

A SURVEY ON WATER RESOURCE DEPARTMENT IN CHHATTISGARH

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Abstract:

This paper is focused on water resource management(WRM) with particular reference to responsibility and function of water resource department(WRD)so through this paper researcher can make aware common people and asses the possibilities of water resource development,improvement in water productivity and to save water is more highlited .The role of storage of water by traditional and modern method to increase ground water level for irrigation purpose and solution of water crisis is discussed From last 5 years, a crisis of water has been recorded in the Bilaspur city, specially in the season of summer.To over come from this situation some suggestions are given to common people.Data is collected with help of secondary method through published literature books, newspapers,magazines,journals and websites.

Index Terms: Water resources,WRM,WRD

I. INTRODUCTION

As it is known that India is a country of villages as its principal means of livelihood is still depend upon the agriculture and it is the one of the major part for the employment in india as it is said that agriculture is back bone for Indian economy. According to 2011 census around 1300 million estimated around 61.5% Indian population is based on agriculture the number of farming households is 159.6 million^[2]. India, a south east asian land known for its culture and traditions is build on 3,287,590 km² land with population of 1.26 billion [1]. This study is focused on water resources management for enough crop production sufficient water availability is needed and proper management of water is must for irrigation because it plays a very critical role in the human economic .India has GDP per capita 1,498.87 USD in 2013 and ranked 2nd by GDP contribution by 2015. According to world bank agriculture sector of india is contributes 16% -18% to GDP and 3.7% witnessed growth in 2013-2014 [1].

Chhattisgarh is a growing hub for industrialisation , some of the industries are totally depend upon water .industries

like hydrothermal plant,salt industries ect .hence more and more water is required .Apart from that civilization is also developing in chhattisgarh so lots of domestic needs are increasing day by day.so water resource management (WRM) is must for optimum utilization of water.WRD plays important role in croping effective policies for water resource management(WRM),Hence this theme has been selected to study the role of WRD in water management by which effective plans through suggestions can be given to common people of the city to contribute in water management.

II. PURPOSE OF THE STUDY

Chhattisgarh is one of the fast developing state in the country with rapid growth in various industrial sector and civilization in terms of colonization. These industries use excess water for their operations whereas some like power plants and hydro electric plants utilizes water as their basic input. Rapid colonization of the cities intakes water and also destroy forests results in lesser rainfall. Colonization attracts more people to the cities result in increase in urban population. Due to colonization or development of concrete jungle, water of rainfall did not get absorbed by the ground leads to decrease in ground water level. Apart rice is the major crop of Chhattisgarh which requires excess water as compared to other crops. From last 5 years, a crisis of water has been recorded in the state, specially in the season of summer. To overcome such crisis, effective water management techniques need to be adopted to save water. Through this research paper researcher tries to study the roles and responsibility of the WRD and their plans regarding water management so that suitable suggestions for common people of the city so as to save and effective management of the water resource.

III. LITERATURE REVIEW

The Author in his paper on, —Water demand management – A strategy to deal with water scarcity in Israel: A case study, found that to combat water scarcities in The Middle East, a condition which might accompany the Middle East socioeconomic policies for many years to come is _Water Demand Management, and/or _Water Conservation as well as the _Increase of Water Use

Efficiency [7]. These is important from the conventional supply side management of water to the management of the demand side, producing additional quantities of water for the immediate needs of the society, through the creation of —Virtuall quantities of water, whether by conservation strategies or by increased agricultural and industrial production per unit of water, as well as the import of water intensive agricultural products and decreasing exports of such products.

The author in their working paper [8] on, —Water and urban poor studied that rapid urbanization was responsible for increased urban poverty and greater demand for many utility services in India. The pressure on public water utilities becomes immense, which to a great extent are not able to provide services of good quality for all. The urban poor suffer the most because of the inadequate water supply as they cannot afford the payments that have to be made as coping strategies and neither can they afford to spend time standing in lines. Among the various factors responsible for the poor service delivery the most important is the meager pricing of the water, which discourages investments in the system and prevents the municipalities from adopting any water saving schemes. Since the Governments are either unwilling or unable to raise tariffs and improve cost recovery, the only solution is allowing private participation in the sector. Privatization along with improving cost recovery and encouraging quality and cost innovations will also ensure a more efficient and accountable service delivery system. As for the arguments against privatization of the water sector: the perceived inability and unwillingness of the poor to pay the charges under the privatized system, both are proven to be baseless. The poor do pay and often pay a lot more per liter than the well off even while they do not consume as much as the rest of the population do. Experience has shown that the poor would be willing to pay higher user charges if they were ensured a more adequate and efficient supply. Thus we have privatization as the model means to counter the deficiencies of the current water supply system.

One more author told in their paper [9] on, —An analysis of groundwater vulnerability and water policy reform in India established that water is a basic human need, a finite life support system and a key to prosperity. Unplanned industrialization, urbanization and impact of liberalized import of wastes intended for recycling have adversely affected the water environments in India. This is further exaggerated by lack of discipline and a weak obligation towards conservation and pollution prevention. Measures have to be especially taken to resolve the groundwater problems. While groundwater resources are quite well assessed, overexploitation still occurs frequently. There has been a considerable lack in

implementing existing policies as well as developing new laws and policies.

Author in his paper [10] on, —Rain water harvesting in urban areas and its impact pointed out that urban centers in Indian cities have been facing acute water shortages now-a-days. On one hand there is acute water scarcity and on the other the streets are often flooded during the monsoons. This has led to serious problems with depletion of water table on one side, deterioration of chemical quality of ground water on the other side. Most of the traditional water harvesting structures in cities have been neglected and fallen into disuse, worsening the urban water scenario. One of the solutions to the urban water crisis is rainwater harvesting capturing the run off.

IV. RESEARCH METHODOLOGY

A research was intended to study the work of water resources department and its management with special reference to Chhattisgarh .This study was based on secondary data as it can be very useful to researcher in answering the questions about crisis of water and helpful in managing water resources .so many sources of secondary data is used .

V. WATER RESOURCSE DEPARTMENT IN CHHATTISGARH

Water resource management is focused on planning , distribution and also managing the optimum use of water resources.The water resource management is a sub-set of water cycle management. They use to try for proper planning for distribution of water and has regard to provide the demands for water .Agricultural sector required large amount of fresh water .As the population of CG is increasing very rapidly it consumes more food to feed them all.On the other hand CG is developing and industries and urban developments expand thus scarcity of water is become a serious issue now a day.

VI. NEED OF WATER RESOURCES DEPARTMENT

A. *Over –exploitation of ground water :*

Due to the crisis of water and unreliable canal supplies have forcing farmer to use ground water to irrigate their land .The accessibility to ground water has helped farmers to improve crop yield.Irrigation needs more water fot the production fo crop but private sectors are using water without any limit and there is no restriction and control on their consumption .However, present uncontrolled and unregulated use of ground water is became a serious issue for WRD [3].

B. *Natural calamities and sharp decline in water table:*

Droughts coupled with erratic rainfall pattern are big cause for decline in water table in state. A report of central ground water board (CGWB) findout in last 10 years water table is going down in larger area .Due to this systematic and proper management of water is needed [4].

C. Deforestation (loss of vegetation and wildlife habitat):

“Deforestration” is directly related to clearing and cutting of forest cover or tree plantations in order to accommodate agricultural, industrial or urban use for residential and commercial purpose.so it involves permanent end of forest cover [5].

D. Over population:

Human over population is most impressing issue and there is a great pressure in water and land and silently aggravating the force behind global warming ,water pollution and scarcity,environmental pollution,intensive farming practices and consumption of more ground and fresh water.In an over populated environment,the numbers of people might be increase than the availibilty of essential resourses and material for survival such as transport,water,shalter,food etc.□

VII. SOLUTION OF WTAER CRISIS

- Educate people to use less water.
- Install water saving devices like self closing taps.
- Using natural method of planting tree.
- Use decentralization watercycle system in homes, apartment blocks, campuses and industries.
- Reduce industrial consumption through cycling, reuse and new water efficient technologies.
- Catch the rain water where it falls.
- Implement rain water harvesting in urban and rural areas.
- Restore traditional system of lakes and ponds.

