important mineral that helps in the maintenance of fluid and control blood pressure. Phosphorus along with calcium forms the structure of our teeth and bones. Mushrooms contain many essential vitamins including thiamine, riboflavin and ascorbic acid.

There are about 38000 varieties of mushrooms known to exist; however, about 100 of these are considered edible [9]. In India, three species of mushrooms namely *Agaricus bisporus* (white button), *Pleurotus sajor caju* (dhingri) and *Volvariella volvacea* (paddy straw) mushrooms are commercially cultivated in many parts of India. Annual production of mushrooms has been estimated to be 40000 MT. *Agaricus bisporus* contribute 80-85 per cent, *Pleurotus* species contribute 15-19 per cent and other varieties contribute 1 per cent of total production [10]. The present study was conducted to evaluate the vitamins and minerals in *Agaricus bisporus* (white button) and *Pleurotus sajor caju* (dhingri) mushrooms.

### 2. Material and Method

#### 2.1 Procurement of Material

Fresh mushrooms were procured from the Department of Plant Pathology CCS Haryana Agricultural University, Hisar (INDIA). The samples were cleaned of dust and other



(RESEARCH ARTICLE)



## In-silico molecular docking study of some n-substituted thiazoles derivatives as FabH inhibitors

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### Abstract

Heterocyclic compounds with thiazole moiety are one of the most promising compounds in the medicinal chemistry possessing numerous therapeutic activities. The present was designed to study the high throughput in silico screening of 10 designed 2-phenyl-amino thiazole derivatives as a potent FABH inhibitor in Molegro virtual docker software (Version 6.0) using 3IL9 as PDB. The docking results showed mol dock score of -90.94 with four hydrogen bonding for the standard drugs griseofulvin, while on the other hand, N-substituted thiazole derivatives S2, S5, S6, S7, S8, and S9 exhibited excellent mol dock score, ranged from -102.612 to -144.236, hydrogen bonding (4-10), and docking score ranged from -104.873 to -143.593. Similarly, another in silico study was done using online PASS software and the compounds S1, S2, S5, S6, S7, S8, and S9 have Pa ranged between 0.310 to 0.411 and showed good antibacterial activity whereas, compounds having Pa ranged between 0.216 to 0.334 demonstrated potent antifungal activity when compared to standard drugs. Thus, the present study affirmed the significant antimicrobial potential of some designed N-substituted thiazole derivatives based on their mol dock values and other parameters when studies in silico and the obtained results will provide data support and offer perspectives in future researches to develop potent antimicrobial agents from these N-substituted thiazole derivatives.

**Keywords:** Antimicrobial; Antifungal; Thiazole; Molecular Docking; FabH Inhibitors

### 1. Introduction

Thiazole, a five-member ring has molecular formula  $C_3H_3NS$ , indicating the presence of sulfur and nitrogen atoms, this ring plays a very crucial and important role amongst heterocyclic compounds [1]. Thiazoles can be synthesized in the laboratory by using the well-known Hantzsch process and also founds in natural sources likes vitamin B1 or marine sources [2,3]. Thiazoles containing compounds have different biological activities like antibacterial [4], anticancer [5], antimalarial [6], antifungal [7], anti-inflammatory [8], antiepileptic [9], anti-oxidants [10].

#### 1.1. Docking studies

Molecular docking is defined as a technique for checking drug molecule bio-molecular interactions for the discovery of new drugs as well as a new use of the standard drug. This technique also provides us with a mechanistic study point of view and helps molecule (ligand) to bind with the specific receptor of the target at a specific region of the DNA/protein (receptor) [11]. The docking technique gives information about free energy, the stability of complex along with the binding energy of a definite compound. Molecular docking is very useful to forecast the outcome of the ligand-receptor complex [12]. Molecular docking is used to evaluate the exact confirmation of the ligand-receptor complex with an objective of least binding energy. The docking software forecasted the various parameters of binding free energy in terms of the hydrogen bond, electrostatic, torsional free energy, dispersion, and repulsion, desolvation total internal energy, and unbound system's energy [13]. Discovery studio software helps in preparing ligand in PDB format, and by

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**GENDER EQUALITY AND PARTICIPATION IN POLICY MAKING WITH  
SPECIAL REFERENCE TO INDIA AND AFGHANISTAN**

\*Mohammad Qais Rezvani

\*\*Prof. Nirmala Chaudhary

\*\*\*Dr. Ragif Huseynov

\*\*\*\*Vikram Singh

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**Paper Received:** 14.12.2020 / **Paper Accepted:** 30.01.2021 / **Paper Published:** 01.02.2021**Corresponding Author:** Mohammad Qais Rezvani; Email: rezvaniqais@gmail.com; doi:10.46360/cosmos.et.xxxxxxx**Abstract**