Functions and responsibilities of WRD

- They issue guidelines for optimum development water and also asses the water resources in the state, frame policy for making general plan for complete water sector.
- With the help of research and technology they are trying to bring uniformity in development of water resourses and prepare plans for proper use of water resourses.
- Preparing policy and obtaining resourses for irrigation and drainage work for development of irrigation and command area.

- By the help of conducting investigations and survey, prepare detailed designs and reports for projects and also collect hydrological data and use them in planning projects.
- Policy is also designed for the integrated and planned use of ground water and surface water for irrigation and for other purposes.
- Prepare design and construction of major, medium and minor project and maintaing, testing quality of materials .
- Flood controlling projects is designed.
- Initiating lift and tubewell irrigation schemes.
- To improve irrigation potential they take action regarding it.

VIII. CONCLUSION AND SUGGESTIONS

Water crisis is lack of fresh water to meet the demands of water usage within a region.water shortage is caused by excessive use water due to increase of population and their demand ,urbanisation and industrilisation by clearing forest cover also destroying natural vegetation of environment . This all lead to main reason of water crisis .The major fuction of WRD is the implementation of irrigation projects consisting major ,medium and minor project and their purpose is to provide sufficient water for irrigation and multi-purposes like domestic and industrilisation.To save water rain water harvesting method is used and that water will be used for out door purposes like washing car ,water out door plants and lawn. For indoor purposes like cleaning house,washing, dishes and washing clothes .Close tap while washing your hands ,brushing your theeth, cut your showers short .Through this all small techniques ground water level will be maintained.

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INTERNET OF THINGS BASED SMART HEALTHCARE SYSTEM

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Abstract:IoT builds intelligent objects to develop smart sensing framework. The IoT can implement number of applications domains inclusion of healthcare, to design modern healthcare device under technology and computer science. IoT have converged the advancement of real sensing healthcare objects, healthcare influenced by IoT and though still of its starting phase of advancement has been mandatory. This paper analyzed to comprehend about applications of IoT to achieve extreme and better healthcare at cheaper cost. This paper elaborates how the devices and sensors connected through wireless technique to implement specific application of healthcare.

Index Terms— Healthcare, IoT, framework, application.

I. INTRODUCTION

The fundamental goal of the venture was to plan a remote healthcare system. It's included three principle parts. The initial segment being, identification of patient's vitals utilizing sensors, second for sending information to web server and the last part was giving the recognized information to remote survey. Remote survey of the information empowers a specialist doctor or patron to screen a patient's wellbeing progress away from Medicare premises.

The Internet of Things (IoT) ideas have been generally used to interconnect the accessible clinical assets and offer brilliant, solid, and emphatic healthcare administration to the patients. Health observing for dynamic and helped living is one of the ideal models that can utilize the IoT favorable circumstances to improve the patient's way of life..

The proposed system presents the execution of an IoT-based eHealth framework for nearby and remote patient observing [11, 13]. This framework depends on a Raspberry Pi 3 and is equipped for recording information from the accompanying sensors: temperature sensor, ECG sensor, pulse sensor, skin sensor and buzzer etc. The microcontroller will read patient health parameters and send to the web server for remote monitoring. Also this system will gives alert indication when patient parameters are abnormal and it will send alert message to the doctor or guardians.

- Health is mental stillness and physical vital energy.
- Patient's vital information collection needs labour work and central control monitoring system to record and analyze data.
- To prevent this accessibility using electronic health data acquisition system. The trends tends to target solution supported IoT.
- In this research designing a remote health care system. Comprised into three parts: 1. Collection patient's vital information 2. Sending data to web server 3. Providing data for remote viewing.

This research work proposes an Implementing of an IoT based e-Health framework for near and far patient checking, which depends on Raspberry Pi3 and sensors [1, 2].

A cost effective and flexible, "A Low Cost Optical Sensor Based Heart Rate Monitoring System", was conceived by researchers. This proposes the plan and execution of a solitary Microcontroller based pulse estimating object that coordinates a large portion of the key highlights of the previously mentioned objects and models. The object is minimized in size, vitality productive, convenient, fit for information stockpiling and appropriate for speaking with an outside remote object by means of Bluetooth and cell correspondence if there should arise an occurrence of a health related emergency. It depends on a solitary Microcontroller chip that uses change in measure of impression of light detected by a photo based transistor. A photo transistor is utilized to detect the reflected light. Signal got by the photograph transistor is extremely frail and annoyed by high recurrence clamor. All together for this sign to be handled in Microcontroller, it is expected to wipe out undesired clamor [6].

"Heartbeat monitoring alert via SMS", the heart beat rate is detected using photoplethysmograph (PPG) technique. This signal is prepared utilizing PIC16F87 microcontroller to decide the heart beat rate every moment. At that point, it sends SMS alarm to the cell phone of clinical specialists or patient's relatives, or their family members through SMS. Hence, specialists can screen and analyze the patient's

condition persistently and could propose prior precautionary measure for the patients themselves. This will likewise make the relatives aware of rapidly go to the patient. PPG is a straightforward and minimal effort optical strategy that can be utilized to distinguish blood volume changes in the smaller scale vascular bed of tissue. As often as possible, it is utilized non-intrusively to make estimations at the skin surface [5].

An Intelligent E-Health Gateway based U Healthcare system. The fundamental requirement of a gateway is to support inter-device communication and different wireless protocols. It is utilized to help a few highlights, for example, an incidentally store sensors and clients data by carrying insight and improving with information combination, collection, and understanding strategies by fundamental to give starter nearby handling of sensors information to turning into a Clever E-health gateway. It gets information from various sub-systems, performs convention transformation [14].

Medical Sensor Network: In ubiquitous identification and sensing communication capacity, biomedical and context signals are captured from the body used for treatment and diagnosis of medical states [7,8].

II. IOT ENABLING TECHNOLOGIES

IoT enables the connection of billions or trillions of real-world objects together to share information over the Internet. This is possible due to the vast development of various technologies like wearable sensors, Internet protocols, communication, cloud, fog computing, big data analytics, pervasiveness, identification, location, and block chain. In this section, we have depicted prominent IoT-based healthcare technologies. We have demonstrated the various healthcare IoT technologies in Figure-1. The following subsections briefly describe some of the effective technologies.

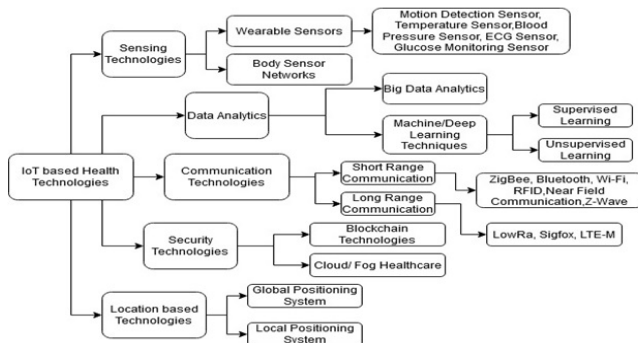


Fig.1. IoT Based Healthcare Technologies

III. SENSING TECHNOLOGY

Healthcare-based IoT depends mainly on sensing technologies, especially on wearable devices. Wearable sensors or body sensors implanted in the human body have been used to track location and monitor individuals with wireless networks. These wearable sensors collect patients' vital health conditions like body temperature, blood pressure, blood sugar, body weight, and heart rate. Further, the collected data from these sensors is transmitted to the central control system with the help of a nearby personal web server used as a medical database to facilitate healthcare professionals [15]. Healthcare sensors can be classified into different classes, as shown in Table 2. As can be seen in the table, environmental sensors are the type of sensors used to measure environmental parameters. These sensors can be further classified as [14] add-on and integrated sensors. Add-on sensors such as Ultraviolet Sensors (UV), noise, and gassensors are the type of sensors that are directly connected to the healthcare hardware systems interface. On the other hand, integrated sensors are healthcare sensors that are embedded in the system, not to the system interface, such as pressure, humidity, and temperature sensors.