The paper deals with the gender equality and participation in policy making with special reference to India and Afghanistan. Gender inequality is the most persistent and pervasive global problem of the 21st century militating against the attainment of sustainable development in patriarchal societies. Thus, the research focused on analyzing how society perceives the concept of gender equality, participation and women empowerment, factors that militate against the achievement of gender equality in the society and its role in sustainable development. In gathering information, the study based on theoretical concepts and also develop a framework based on an in-depth literature study. The paper ties the theoretical interpretation of current various knowledge sources used by farmers to the conceptual model system. Basically, in this paper, we have studied policies and review quality research papers on the topic gender equality and participation in policy making with special reference to India and Afghanistan. And the source of information gathers based on secondary information and interpret gathered information on basis of websites of government and organizations India and Afghanistan. The findings of this paper indicate that gender equality has positive economic consequences in decision-making, it improves gender participation in community development programmes and leads to healthy families and increased food productivity. When women are highly qualified, more responsible and less corruptible, this causes efficiency gains to emerge. The paper concluded that gender equality, participation and women empowerment are essential tools in the achievement of reduction of discrimination which help to increase efficiency and consequence to sustainable development in both countries India and Afghanistan.

**Keywords:** Gender Equality, Gender Participation, Policy Making, Afghanistan, India.**Introduction**

Promoting equal rights among the sexes has been particularly difficult in countries with long-standing cultural traditions which support discrimination against women in all sectors of life. While policymakers have ample political will to enact policies to empower women in such contexts, they are often inadequate to alter gender norms which are profoundly inherent.

UNESCO (2003) considers gender equality to be a state of equal conditions for women and men to meet all their human rights and contribute to economic, social, cultural and political changes, as well as to benefit from them. In addition, UNESCO (2000) also describes gender equality as fair treatment between men and women in the development of personal skills and the unrestricted option of stereotyping, rigid gender roles and

biases. Gender equality may then be taken from the aforementioned meanings in order to refer to the fair appraisal of and the social role played by similitude and disparities between men and women. Gender equality is an important catalyst for progress of every society so both men and women should be able to take an equal part in society and the country as a whole (United Nations, 2014).

The systematic oppression and human rights violations of women and girls in Afghanistan are continuing. It is one of the least favorable countries to the Gender Gap Index and one of the lowest rates in the world is literacy for women. Abuse towards women and girls is rampant and the majority of the population is not attending school.

However, the Afghan population accounts for 50% of women. For them development implies for all

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## Higher education: issues, challenges and suggestions

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### ABSTRACT

This paper introduces the notion of holistic education into the context of higher education eco-systems. The study intends to conceptualize the theme and list out issues and challenges present education system faces with intent to connect with a wider set of teaching and learning paradigms to upgrade the capabilities of higher education eco-systems. Study recommends the need of combining experiential based learning (EBL). The study also recommends the changes needed to be adopted at this time in higher education.

**Keywords:** holistic education, teaching and learning paradigms, combining experiential based learning, pedagogy

### INTRODUCTION

#### 1.1 Present Education system:

In order to promote economic and industrial development in a country, the essential requirement is the capacity to develop skilled manpower of good quality in adequate number. It is pertinent to mention here that at the beginning of India's independence, there were 20 universities and 591 colleges while student's enrolment at the tertiary level of education was 0.2 million. After independence, the growth has been very impressive. India now possesses a highly developed higher education system that offers facility of education and training in almost all aspects of human creation and intellectual endeavours. India's higher education system is the third largest in the world after China and United States in terms of enrolment. India educates approximately 11 per cent of its youth in higher education as compared to 20 per cent in China. The education commission set up in 1964 under the chairmanship of Dr. D.S. Kothari (Kothari Commission) had recommended that government should spend at least 6% of its gross domestic product (GDP) on education. However, in over 50 years, we have been able to achieve only half the target. The Knowledge Commission additionally recommends an increase of at least 1.5% of GDP for higher education out of a total of at least 6% of GDP for education overall. The main governing body at the tertiary level is the University Grants Commission (India), which enforces its standards, advises the government, and helps coordinate between the centre and the state. Universities and its constituent colleges are the main institutes of higher education in India. The prospects and development in the higher education sector in India needs a critical examination in a rapidly globalising world. Expansion, inclusion and excellence were the three objectives of higher education policy of Government of India. The government had taken many steps to increase student enrolment in higher education and quality improvement in higher educational institutions. Keeping in view The Government has constituted a Knowledge Commission to suggest measures to alleviate the problems that higher education sector is afflicted with and make India a Knowledge super power in the global economy.

### 2. REVIEW OF THE LITERATURE

David Kember et al (2007) reported that graduates required kind of comprehensive skills needed for permanent learning. The objective of this study was to examine the process for its evolution. The structural equation model (SEM) was used to test the hypothetical model with 1756 students in a university in Hong Kong. To triangulate against this model and to characterize the learning environment

## **An Evaluation of the Scales Adapted for Examining the Job Demands-Resources (JD-R) Model in an Indian Policing Context**

Anil Kumar and Sarang Narula

Accepted Manuscript; listed as Forthcoming Article (available for purchase for the purposes of research, teaching, and private study only) at:

<https://www.inderscience.com/info/ingeneral/forthcoming.php?jcode=ijbg>

- **An Evaluation of the Scales Adapted for Examining the Job Demands-Resources (JD-R) Model in an Indian Policing Context** 

by Anil Kumar, Sarang Narula

**Abstract:** The paper aims at documenting an evaluation of Hindi adaption of measurement scales for examining the job demands-resources (JD-R) model a framework for observing the two facets of work-related well-being (i.e., burnout and work engagement) along with their correlates. Using a cross-sectional design, the study presented the measurement items to 1,600 police officers in an Indian state, Haryana. Exploratory and confirmatory factor analysis assessed the measurement items and scales in terms of dimensionality, reliability, and construct validity. This study findings suggest reliable and valid scales to examine the two (health impairment, and motivational) processes of the JD-R model, with an integration of personal resources in Indian policing context. For the policy-makers and particularly for police organisations, the study, a novel one in Indian context, is likely to have important practical implications by offering suitable scales to monitor the work-related well-being along with their correlates.

**Keywords:** job demands; job resources; burnout; work engagement; personal resources; JD-R model; dimensionality; reliability; construct validity; police officer.

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# Fungal Remains from the Subathu Formation of Dogadda, Uttarakhand, India

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## Abstract

The present paper deals with the new record of fungal remains from the Subathu Formation exposed along Dogadda-Kotdwar road section in Dogadda, Uttarakhand. The assemblage is composed of 13 species assignable to 10 genera. The important genera are *Callimothallus senii*, *Haplopeltis mucoris*, *Haplopeltis sp.*, *Parmathyrites sp.*, *Phragmothyrites eocaenicus*, *Plochmopeltinites sp.*, *Spinosporonites saxenae*, *Spinosporonites angularis* and *Trichothyrites padappakkarensis*. The presence of microthyriaceous fungi in dominance suggests that the region experienced a warm and humid climate during the course of sediment deposition with thick vegetation providing suitable substrates for the growth and proliferation of fungi. Their presence depicts the prevalence of moist tropical type of vegetation during deposition in the area. The present fungal assemblage is assigned Late Palaeocene-Middle Eocene age.

## Keywords

Fungal Remains, Subathu Formation, Palaeoclimate, Dogadda

## 1. Introduction

Nowadays, fungal remains studies along with spores/pollen provide significant records for palaeoenvironmental interpretations. Their diversity and frequency pattern help in deciphering the sequential history of changes which occurred in palaeoclimate and palaeo habitat of the area.

The term "Subathu" was initially coined by Medicott in 1864. It represents the oldest sequence of the Palaeogene succession of Himalayan Foreland Basin succession. It has wide geographic distribution and attains its maximum thickness in N-W direction while pinches out in S-E direction. In Northwestern Himalaya, its thickness varies from about 400 m in Himachal Pradesh to about 175



## THEORISING THE RELATIONSHIP AMONG COMPULSORY CITIZENSHIP BEHAVIOUR AND CITIZENSHIP FATIGUE AND ORGANISATIONAL CITIZENSHIP BEHAVIOUR

Meenakshi Ahlawat\*  
Ajay Suneja\*\*

### ABSTRACT

Organisations have long been interested in positive behaviours like Citizenship Behaviour. Over the long, the studies have only focussed on the positive outcomes of Organisational Citizenship Behaviour. But recently, some researchers have raised the negative side of Organisational citizenship behaviours. The study here adds to that series and make an attempt to sensitise the management about the negative effect of the OCB on the functioning of the organisation. It talks about Compulsory Citizenship Behaviour, Citizenship fatigue and their relationship with OCB. The study further proposes a research model that can be empirically proven in future studies. It later discusses the managerial implication of this study and directions for the future research.

**Keywords:** Compulsory Citizenship Behaviour, Organisational Citizenship Behaviour, Citizenship fatigue, Abusive supervision

### Introduction

Katz (1964) argued that solely relying upon the blueprints of prescribed behaviour make the organisation vulnerable, and reasoned that for any organisation to succeed, it requires not one, but several patterns of behaviour from most of its members. He further asserted that employees must carry activities innovatively and spontaneously to achieve organisational objectives that go beyond their role specifications. Based on his arguments, Organ along with his other colleagues (1988) coined the term- 'Organisational Citizenship Behaviour (OCB)' which is defined as "individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization." (Organ, 1988: 4). The researchers from various disciplines show a keen interest on OCB and related concept (Brief and Motowidlo, 1986; Dyn., 1994; Organ and Ryan, 1995; Werner, 2000; Podsakoff et al., 2000; William and Anderson, 1991, Schnake et al., 1991). These are functional behaviours that transcend the contractual set boundaries. One cannot be punished

or rewarded for such behaviours. Bolino et al. (2012) identified OCB as a prototypical Positive organisational behaviour. Organisations are encouraged to promote their employees to actively and voluntarily engage in such type of acts. (Allen and Rush, 1998, Mackenzie et al., 1993; Podsakoff et al. 2000; Koys et al., 2001; Podsakoff and Mackenzie, 1994; Castro et al., 2004; Hong, 2008).