In the area of medicine and fundamental research, it is necessary to identify patient's current state of biology. For example, a doctor must know a patient's temperature and blood pressure before operating. In this case, clinic thermometer and blood sensors are required to determine the patient's body temperature and blood pressure rapidly. Biomedical sensors [12] can transform biological into electrical signals. The biosensor consists of a receptor (typically a biocomponent such as an analyte molecule that conducts the actual molecular detection of the targeted element), a chemically sensitive layer, a transducer, and an electrical signal processor. The biochemical sensors are usually based on CMOS and MEMS technology. These types of sensors can be further classified into physical sensors, chemical sensors, biopotential electrodes, and bioanalytic sensors [11].

A sound sensor [10] is a module that detects sound waves and converts them to electrical impulses. A sound sensor includes a capacitive microphone, peak detector, and sound-sensitive amplifier. Sound sensors detect air pressure changes and convert them to electrical impulses. Sound sensors work by simulating the human ear and brain signal transmission process. In addition, a motion sensor is an electrical device that detects and measures movement. They are found in phones, paper towel dispensers, gaming consoles, medical systems, and virtual reality systems. Most motion sensors are embedded systems with three main components: sensor unit, embedded system, and hardware

(or the mechanical component) [9]. Motion sensors are available in a variety of sizes and configurations. Furthermore, Vision sensors utilize camera images to detect an object's presence, orientation, and accuracy. Unlike image inspection "systems," these sensors include a camera, light, and controller, making setup and operation easy. These sensors aren't like other general-purpose sensors. For example, a vision sensor can do multi-point inspections. They are used in healthcare for disease detection and analysis with the help of artificial intelligence techniques [7, 8].

IV. IOT IN HEALTHCARE

IoT applications in healthcare can provide better healthcare delivery at an affordable cost with improved performance in a ubiquitous manner. Applications of IoT in the healthcare sector are broad and diverse. Therefore, this section enlightens various IoT healthcare applications developed by the researchers. This section is divided into three sub-sections of IoT healthcare applications: wireless body area network, home-centric healthcare, and context-awareness. We have classified various IoT-based healthcare applications in Figure-2.

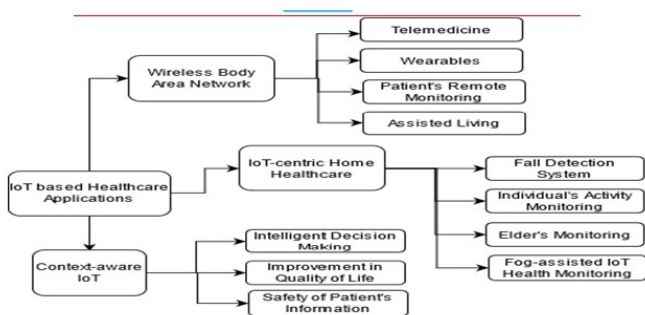


Fig.2. IoT based Healthcare Application

V. PROPOSED SYSTEM

An overview of plan connected component can be observed in Fig.1 and its current state; the e-Health system can collect data from sensors.

Data can be collected 3 types of sensors additionally connected GPRS and buzzer to instant response:

1. Temperature Sensor – to sense body temperature.
2. Pulse sensor – to record pulse rate .
3. ECG sensor – cardiac sensor.

4. GPRS –it is used to send particularly messages to the doctor's numbers which is already set, doctors may alert through message if patient situation is critical.

5. Buzzer –it is important one, which is connected to the inner core part of Raspberry pi. According to the usual symptoms of the patients its standard value is already set, if it changes then buzzer will sound automatically

- The pulse oximeter is the only sensor that connects to USB ports of one of the board's directly, while the rest connect to the e-Health Sensor Platform v2.0 for Arduino and Raspberry Pi, intended for medical applications and biometric.
- All above sensors are attached to the heart of our device i.e. Raspberry pi which is connected to remote device through wireless connection
- Raspberry pi the device responsible to create e-Health sensor platform to sensing the several activities by different-different sensor modules.
- Giving care and health assistance to the bedridden patients at critical stages with advanced medical facilities have become one of the major problems in the modern hectic world. In hospitals where many patients whose physical conditions must be monitored frequently as a part of a diagnostic procedure, the need for a cost-effective and fast responding alert mechanism is inevitable.
- Methodology tends to work on the Raspberry Pi that is made data available on remote sensor by using the different sensors of patient's common vital symptoms parameter. Data will be recorded with the help of IoT based device through Internet.

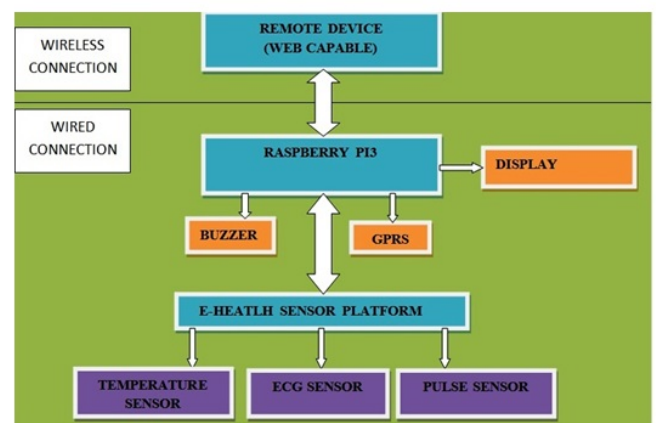


Fig.3. E-healthcare System Architecture

VI. EXISTING SYSTEM

In the previous system they used various sensors for monitoring patient health; also they used Bluetooth technology for remote monitoring purpose. The Bluetooth is low cost device and we can easily connect with it. In the

previous system for monitoring patient health we have to required android app, the system will send the all parameters of patient to the Bluetooth and we have to see into the android phone with android app, So if we use Bluetooth module then we require android app for monitoring purposed and main disadvantage of Bluetooth is, it has range limit to transfer the information to android phone.

In some system they used GSM technology, in that they send the patient parameters in text message. Here system can send text message to limited persons for monitoring parameters and this is going to be one of big limitation of system.

Advantages

- Low cost and easy to access.
- Number of persons can monitor patient parameters.
- We can monitor from anywhere in the world with internet.
- It provides abnormal indication.

VII. OUTCOMES

In this proposed system a mobile physiological observation system is well presented, which is efficiently able to continuously monitor the patient's heart beat, temperature and ECG in the hospital. Our system is able to continuous monitoring and control mechanism to observe the patient condition and sending the patient data's to server using GPRS Module based wireless communication, also this system will gives alert indication with text message when parameters are abnormal.

VIII. CONCLUSION AND FUTURE WORK

We enlighten the importance of IoT various enabling technologies such as wearable sensors, body sensor networks, big data analytics, fog and cloud computing, pervasive/ubiquitous computing, blockchain, communication, object identification, and location. We reviewed IoT healthcare-related research work in smart IoT-based systems, cloud and fog computing, security systems, and body sensor networks. In addition to this, we highlighted various applications of IoT healthcare in body sensor networks, IoT-centric homes, and context-aware IoT healthcare. Body sensor network applications are further classified into telemedicine, wearables, patient remote monitoring, and assisted living. However, smart Healthcare IoT applications are extensively found for remote patient monitoring and provide them an effective treatment plan. We discovered that fog computing plays a vital role in efficient healthcare delivery. Applications of a body sensor

network in the IoT healthcare domain are found to be wide and diverse.