But what happen when employees are forced to indulge in such behaviours? When management with a desire to create a pool of "Good Citizen" opt for forceful coercive means? This coercion deviates the citizenship behaviour to compulsory citizenship behaviour (Vigoda-Gadot, 2006). The very essence of OCB i.e. "free will" get lost. They are externally forced to engage in such acts. The employees who are not in a position to say 'no' to their high authorities out of the fear of its negative consequences, left with no choice but to perform such activities that they would not have otherwise do. The compulsion creates a negative attitude among employees from the very beginning. It may benefit the organisation shortly but in long run, such compulsion causes dissatisfaction, high

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# EFFECT OF DEMOGRAPHIC VARIABLES ON EMPLOYEE ENGAGEMENT- AN EMPIRICAL STUDY

Ms. Meenakshi Ahlawat\*  
Dr. Ajay Suneja\*\*

## ABSTRACT

Engagement is a strategic tool that is vital for the survival and success of an institution. Institution should nurture and develop the high engagement level among its people. The aim of this study was to determine the level of employee engagement displayed by the Academic faculty teaching at Higher Education Institutions. It also assessed the effect of demographic variables (viz gender, job tenure, marital status and job type) on the level of employee engagement. The data was collected using simple random sampling method from 249 respondents. The results of the study reveals that the academicians showed high level of engagement. The study also found a significant difference in the level of engagement on the basis of marital status and gender.

**Keywords:** Employee Engagement, Demographic Variables, Organisational Efficiency

## INTRODUCTION

An Organisation constitute three kinds of employees- Engaged, Disengaged and Non-Engaged employees. For an organisation to grow in long run, it requires engaged set of employees. Engaged employees are the one who are dedicated, sincere, enthusiastic and are intellectually and emotionally attached to their jobs. They are instrumental in creating a positive working culture in their organisation. They transcend the existing boundaries to reach their true potential that not only help them in their self- development but also enhance the overall efficiency of the organisation.

Conceptualised by Kahn (1990) and refined by various scholars, engagement is categorised as the positive behaviour outcome of employees. Engagement has garnered great deal of attention due to its well-established link with positive organisational outcomes. Anitha (2014) asserted that employee engagement acts as a great tool for an organisation to gain competitive advantage over others. It creates a positive psychology in the mind of the employees who believe that their personal ability leads to positive outcome for the organisation. They successfully accomplish their given tasks and are adaptive to the changes happening in the surroundings. Ghadi et al. (2013) also emphasised that an organisation should constantly focus on creating and sustaining higher engagement level among its employees. According to Motyka, (2018), the extant literature related to employee engagement is dominantly conducted in western culture and Parnell (2003) opined that a vigorous and thorough study across the different culture is required before overall validation and generalisation of any construct and management model.

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## Indianization of English Language in Raja Rao's *Kanthapura*

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Kurukshetra (Haryana)

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### Abstract

However, Albert C. Baugh, the English critic thinks that "Few people ever master a language not their own, and writings done in an alien speech rarely rise above the level of school exercise." Now and then, it is true, some geniuses transcend these limitations and create literary works of universal merit. Indeed, writers like Joseph Conrad, Chinua Achebe, Mulk Raj Anand, Arbindo Ghose, R. K. Narayan and Raja Rao and many others have created an enjoyable body of literature in a language not theirs own. Raja Rao's profound and philosophic knowledge of Indian life, his passionate attachment with the Indian National Movement and his literary quest to search a soothing and inspiring language for delineating his thought have got expression in his debut- *Kanthapura*. The novel covers the very volatile phase of Indian freedom struggle between Gandhi's Dandi March in 1930 to Gandhi- Irwin Pact in 1931. The form, technique and sensibility of Raja Rao's *Kanthapura* are truly Indian and have their roots in the soil and even draw substance from it. But mere local colour does not guarantee genuine 'Indianness', if the sensibility, the form and technique through which it expresses itself have no vital connection with the living Indian tradition which has changed radically over the years and has yet preserved the imperishable elements in its still valid past. Raja Rao does not hesitate to use invective language when the occasion demands it. The present research paper is an attempt to deal with the indianization of English language used by Raja Rao in his debut novel *Kanthapura* (1938).

**Key-words:** National movement, tradition, freedom struggle, Indianness, linguistics, Indianization of language.

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Like R.K.Narayan and Mulk Raj Anand, Raja Rao is a stalwart figure in the world of Indian English fiction. His literary product and philosophical strand has brought him the status of a classical writer. His fictional technique derives from the hoary wisdom and time honoured traditions of India. His intellectual make-up was not purely Indian because from the age of twenty five he was living outside India. But he wanted to understand from Indian point of view the western attitude to life. Rao consciously tried to write typically Indian novels by using Indian locale and narrative style as in the case of his first novel *Kanthapura*. The novel basically depicts the impact of Gandhi Movement on a remote village in the southern part of India called Kanthapura. What was happening in that small village was happening in many other parts of the country at that time. It depicts the brutality to which the Indian people were subjected by the foreign rulers. The novel gives a graphic description of India's rural society and vividly describes the Indian customs and traditions. It deals with a specific period of the history of India and basically deals with the impact of non-