Various challenges in healthcare IoT applications are identified as security and privacy, scalability, high cost, energy efficiency, quality of service, network architecture, mobility, and interoperability. We found that data security and privacy issues are major significant challenges in the healthcare sector as it deals with patients' confidential information. However, other challenges are identified as the diversity of devices, lack of communication standards, and unstructured and diverse data sources. More applications for providing high security and pervasiveness to healthcare IoT services should be proposed in the future. Machine learning techniques could play an essential role in analyzing a massive amount of healthcare data. Therefore, there is a need to design structured cloud architecture to apply machine learning techniques to such a dataset to predict future trends. We found that researchers propose different frameworks for IoT healthcare. However, there is a need to evaluate the feasibility of the proposed frameworks. The requirements should be addressed for detailed design architectural patterns for healthcare applications. Thus, the future of IoT healthcare is boundless and open new research opportunities for researchers.

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ZOOPLANKTON AND HYDROLOGICAL STUDY OF KHARON RIVER

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Abstract:

The zooplankton of freshwater system is largely composed of protozoans, Rotifers, cladocerans, copepods and ostracods. Indian rivers revealed that zooplankton consisted of Rotifers, cladocerans, protozoans, copepods, ostracods and others. Zooplankton diversity responds rapidly to changes in the aquatic environment. Kharun is one of the main tributary of Seonath River. The collected samples from selected three stations were analysed for dissolved oxygen content, salinity, total solids, phosphates and turbidity. Various species were observed and reported. This study also deals with the understanding the faunal composition and Biodiversity of zooplankton in relation to the hydrological parameters of the river.

Index Terms: zooplankton, Rotifers, Cladocerans, Copepods, Ostracods, Biodiversity.

I. INTRODUCTION

In a fresh water system, the zooplankton forms are important group and constitute basic link of the food chain. Planktons are very sensitive to the environment they live in and any alteration in the environment leads to the changes in the plankton communities in terms of tolerance abundance, diversity and dominance in the habitat. The density and diversity of the plankton are greatly influenced by the different physicochemical parameters of water [1]. Species composition of the plankton community is an efficient indicator of water quality. Zooplankton consist of Protozoans, Cladocera, Copepod, Rotifers, etc. which may serve as indicators of water quality. The zooplanktons play an important tropic level in the aquatic ecosystem as they constitute the most import link in the energy transfer between phytoplankton and higher aquatic fauna.

In ecologically zooplankton is one of the most important biotic components influencing all the functional aspects of an aquatic ecosystem such as food chains, food webs, energy flow and cycling of matter [2].

Aquatic biodiversity is threatened primarily by human abuse and management of both living resources and the ecosystem that support them. Most of the ponds are getting pollution due to domestic waste, sewage, industrial, aquatic and agricultural effluents. The requirement of water in all lives, from microorganisms to human beings is a serious problem of present day because of water resources have reached to a point of crisis due to unplanned urbanization, industrialization and other manmade activities. Many biotic and abiotic processes contribute to variability in plankton diversity in aquatic

ecosystems. Seasonal requirement of plankton assemblages are closely linked to seasonal changes in temperature, external hydraulic, nutrient loads and light availability [3], other process acting on as time periods on days to week, like meteorological and hydrological events [4] and also pollution stress on them [5]. Zooplankton diversity responds rapidly to changes in the aquatic environment. Several zooplankton species are served as bio indicators [6].

II. REVIEW OF LITERATURE

Many lakes and streams contain suitable habitat for meiobenthic organisms, yet such habitats and their attendant communities have scant attention especially in India. Such freshwater meiobenthic communities are usually less dense than their marine counterparts and are often dominated by rotifers [3,7]. Of the freshwater habitats, sandy stream bottoms have been virtually ignored due. In part, to their highly variable and unpredictable nature.

The zooplankton of freshwater system is largely composed of protozoans, Rotifers, cladocerans, copepods and ostracods. Recent studies on indian rivers revealed that zooplankton consisted of Rotifers (43.4%) cladocerans (23.6%), protozoans (10.5%), copepods (5.4%), ostracods (3.8%) and others (13.2%) [8]. Sewell made a thorough investigation on the zooplankton of Chilka lake (2004) and Salt lakes of Calcutta (2007). Author in [9] correlated natural populations of freshwater zooplankton and ecological factor. Comprehensive studies on the Nile zooplankton [10] revealed a strong influence of upstream restoring on the development of zooplankton in the Nile system.

Studies on the distribution and ecology of zooplankton in the lotic system observed that growth and reproduction of zooplankton and their transport are generally the factors controlled their abundance in rivers. Author observed downstream [11] loss of zooplankton due to aductive process that control the influence of those from the source areas.

[12] found alteration in the zooplankton due to impoundment of river Murray. The food plain water bodies were found to impact the zooplankton in the river systems. Zooplankton abundance in Caura river Venezuela was found to be correlated [12] with the hydrological events. Among the physicochemical factors which regulate zooplankton in rivers, the proximate factors was found to be the flow regime [13]. Author observed that velocities in excess of 0.4 ms⁻¹ were not conducive to growth of zooplankton [14]. Author put forward the serial discontinuity hypothesis which states

that in impounded rivers "resulation of head waters will surplus the biotic diversity" [15]. There is a near total lack of information on the zooplankton communities of Indian rivers, especially on the factors influencing their diversity and population dynamics. The study was observed loss of zooplankton downstream in river Yamuna near Delhi [11]. The impact of hydrological factors on the distribution of zooplankton had been observed by a number of workers [11,14] even before the proposal of "Serial discontinuity" concept by [15] based as organic matter transport and spiralling of nutrients in dammed rivers.

III. METHOD AND MATERIALS

A. STUDY AREA

Kharun is one of the main tributary of Seonath river. It is a non-perennial river, originating from village Petechua of Balod Tehsil in the south-east of Durg district and after flowing about 164 km joins Seonath river near Somnath in the north. The total catchment area of Kharun river is 4191 km², lying upstream to the point where the river merges with Seonath river and is situated between the geographical co-ordinates 200 33' 30" - 210 33' 38" N latitude and 810 17' 51" E - 810 55' 25" E longitude.

For the present study on zooplankton, three stations were chosen in Kharoon river. The station 1 (At Raipur District), Station 2 (Durg District) and Station 3 (Bemetara District) (Fig.1). Station 1 is a anicut constructed at Kharoon river in Raipur. This station is an unpolluted zone in which no pollutants are discharged. Station 2 is Anicut situated in Durg, contains clean water. From this area the water is pumped for drinking facilities. Station 3 is Anicut constructed in Bemetara. This area receives the sewages of the City wastes from the hospitals and receives other organic and inorganic matters from the urban environment. This zone is treated as a heavily polluted zone.

B. COLLECTION OF PLANKTON

The plankton were collected from each sampling station by filtering 500 liters of water using a plankton net (hand net). The net is made of nylon cloth of mesh sizes 60 µm. The filtered sample was suspended in 20 ml of water and brought to the laboratory. Then the plankton were immediately fixed and preserved in 5% formalin to avoid deterioration.

For identification of different individual and species the following methods were used.

1. Formalin preserved animals were observed under microscope and permanent slides were made.
2. Illustration of plankton were drawn using Camera.
3. Following the observations, the systematics of the different plankton species were studied.

C. QUANTITATIVE ANALYSIS

Quantitative analysis of plankton species was carried out for all the three stations during the period of study.

Zooplankton were preserved was filtered and made up to 2ml and transferred to Sedgewick-Rafter (Plankton counting Chamber). The number of zooplankton were counted and recorded. When this total number was multiplied by 2 would give the number of zooplankton present in one cubic meter of water and the values are expressed as number of plankton present per cubic meter of water.

C. HYDROLOGICAL STUDY

- The materials for the present study were collected from three sampling stations of River Kharoon. The collected samples were analysed for dissolved oxygen content, salinity, total solids, phosphates and turbidity. For oxygen analysis the samples were fixed on the spot. The other hydrological parameters such as air and water temperature and pH were noted.