**Mulk Raj Anand's Art and Concerns: A case of *Two Leaves and a Bud***

**Bhawna Rooprai**  
Research Scholar  
Department of English, K.U.K.

**Abstract**

Among the Indo- Anglian writers, Mulk Raj Anand, R.K. Narayan and Raja Rao hold a place of distinction not because of their thematic concerns and their own conviction, but also for their keen and penetrating endeavour to establish their motives with a new kind of form which came to be known as Indian English or Pidgin English. According to Meenakshi Mukherjee, Mulk Raj Anand is the first conscious experimenter who exhibited his skill in handling the themes which were very close to human heart. It may indeed be true of all creative writers that they seek primary inspiration from their personal life and their life's material into literature not only differs from writer to writer, but also depends upon each writer's real motives and his literary beliefs. Of all great novelists in English, Anand is perhaps one whose life is most closely and most obviously connected with his work. He is a proletarian humanist so he does not believe in extravagance, lavishness and luxury. He believes in the theory of 'Arts for life sake'. He has been conscious of the need to revolutionize and inspire the lowest social or economic class of a community. He poured all his energy and efforts into his pen to write for the proletariat to bring dignity to their lives. The present research paper is an attempt to study Anand's art in the novel *Two Leaves and a Bud*, in which we see the injustice of the British Raj, the misery and suffering of Indian masses and economic exploitation of the workers by the colonialists.

**Key-Words:** Realism, Art for art sake, Colonialism, exploitation, Life's journey, Odyssey.

Among the Indian novelists writing in English, Mulk Raj Anand is pre-eminent for the seriousness and fullness of his commitment to bring about a new Indian society. He is a novelist with an idea of himself and a conception of life which have been evolved from many influences, mainly western European, but with Indian sanctions and traditions. He has to his credit a score of novels, hundreds of short stories, a number of books on varying themes and a host of essays and articles on different subjects. C.B. Christesen's observation is more extensive:

*Mulk Raj Anand possesses that special kind of talent which helps to fertilize the living mind and gives it the sense of base on which to build. Such men are rare, in any country. Standing in his own permanence, professional, dedicated he has sought to interpret in terms of art the more of his own people. Above all, he has insisted on the need of values- the civilizing values which help nourish an enlightened and humane society. This has been an essential part of Mulk's character; and the aspirations to which he has given expression are now part of India's cultural and intellectual history. His work stands as a nobly proportioned edifice. (50)*

He chose to write in English but he wrote as an Indian writer who merged his voice with that of the masses in India. In his outstanding novel *Two Leaves and a*



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## Burdening Ties: Understanding Family Relationships via Upamanyu Chatterjee's *The Last Burden*

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**Abstract:** Before 1980s, Indian English Fiction demonstrated the social issues like poverty, untouchability, the independence struggle, the impacts of partition, the atrocities done in the name of religion and so on. Yet, an abrupt change took place in 1980s when the novelists shifted their focus to the topics like the clash between tradition and modernity, between faith and realism and between familial relationships and individual identity. Upamanyu Chatterjee's *The Last Burden* has depicted how the family relationships have become a burden for people who always place their individual happiness above the happiness of one's family. These days, the love and affection of a family is a rare thing to witness. Parents work tirelessly in order to provide a comfortable life to their children. The same parents, after getting old, turn into a burden for their children. The husband-wife relationship also appears to lose its promise of loving forever. Even the love among siblings is no more the same as it used to be.

**Key Words:** Family, Burden, Love, Relationship, Individual Identity, Realistic.

**Introduction:** Before 1980s, Indian English Fiction demonstrated the social issues like poverty, untouchability, the independence struggle, the impacts of partition, atrocities done in the name of



## Geo-spatial Approach to Land Transformations: A case study of Gurugram District

Suman Chauhan, Ph.D. and Sunil Kumar

### Abstract

*In recent years, models of land use change and urban growth have become important tools for planners, economists, ecologists, and resource managers. In most models, future land use changes are forecasted based on past development patterns and expansion to periphery. The main objectives of this study are to examine the land use/land cover and analyze the land transformations in various categories in Gurugram District, Haryana. This paper presents a Land Transformation Model of land use change based on remote sensing data from Lands at Satellite Imagery and geographical information system. The modeling results are based on the land use/land cover pattern, which shows 39.16 percent of vegetation cover, 76.36 percent of land under other category and 4.92 percent agricultural land has significantly decreased whereas built-up area has increased significantly i.e. 1,075.83 percent from 1990 to 2017. 6,712.74 hectare area has increased in land under built-up area in the span of 27 years.*

### 1. INTRODUCTION

Land use / cover change is one of the most important indicators in understanding the interactions between human activities and the environment. Both natural and anthropogenic factors are responsible for LULC change. The human modification in LULC around the world has recently appeared as unprecedented and is profoundly affecting the earth's ecological system (Lambin et al. 2001). This phenomenon is particularly common in developing countries, where widespread LULC change is driven by socio-economic development, resulting in pervasive environmental degradation, particularly landscape fragmentation (Grimm et al. 2008). Information on LULC reflects the possibilities regarding the optimal use for the selection, planning and implementation of schemes to meet the increasing demands for basic human needs and welfare. LULC information also monitors the change in land use due to increasing population. Remote sensing is an important tool in LULC mapping, which further helps in revealing the change in land use. During the last five decades, a series of events have occurred in India such as the Green Revolution in 1960s and economic reforms of the 1990s, which have brought about unparalleled changes in the urban development of Indian cities (Gupta, 2011). Development did take place, although slowly, but with a social cost (Walker and Solecki, 2004). Urbanization with different pace is taking place

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## **The Farm Widows: Unseen Victims of Agrarian Distress**

**Kiran Mann**

Suman Chauhan, Kurukshetra University, Kurukshetra

### **Introduction:**

The agricultural sector of the Punjab has been passing through a very difficult phase since 1997. First, the productivity of cotton failed, leaves the entire cotton belt under stress and then the support prices of the paddy and wheat are not in proportion to the total inputs costs (Padhi, 2009). As a result, the agro-economic distress of the farmers' have increased manifold in the state which is manifested to a large number of farmers' suicide in the region. Suicide is such a complex phenomenon which is largely linked with the economic, social and psychological stress of the victims as well as their family members (Kale, Mankar and Wankhade, 2014). A joint study conducted by the three prestige universities of the state, commissioned by the Punjab government revealed that over 16,000 farmers and agricultural labourers took their lives in the state between the period 2000- 2015.

The high incidences of farmers' suicide in Punjab has resulted in an increasing number of single women headed households (The Citizen, 2020). The condition of these Women after their husband's demise is worse than other members of their families. On one hand, they have to cope-up with the psychological setback of sudden loss of their husbands and on other hand, they have to counter with the adverse economic impacts of agrarian crisis added all kind of responsibilities of members of their family. In many cases, they have to face the denial of their legal share in their in-laws' properties such as marital home and agricultural land. Apart from the grief, psychological trauma and severe economic hardship, they have to live in great social insecurity (Prakriti, 2017).

### **Objective:**

The present study aims to reveal the socio-economic profile; especially to have an in-depth understanding of their livelihood problems and challenges, of those women whose husbands have committed suicide.

**SPATIAL PATTERN OF SOCIO-ECONOMIC  
DEVELOPMENT IN MAHARASHTRA**Kajal Rani\*  
Dr. Suman Chauhan\*\***ABSTRACT**

Socio-economic development is the process of social and economic development in the society. It is measured with the indicators, such as GDP, life expectancy, literacy and levels of employment, etc. The present study focuses on the spatial pattern of socio-economic development in Maharashtra in 2011. A set of 9 indicators have been grouped into three broad categories of socio-economic indicators were selected. The results shows that in 2011, there was a large inter district variation in concern to the socio-economic development of Maharashtra. Districts like Mumbai, Mumbai Suburban, Thane and Pune are depicting high level of socio-economic development, whereas it was least in Nandurbur, Gadchiroli, Jalna districts.

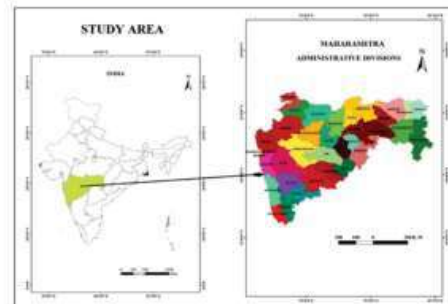
**Keywords :** Spatial, Socio-economic, Development & Composite Score.

**Introduction**

Development is a continuous process that occupies rearrangement and relocation of the whole economic and social system. It needs a balanced human resource development in the country. Development design has been taken up in the country in a planned way with the main objective of good quality of life of the people by the essential needs as well as improving their social and economic security. The socio-economic development is referred to improvement within the lifestyles of the individuals through improved education, income, skill development and employment. It can be measure with indicators such as, gross domestic product, life expectancy, literacy and levels of employment. Social development is a procedure, which leads the transformation of the social institutions in a way, which improves the capability of the society to meet the aims. Economic development is the development of economic wealth and resources of the nations or regions for the well-being of the individuals. Socio-economic amenities play an important role in the process of development of a region. The level of development at local/micro level will

also help in identify where a given local place stands in relative to others.

Socio-economic development and empowerment of the individuals leads to progress and wellbeing in all domains. Development of literacy skills and acquisition of education would help the individuals to obtain employment opportunities and it would help them generate a source of income and sustain their living conditions.