IV. OBSERVATIONS

Observations from the sample collected in 3 stations are presented through the tables. These are –

Table 1: Hydrological Data in Station 1

Observation No.	Temp Air	Temp Water	pH	Oxygen ml/l	Salinity	Phosphate mg/l	Turbidity NTU	Total Solid mg/l
1	31.0	28.0	7.4	7.55	0.594	1.42	1.8	354
2	33.0	28.0	7.2	7.43	0.485	1.38	1.7	368
3	33.5	29	7.4	7.8	0.55	1.56	1.7	348
4	33	29	7.3	8.12	0.465	1.45	1.9	315
5	33.0	30.5	7.3	8.53	0.56	1.48	2	340
6	32.5	30	7.3	7.92	0.445	1.52	1.8	325
7	32	39	7.5	8.24	0.54	1.54	1.9	343
8	32.0	29	7.6	8.3	0.49	1.32	1.7	332
9	32.0	28.0	7.8	8.42	0.52	1.52	2.1	341
10	31	29	7.5	8.1	0.48	1.32	2	320
11	31.5	28	8	8.58	0.505	1.56	2.3	338
12	31	28.5	7.6	8.48	0.465	1.42	2.1	310
Mean :t	32.5	30.5	7.49	8.12	0.512	1.45	1.92	336
SD	0.88	1.85	0.23	11.54	0.05	0.1	0.19	16.78

Table 2: Hydrological Data in Station 2

Observation No.	Temp Air	Temp Water	pH	Oxygen ml/l	Salinity	Phosphate mg/l	Turbidity NTU	Total Solid mg/l
1	33	28.5	7.2	7.43	0.445	1.32	1.8	354
2	32	29	7.4	7.34	0.476	1.52	1.7	324
3	32.5	30	7.3	7.45	0.55	1.32	1.7	337
4	30	30.5	7.2	8.1	0.465	1.52	1.8	346
5	32	30.5	7.5	8.44	0.567	1.38	2	340
6	32.5	30	7.3	8.31	0.445	1.56	2.3	333
7	32	31	7.5	8.24	0.54	1.45	2.1	343
8	32.5	28	7.6	7.3	0.49	1.54	1.7	356
9	30	28.5	7.4	7.8	0.52	1.42	2.4	341
10	31	29	7.5	7.9	0.489	1.56	2	342
11	30	28	7.6	8.1	0.505	1.42	2.3	338
12	31	28.5	7.3	8.1	0.452	1.48	2.1	310
Mean :t	31.63	29.87	7.3	7.87	0.495	1.43	1.99	341.86
SD	0.89	1.24	0.13	0.3	0.03	0.09	1.4	14.24

Table 3: Hydrological Data in Station 3

Observation No.	Temp Air	Temp Water	pH	Oxygen ml/l	Salinity	Phosphate mg/l	Turbidity NTU	Total Solid mg/l
1	32.5	29	8.1	6.11	0.875	1.89	2.9	395
2	33	29	8	5.82	0.844	2.13	3.2	390
3	32	30	7.9	6.13	0.77	2.02	3.2	403
4	32	32	7.7	6.58	0.765	1.98	3.3	412
5	30	27.5	7.9	7.06	0.813	1.88	3.1	398
6	32.5	31	7.9	6.75	0.734	2.13	3.2	404
7	32.5	31	8.1	6.79	0.886	2.23	3.4	412
8	32	29	8.1	5.76	0.812	2.09	2.9	389
9	33.5	28.5	8.3	6.38	0.789	1.89	2.9	396
10	30	28	7.9	6.34	0.765	1.84	3	399
11	34	28.5	7.6	6.68	0.915	1.79	2.8	404
12	30	30.5	7.3	6.62	0.822	1.9	2.8	406
Mean :t	31.6	29.98	7.9	6.44	0.815	1.98	3.15	399.07
SD	0.97	0.99	0.23	0.21	0.06	0.09	1.4	10.25

Table 4: Quantitative Data of Zooplankton in Station 1

Observation No.	Cladoceran No./m3	Rotifer No./m3	Copepods No./m3	Ostrocods No./m3	Density No./m3
1	64	44	39	12	160
2	59	49	40	12	154
3	63	39	34	10	155
4	60	41	36	12	159
5	65	43	37	10	149
6	62	47	39	11	154
7	57	46	40	13	158
8	59	41	33	13	153
9	60	40	37	9	160
10	61	46	38	11	162
11	62	43	41	13	153
12	59	48	38	15	160
Mean :t	61	44	37	11.75	155.56
SD	6.06	9.33	5.59	2.03	20.19

Table 5: Quantitative Data of Zooplankton in Station 2

Observation No.	Cladoceran No./m3	Rotifer No./m3	Copepods No./m3	Ostrocods No./m3	Density No./m3
1	59	51	30	11	158
2	59	49	38	14	153
3	61	41	34	17	156
4	57	44	35	12	156
5	63	43	37	9	151
6	62	47	36	18	154
7	59	43	36	13	160
8	59	41	41	14	155
9	60	43	37	11	161
10	60	51	38	11	157
11	60	43	37	13	153
12	59	50	38	15	160
Mean : <i>t</i>	59.33	46.67	35.66	14.33	158.08
SD	9.09	8.65	6.06	3.04	26.67

Table 6: Quantitative Data of Zooplankton in Station 3

Observation No.	Cladoceran No./m3	Rotifer No./m3	Copepods No./m3	Ostrocods No./m3	Density No./m3
1	97	82	38	22	230
2	94	67	43	26	265
3	101	79	54	18	245
4	89	86	48	16	239
5	97	87	30	23	244
6	99	89	48	27	256
7	95	85	49	25	248
8	104	91	39	24	251
9	104	74	39	19	230
10	113	86	42	31	259
11	99	83	39	19	264
12	94	81	45	21	239
Mean : <i>t</i>	98.67	81.67	41.23	23.4	244.65
SD	11.13	14.56	14.09	3.35	36

Table 7: List of Zooplankton in Station 1, 2 and 3

Zooplankton	Common in Station 1, 2 and 3	Exclusively Available at Station 1	Exclusively Available at Station 2	Exclusively Available at Station 3
Rotifera	BrachionusCalyciflorus	Lecane Sp.	Lecane Sp.	KaretellaTropica
	BrachionusQuadricornis			
	BrachionusPatulus			
	PlatyiasQuadricornis			
Cladocera	MoinadaphniaMacleayl	MoinaMicrura	MoinaBrachiata	CeriodaphniaLaticulata
	CeriodaphniaCornuta	MicrothirixHirsuticornis		
	CeriodaphniaReticulata			
	DunhevediaCrassa			
	AlonaRectangula			
	AlonaPulchella			
	LeydigiaCiliata			
	LeydigiaAathocercoides			
Copepoda	MesocyclopsLeuckarti			
	MesocyclopsHyalinus			
	ParacyclopsPoppei			
	EucyclopsAgilis			
	EucyclopsSperatus			
	Tropocyclops Sp.			
Ostracoda	CypridopsisAngularis	Strandesia India	StandesiaStuhlmann	StenocyprisHislopi
	Parastenocypris			

V. RESULT AND DISCUSSION

Bearing the need of aquaculture an analysis of zooplankton was undertaken in the three stations of river Kharoon. This study also deals with the understanding the faunal composition and Biodiversity of zooplankton in relation to the hydrological parameters of the river.

Qualitative analysis of zooplankton recorded about 38 species, of which 14 species belong to cladocera, 10 species to Rotifera, 8 species to Ostracoda and 6 species of Copepoda. Species of Cladocera and Rotifera were predominant groups in the zooplankton of River Kharoon. The cladoceran recorded in the present study belonged to four different families namely Daphnidae, Moinidae, Macrothricidae and Chydoridae of the four families. Chydoridae are more abundant than the other three families. It was represented by 6 species and other three families were represented by 2 or 3 species only. [8], recorded a similar pattern of cladoceran population in the Kharoon River system. [16] described seven genera of cladoceran belonging to four different families (Daphnidae, Sidedae, Moinidae and Macrothricidae) from freshwater ponds in and around Madurai. In the present study the members of sididae family were not observed. [17] reported as many as 40 species of cladoceran from Dharwad environments.