**Study Area****Figure- 1**

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## Skilling & Reskilling in BFSI Sector: Need, Relevance and Challenges

Dipika<sup>1</sup>  
Dr. Ajay Solkhe<sup>2</sup>

India's BFSI sector is about to undergo another major transformation. The effectiveness of daily operations has the potential to improve with the integration of advanced technical solutions such as Artificial Intelligence (AI) and automated solutions. According to a recent McKinsey report, by 2022, machines will be performing over 30% of the tasks in the BFSI industry. While some existing manual job roles may be displaced as a result of this, it also suggests that some other job profiles may develop into tech-centric roles. According to the Employability Survey 2019, 80% of Indian engineers are still unfit for knowledge-based jobs. Only about 4.6 percent of job applicants in India have excellent coding skills. Furthermore, graduates from all fields are unprepared for the new wave of tech-based job positions that are sweeping the financial services industry. As a result, even though BFSI firms recognise the shift and respond by creating new jobs, the supply of these positions falls short of the necessary standards. The 2016 Financial Services and IT Study by Peak 10 (now Flexential) showed that, despite the fact that over 75% of financial institutions had taken the initiative to create new IT-based roles in recent years, around 50% of them found it difficult or extremely difficult to recruit the right candidates for those positions. According to the National Skill Development Corporation (NSDC), the BFSI industry in India will employ 1.6 million people by 2022. While about 20% of these would be new jobs, nearly half would be existing jobs that would require reskilling due to technological advancements. Reskilling existing employees to fill new roles is one of the main challenges that BFSI companies face, especially as innovative technological solutions promise to change the face of banking and financial services. Despite the looming issues surrounding reskilling, a sizable portion of recruiters are failing to give it the attention it deserves. The present paper is an exploration of need of skilling and reskilling for India's BFSI Sector, in addition will throw light on both trivial issues underlying this in coming years.

**Keywords:** Skilling, Reskilling, BFSI Sector, Industry 4.0.

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## Access and Inclusivity through Financial Assistance Schemes in Higher Education: An Evidence from Haryana

Dr. Ajay Solkhei

In India, there are many types of scholarships schemes from primary to higher education, technical, vocational education for SC Students. Here, all such scholarships schemes are a part of Welfare Schemes for particular Social Groups such as SC, ST & OBC or Minorities. Availability of Scholarships/ Educational Incentives/ Bursaries/ Grants/Educational Loans/ other forms of financial support for socially as well as economically disadvantaged students that help to reduce the costs of higher education for them and subsequently proves instrumental in enabling them to have higher education which certainly raises their participation in country's higher education which will then be adjudged as truly inclusive society. The role of financial assistance schemes/scholarships is quintessential not only for educational development but also for economic and social progressions. But everything is not achieved just by institutionalising scholarships schemes but much depends on its effective administrative implementation by bureaucratic structure. The present study is an attempt to analyse the effectiveness of Government's various types of schemes specifically targeting the socially disadvantaged strata's of society in context of Haryana State. Both centrally as well as state sponsored schemes has been covered in this study.

**Keywords:** Scholarship, Socially disadvantaged, welfare, scheduled caste, inclusive, equity and access.

"Education is something which ought to be brought within the reach of everyone. the policy therefore ought to be to make higher education as cheap to the lower classes as it can possibly be made. If all these communities are to be brought to the level of equality, then the only remedy is to adopt the principle of equality and to give favoured treatment to those who are below level."

-- B. R. AMBEDKAR

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## Impact of Poll Promises and Political Interference on Financial Performance of Power Distribution Companies in Haryana, India

Kamaljit Singh\* and Simmi Vashishtha\*\*

### ABSTRACT

This study investigates the impact of political parties' manifesto announcements on Haryana power distribution utilities' financial performance from 2014-15 to 2018-19 using various ratios and parameters. The authors observe that the interference of parties has affected the financial performance of Haryana power distribution utilities. As the Uday scheme period is over, power distribution companies have again started to incur losses leading to concomitant burden on the state exchequer. The article provides food for thought for the political leaders, policy makers as well as public administrators. Academics can take the study further to explore the scenarios in other states of India.

**Keywords:** Political Parties, Power Distribution Companies, Vote Bank, Haryana, India

### INTRODUCTION

Undoubtedly, the power sector plays a vital role in the economic growth of India. It is one of the pillars on which a country's economy is placed (Singh, 2020). This becomes the government's obligation to take the utmost care of this sector because any damage or collapse of this pillar can affect India's vision of the five trillion economies. To strengthen and ensure the power sector's operational and financial viability, the Ministry of Power, India, started the unbundling of the State Electricity Boards (SEBs). The ministry implemented these policies based on the suggestions from experts, researchers, and of course, learned from other nations (Singh and Kaur, 2020). The State Electricity Boards were unbundled into generation, transmission, distribution utilities and regulated by the electricity regulatory commission. Since then, the Ministry of Power, Government of India, in collaboration with every state government, makes available electricity to every household at affordable prices. It also

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## Dynamic Aspect of Two Dimensional Single Server Markovian Queuing Model With Multiple Vacations and Reneging

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### Abstract:

This work deals with “the dynamic analysis of Two-dimensional M/M/1 queuing model with reneging and multiple vacations”. Customers renege according to negative exponential distribution. Dynamic aspect is more appropriate in understanding the behaviour of the system. Two dimensions represent respectively the number of arrivals at, and departure from, the system at a given time. The system starts with “i units at the time “t=0”. Allowing server to take vacation makes queuing model more feasible in studying the waiting time system appropriately. For example in ticket booking counter, messages to be delivered, patients form queue to have appointments before the clinic open or arrival of doctor. The solution for this model is obtained recursively with the help of Laplace transformation and results are achieved without involving complex functions.

Keywords: Two-dimensional state model; Markovian Queuing system; Transient analysis, multiple vacations; Laplace transform, Reneging.

### 1. Introduction

Queuing system is one of the most active research topics in operations research over the past few decades due to its wide practical application in many areas such as production, supermarkets, telecommunication and many more. Different situations generate different type of queues e.g. vacations queues, cyclic queues, tandem queues and so on.

Classical M/M/1 queue; obtained on the basis of one dimensional state model represents the number of customers in the system at a given time and it does not provide any information about the number that joined the system or is served upto that time. Thus, to study the queuing system more explicitly for arrivals and departures there is another technique known as Two Dimensional model. Pegden was the one who introduced the concept of two dimensional for classical M/M/1 queue [1]. Later on many authors have worked on this idea for obtaining transient solution.

Vacation queues make system more pragmatic and flexible in study of waiting line system e.g. call centers with multitasking employees, border crossing situation etc. Single vacation, exhaustive vacation, multiple vacations are some sort of vacation policies found in literature. Cooper was the first to study vacation models and defined vacation as “when the server finishes serving a unit and finds the system empty, however, it goes away for a length of time called a





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## Prediction of Two-Node Tandem Queue with Feedback Having State and Time Dependent Service Rates

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**Abstract:** Queuing networks are current area of great research and application interest, in view of their increased applicability in - modelling manufacturing facilities and computer/communication networks, production and assembly lines, hospitals, transport systems, banks and so forth. The present paper develops and analyses a tandem queuing model having two nodes with feedback. Such type of model finds its application in many fields, e.g. telecommunication, inventory, hospitals, traffic control and so on. For example, in hospitals, a patient first visits the doctor and goes through a series of examinations, after which he revisits the doctor for medication. The inter-arrival time is exponentially distributed, whereas the service rate for each node depends on the aggregate of customers in the respective queues and thus follows non-homogeneous Poisson process. After constructing the difference -differential equations, and using PGF technique, we have obtained the joint probability distribution for queue size. Some key measures such as the "average number of customers in queue", "utilization time of each queue", "average waiting time in each queue" are computed.

**Key Words:** Tandem Queues, Feedback, PGF

### 1. Introduction:

There are situations where the departures from one service station (node) form the arrivals to another service station, such queuing systems are called queuing networks. Tandem queues are queuing networks where, service facilities are in series. Taylor and Jackson were credited as the pioneer in the study of sequence of queues in series [1]. Burke proved that the distribution of the output of a queue with Poisson arrival, exponential service and infinite capacity was also Poisson with same mean value as the arrival rate, thus each queue could be treated independently [2]. Shukla and Bhadoriya, Balsama et al. gave an extensive review on queuing network model with finite capacity, work and development on tandem queuing system [3] [4]. Most of the earlier works on tandem were leveraged upon time independent Poisson process. However, it has been found that in many real life situations, the parameters vary with the time.

Newell was the first to consider queue with time dependent arrival rate [5]. Maggu studied tandem queuing model having two nodes having phase type service [6]. Massey et al. studied queuing



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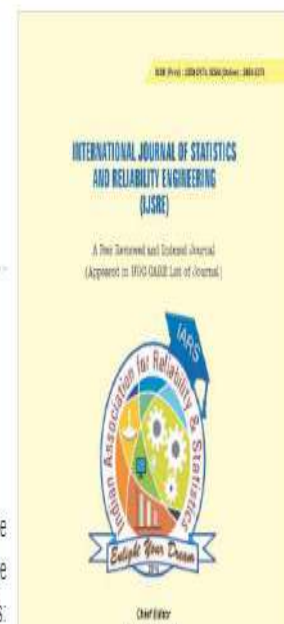
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Availability and Profit Analysis of Coking System of Steel Plant Using Supplementary Variable Technique

Sapna Saini, Jitender Kumar, M S Kadyan

### Abstract

The motive of the current study is to deal with the profit analysis of the coking system of steel plant. The coking system consists of five subsystems: Lorry Car, Coke Battery, Pusher Machine, Rail Car and Quenched. All these subsystems are connected in series and the subsystems- Lorry Car, Pusher Machine, Rail Car and Quenched consisting of single unit. The subsystem Coke Battery contains two units:



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# Stochastic Analysis of a Two Non-Identical Units Redundant System with Preventive Maintenance and Priority

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This paper deals with a two non-identical units (original and duplicate) redundant system subject to preventive maintenance (PM). Initially, the original unit is operational and duplicate unit is held back as cold standby. Both units undergo for PM after a maximum operation time. Priority in operation and service is given to the original unit over duplicate unit. There is a single server who visits the system immediately as per requirement. The distributions of failure time and maximum operation time of the units follow exponential while that of PM and repair times are taken as arbitrary with different probability density functions. Various reliability measures are obtained in steady state by applying the regenerative point technique. Graphs are also plotted to show the trend of Mean Time to System Failure (MTSF), availability and profit of the system model for a particular case. Collapse

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