Number of rotifers recorded in the present study was limited to 10, They belonged to the following families namely Brachionidae and Lecanidae. The predominant forms belonged to the Brachionidae are *calyciflorus*, *B. quadridentatus*, *B. patulus* and *Platylabus quadricornis*. Family Lecanidae was represented by *lecania* species. Predominance of Brachionid rotifer in the zooplankton of River Kharoon was also reported by [8, 18]. [8] recorded 33 species of rotifers from Kharoon and [19] has recorded 35 species from River Ganga. One species which was not previously recorded by [8, 19] was identified from all the three stations in the present study namely *Keratella tropica*. The decrease in the number of Rotifers in all the stations was due to the predation of rotifers by the cladocerans [20].

[21] strongly suggested that Brachionus is limited to almost alkaline water. [22] stated that family Brachionidae is of great importance in planktonic community which are found in slight to high alkaline water. In the present investigations this was observed and the pH was 7.85. [19] observed that increase in the values of total alkalinity and hardness during winter and summer seasons favour the rotifers in the Seonath River.

Number of copepod species recorded in the present study was limited to six and all belonged to the order cyclopoida. They are *Mesocyclops leuckarti*, *Mesocyclops shyalinus*, *Paracyclops poppei*, *Eucyclops agilis*, *Eucyclops peratus* and *Tropocyclops*. Of the species collected *Mesocyclops leuckarti* and *Mesocyclops shyalinus* were predominant.

8 species of Ostracods recorded in the present investigation. They belonged to the family cypridinae which possess three sub families namely cypridininae, stenocyprinae and Cypridopsinae. The subfamily cypridininae included *Cypris protuberans*, *C. dravidensis*, *Strandesia indica* and *Strandesia carva*. The subfamily stenocyprinae included *Stenocypris major*, *Stenocypris hislopi* and *Parastenocypris* sp. The subfamily cypridopsinae included *Cypridopsis angularis*.

The number of zooplankton present in one cubic meter of water in the measure of population density. The zooplankton density was found to be higher in station 3 ($244.8 \pm 36.7 \text{ m}^3$) and in station 1 and 2 the zooplankton density were $154 \pm 20 \text{ m}^3$ and $152 \pm 27 \text{ m}^3$ respectively. Zooplankton production may depend on hydrological factors such as temperature, pH, dissolved oxygen, phosphate, salinity, turbidity and total solids. In the present investigation except dissolved oxygen, phosphate, turbidity and total solids, all other parameters did not show any drastic difference between the three stations. Station 3 maintained a higher level of phosphate, turbidity and total solids and this may be due to the mixing of waste water from hospital and discharge of domestic sewage. Diversity was higher in station 3. This might be attributed to the higher turbidity and phosphate due to influx of sewage discharge from Tiruchirappalli Corporation. Turbidity acts as a disturbing factor promoting diversity. The intermediate disturbance hypothesis [23, 24] suggests that moderate physical disturbances promote diversity.

Occurrence of certain plankton species in relative abundance may reflect the quality of water. These indicator animals are classified into two groups, a) pollution sensitive species b) pollution tolerant species. Pollution sensitive species are indicators of pollution free zone. For eg. rotifers like *Lecanosp.* and Ostracods namely *Cypris protuberans*, *Cypris dravidensis*, *Strandesia indica* and *Stenocypris major* are considered to be pollution sensitive species. They are predominantly present in station 2 than in station 1. Pollution tolerant species were represented mainly by cladocerans which was followed by rotifers, copepods and ostracods. Cladocerans such as *Ceriodaphnia cornuta*, *Ceriodaphnia reticulata*, *Aloniapulchella*, *Alonarectangula* and *Macrothrix hirsuticornis*, rotifers such as *Brachionus calyciflorus*, *Brachionus patulus*, Copepods such as *Mesocyclops shyalinus* and *Mesocyclops leuckarti*. Ostracods such as *Stenocypris hislopi*, *Parastenocypris* sp. *Cypridopsis angularis* were constantly recorded in large number in Station 3. Station 2 and station 1 were relatively unpolluted. The increased number of zooplankton in station 3 than other two stations was mainly due to the increase of organic pollutant from the Sewage [8].

The percentage similarity and dissimilarity co-efficient of the zooplankton of River Kharoon analysed. The highest (55) similarity was observed in the cladocerans which indicates that cladocerans of the three stations are more similar. This is followed by Rotifers (53), Copepods

(50) and relatively less similarity index (33) was noticed with Ostracods. Similar studies were carried in Ganga River in Patna by [25].

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An Empirical Study on Relationship between Talent Management Strategies and Organization's Performance in Private Sector Bank with special reference to Korba District

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Abstract:

In today's time, banking sector requires a person with multitasking and skill; talent management and talent acquisition is becoming very difficult. As a result, finding the "right" person for a particular job is becoming more challenging. Not only acquisition even talent retention of talented workforce has become greatest challenges face for organization. Today's changing landscape of business requires its HR to act more strategically to build employee engagement and increase employee skills which is a great tool for talent management. Talent Management focuses on how talents enter; move together across or out of the organization. Talent Management will succeed with the support of strong organization structure. As better skilful talent can change the future of business and organization, Talent Management has to be given main role in business. If organization implements talent management strategies effectively, that enhances employee's performance which in turn helps to improve organization performance.

Index Terms: Talent Acquisition, Employee Engagement, Talent Management, Organization Structure.

I. INTRODUCTION

Implementing the relationship between Talent Management Strategies and Organization Performance in the banking sector, Talent management strategies are easy to implement, but it's hard to keep up, which influence and enhance external factors, such as economy, global expenses, mergers & acquisition, collaboration Business success is a key that allows the organization to retain the most talented employee Human Resource wants the organization to get the skilful and Endless Skills person. In this difficult time, the need is to change the talent management strategy So that the organization is successful, increasing the efficiency, choice of talent, enhancing the efficiency of employees, Employee and Employer are both satisfied, everything is possible in this At times of availability, its factors are Human Resource, Talent Availability, Talent, Ability and Power Business Includes ingredients to smooth run of the business, in an enterprises directly & indirectly dependent on power for its existence, Peoples Possible to Effort and Skills Organization's Journey. This chapter is divided into three parts:- a) In this chapter, the Important Fact & Figure is highlighted – recognize of best talent, utilize of talent, effectiveness & efficiency of private bank sector at korba, b) Implement of new practices the talent management strategies of private banking sector at korba, c) provide new idea, concept & theories of talent management strategies.

II. REVIEW OF LITERATURE

The author has said that there was a decline in service ratio of banks. Then he made a suggestion, there should be a check window in the banks so that the day by day routine can be conducted by the employee in the organization. [1].

Almost all the Companies around the world use talent management, but they strategies need to know, what exactly is talent management, and all companies define talent management strategic differently [2], A company knows this by the name of a calibre or well experienced employee and forming such a group, planning by talented people for talent retention, and at this time focused most of the researcher in talent management in organization. But there is no information about other issues in this study, only then it is important to understand it in Malaysian issues. Which is can become the power to accept and use talent management in the future. A good platform is needed to provide a model for success.

Author in his study [3] found that talent management has become a very big issue for businessmen in today's competition time and talent retention. Commercial banks spend more money for hiring calibre candidates. This leads to the development and training of the employee. But they spend less money to retain and onboard the most talented employee.

In fact, Talent Management is the main component for the organization, without it the organization is incomplete and both TM & HRM together play their important role. [4].

In his study it has been said that in the practice of human resources in the organization, there is a need to discuss the complex problem [5]. This will be beneficial for both the organization and the employee. It has set the nature of HRM and TM. The author has discussed the practice and opportunities of talent management. There is a need to invest in employee retention.

In his study has been observed that except for the management of a better strategy is to reduce employee's physical and mental stress to increase the company's and productivity by finding a better way to work in an organization. So that employees do their jobs well. [6].

III. OBJECTIVES OF STUDY

- To evaluate the effectiveness of talent management practices used by private sector banks to manage talent retention.
- To identify the challenges face of talent management strategies, for private sector banks as well as employees.

IV. RESEARCH METHODOLOGY

This study depends on the quantitative and quantitative nature; it means quality is present in the talent management strategy in this study. For the data analysis is based on primary and secondary data. Primary data is collected from telephonic survey in the private bank, online banking websites and published annual report of the private banking sector. The mention of organization performance report to analyze the talent management strategies and sample unit data for period of banking sector report years (2020-2021) has been used. Research design is based on descriptive research. In this research paper taken sample unite- talent management strategies and organization performance, this research paper being presented one of the most top ranking banks among private sector banks.

Data analysis

Some of the major factor taken for data analysis which includes in this bank (Axis) that Total number of employees in the bank , contractual and the Total number of employees hired on temporary/ contractual/ casual basis in the bank, the Number of permanent women employees, the Number of permanent employees with disabilities in the bank, employee association that is recognized by management, the number of complaints relating to child labour, forced labour, in voluntary labour, sexual harassment in the last financial year and pending, as on the end of the financial year, percentage of your under mentioned employees were given safety & skill up-gradation training in the last year in the Axis bank.

Some major factors have been taken in this data analysis like-

Employee yearly report analysis (Axis Bank)

Employee yearly (as on 31.03.2021) report analysis

Businesses should promote and increase the wellbeing of all employees

- Please indicate the Total number of employees (as on 31.03.2021) 78,307.*
- Please indicate the Total number of employees hired on temporary/ contractual/ casual basis. (as on 31.03.2021) 11 9,753.*
- Please indicate the Number of permanent women employees. (as on 31.03.2021) 18,312.*
- Please indicate the Number of permanent employees with disabilities*

(as on 31.03.2021) 52

E. Do you have an employee association that is recognized by management?

The Bank does not have an employee union. The Bank respects the right of 'Freedom of Association'. The Bank ensures that all employee grievances are received and addressed through various channels such as H-Response (virtual helpdesk to handle employee queries) or the whistle-blower portal.

F. Please indicate the number of complaints relating to child labour, forced labour, involuntary labour, sexual harassment in the last financial year and pending, as on the end of the financial year.

The Bank's Annual Report includes the 'Disclosure in terms of The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013', as part of its Report on Corporate Governance. The required disclosures have been provided on page 135-136 of the Annual Report 2020-21.

G. What percentage of your under mentioned employees were given safety & skill up-gradation training in the last year?

- Permanent Employees and Talent candidate in the Axis bank
- Permanent Women Employees in the Axis bank
- Casual/Temporary/Contractual Employees in the Axis bank
- Employees with Disabilities in the Axis bank

The Bank has institutionalised learning and development processes to ensure that employee acquisition, employee retention, remain agile, possess relevant skill sets and fulfil their potential and skills. The learning pedagogy employees is a mix of various learning modes and use the talent of candidates such as classroom programs, external programs, certification programs and e-learning to facilitate learning across all levels. There are role-based and work-level trainings conducted by internal and external faculty are both, ensuring that the right target group received the right training. Platforms like 'Axis Academies' provide employees access to trainings which they can choose and self-start, while 'Axis Business Clinics' has the purpose of empowering the Branch Heads to drive the culture of learning at branch-level, making employees aware of product features and institutionalising processes. Throughout the year, the Bank's employees across levels are provided online and classroom training on relevant business, behavioural, leadership, risk management, processes, and other pertinent topics.

Source: the Axis bank related information has been taken from the Axis bank's website. **Table – 1: All employees are satisfied with this organization?**

Benefit	No. of. Respondents
Yes	49
No	26
Can't Say	10
Total	85

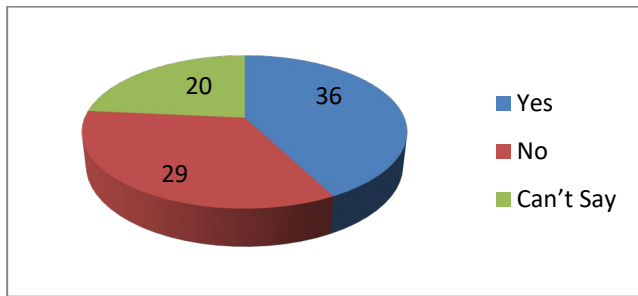


Figure 1: All Employees are satisfied with this organization?

The above table shows that 59% of the respondents are agree on employees are satisfied with this organization. 26% of the respondents did not agree on employees are satisfied with this organization. It infers that majority i.e. 69% of the respondents are agreeing on employees are satisfied with this organization.

Table – 2: Does the Manager Treat with all sub-ordinates fairly?

Benefit	No. of. Respondents
Yes	36
No	29
Can't Say	20
Total	85

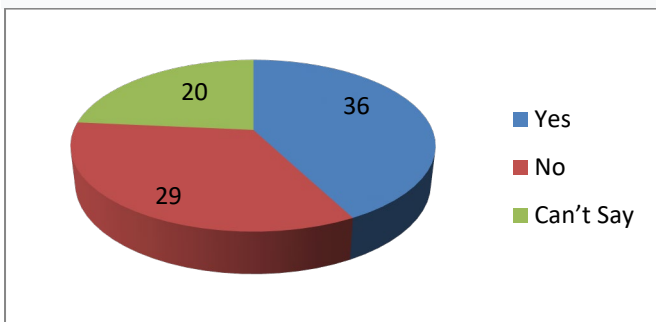


Figure 2: does the Manager Treat with all sub-ordinates fairly?The above table shows that 36% of the respondents are agree on the Manager Treat with all sub-ordinates fairly. 29% of the respondents did not agree on the Manager Treat with all sub-ordinates fairly. It infers that majority i.e. 36% of the respondents are agreeing on the Manager Treat with all sub-ordinates fairly.

Table – 3: Are the employees rewarded for their good performance in these organizations?

Benefit	No. of. Respondents
Yes	59
No	18
Can't Say	8
Total	85

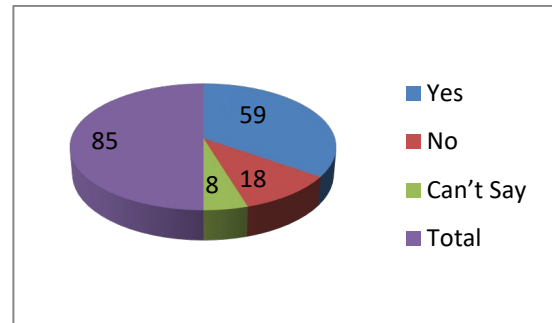


Figure - 3 Are the employees rewarded for their good performance in these organizations?

The above table shows that 59% of the respondents are agree on the employees rewarded for their good performance in these organizations. 18% of the respondents did not agree on the employees rewarded for their good performance in these organizations. It infers that majority i.e. 59% of the respondents are agreeing on the employees rewarded for their good performance in these organizations.

ε^*

$$= \frac{1}{1 + \left(\frac{\lambda_c}{\lambda_g}\right)^2} + \frac{1}{1 + \left(\frac{\lambda_g}{\lambda_c}\right)^2} \left[\frac{r - j \tan k (D - D_R)}{1 - j \tan k (D - D_R)} \right]^2$$

Findings

1. The finding in this study Businesses should promote the wellbeing of all employees, the Total number of employees 78,307, the Total number of employees hired on temporary/ contractual/ casual basis- (as on 31.03.2021) 11 9,753, the Number of permanent women employees- as on 31.03.2021) 18,312, the Number of permanent employees with disabilities-(as on 31.03.2021) 52, employee association that is recognized by management-The Bank does not have an employee union.
2. The Bank respects the right of 'Freedom of Association'. The Bank ensures that all employee grievances are received and addressed through various channels such as H-Response (virtual helpdesk to handle employee queries) or the whistle-blower portal, The Bank's Annual Report includes the 'Disclosure in terms of The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013', as part of its

Report on Corporate Governance. The required disclosures have been provided on page 135-136 of the Annual Report 2020-21, The Bank has institutionalised learning and development processes to ensure that employees remain agile, possess relevant skill sets and fulfil their potential. The learning pedagogy employed is a mix of various learning modes such as classroom programs, external programs, certification programs and e-learning to facilitate learning across all levels. There are role-based and work-level trainings conducted by internal and external faculty, ensuring that the right target group received the right training. Platforms like 'Axis Academies' provide employees access to trainings which they can choose and self-start, while 'Axis Business Clinics' has the purpose of empowering the Branch Heads to drive the culture of learning at branch-level, making employees aware of product features and institutionalising processes. Throughout the year, the Bank's employees across levels are provided online and classroom training on relevant business, behavioural, leadership, risk management, processes, and other pertinent topics.

3. 3.69% of the respondents are agreeing on employees are satisfied with this organization, that majority i.e. 36% of the respondents are agreeing on the Manager Treat with all sub-ordinates fairly, infers that majority i.e. 59% of the respondents are agreeing on the employees rewarded for their good performance in these organizations.

V. CONCLUSION

Talent management strategies are not only associated with elevated organizational results but are also a substantial factor in molding employee's attitudes. Training and development opportunities create the higher level of motivation for the enhanced discretionary behavior of employees with career development opportunities that eventually lead to employees' satisfaction. The job with the advanced scope and potential allied growth leads to improve employee performance and increase organization productivity. So employees who are experiencing the higher level of job satisfaction from their organizations are more likely to be productive and less likely to leave the job.

- This study has impacted talent management practices. Due to which there has been retention of talented employees in private sector banks.
- Employee Challenges Faced in Private Sector Bank. Employee Challenges Faced in Private Sector Bank. There by skill development of the employee.

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Classification of Coronary Artery Disease using Ensemble Model

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Abstract:

Coronary Artery Disease (CAD) is a major problem among the populace worldwide. Classification methods co-operate a crucial role in identifying diseases in Coronary Artery Disease (CAD). Ensemble learning classification is a process for generating multiple versions of classifiers and using these to get an aggregated classification results. The Artificial Neural Network models like Multi-layer Perceptron Network (MLPN or MLP) and Radial Basis Function Network (RBFN) and their voting based Ensemble model like Ensemble (MLP+RBFN) or PEM-ANN have been used for the classification of Coronary Artery Disease (CAD). The PEM-ANN is compared to the MLP, RBFN. The experimental result shows that the proposed PEM-ANN ensemble model classification accuracy of the dataset is enhanced compared to the MLP and RBFN classifiers. The ensemble model gives a more correct and precious classification performance.

Index Terms: Artificial Neural Network, Classification, Coronary Artery Disease, Ensemble Model, Multi-layer Perceptron Network, Radial Basis Function Network

I. INTRODUCTION

CAD is a significant but common type of disease globally, especially in developing countries and is the primary cause of heart attack. CAD is also called Coronary Heart Disease (CHD) and it is a common type of heart disease affecting many people's around the world. This disease is caused by plaque formation (collecting cholesterol) in the coronary arteries (blood vessels carrying oxygen and blood into the heart). Now a day huge amount of data is produced by healthcare and medical science. These data are too complex and large and cannot be easily processed and analyzed using conventional data processing methods. ANN provides the ideas and technology to transform these stacks of data into valuable information for decision making. The classification of CAD data in the present situation is significant and has gained the attention of medical researchers in previous years (Eriksen and Ingebreten 2007). In this research, we worked on heterogeneous ensemble models technique voting.

II. REVIEW OF LITERATURE

This section presents a comprehensive literature review that is necessary to understand the background of the

problem. Author worked on the D.M. methods like K-NN and R.F. to classify CAD [1]. The outcome revealed that the R.F. classifiers obtained the maximum classification prediction accuracy of Random 0.96% compared to the K-NN accuracy of 0.832%.

Author worked on classification approaches like KNN, D.T., R.F., NB, SVM, AB, E.T., G.B., L.R., and ANN, and four FST such as FCBF, mRMR, LASSO, and Relief [2]. The best models ET and GB give the classification accuracies with full features were 92.09% and 91.34%, respectively. After applying FST, the classification accuracy of E.T. with the relief FST increases from 92.09 to 94.41% and G.B. increases from 91.34 to 93.36% with the FCBF FST.

Author worked on the D.M. techniques like K-Means, CHAID, Quest, C5.0, C&RT decision tree, and ANN method for classification of Heart dataset. The experimental outcome shows that the CART obtained the 0.074 error compared to other techniques [3].

Author have used classification methods viz. Naïve Bayes (NB), Support Vector Machine(SVM), K-nearest neighbour(KNN) and Logistic regression(LR). The outcome revealed that N.B. obtained high accuracy compared to other classifiers [4].

Author worked on the various D.M. methods using different datasets, which shows that outcomes can't be compared because of the exercise of different datasets [5]. The single and hybrid D.M. on Cleveland datasets in heart disease diagnosis results shows that hybrid techniques show better results than single techniques. The Neural Network ensemble was used as hybrid technique.

III. RESEARCH GAP AND OBJECTIVES OF THE STUDY

They cannot work ensemble methods like voting are stacking in their studies. So, we tried to work on ensemble learning and proposed a strong classification model of CAD datasets. The two main objectives of present work are the following;

- I. Building accurate classifications model for Coronary Artery Diseases (CAD).

Propose a more efficient and accurate ensemble classifications model using the data mining technique.

IV. PROPOSED FRAMEWORK

Figure 1 expresses the entire proposed framework that is used in this paper. The figure demonstrates the different data sets used in this work, namely Coronary Artery Disease. A data partition technique, namely Cross-Validation (CV) with the most familiar 10 Fold Cross-Validation, has been used. The 10-fold cross-validation is a technique for data partition for training and testing. We have applied two classification models, namely MLP and RBFN, to measure the performances of the classification result of CAD. The achieved results are enhanced compared to an ensemble model PEM-ANN by using the voting combination rules.

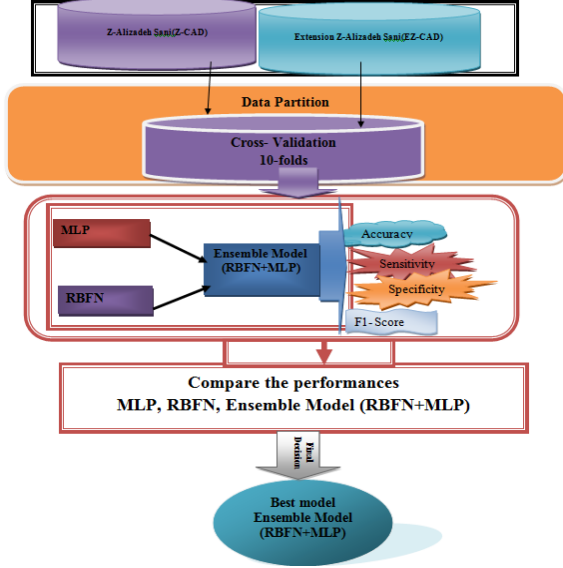


Figure 1: Proposed Framework

The proposed framework consisted of different components. The capability of the systems is estimated in terms of increasing the performance of classification accuracy. The proposed framework is explained as follows:

A. Dataset

The experimental data set is available on the UC Irvine Machine Learning Repository. The Z-Alizadeh Sani (Z-CAD) and extension Z-Alizadeh Sani (E-CAD) data sets hold the records of 303 patients, each of which has 56 features (55 features with 1 class level) and 59 features (58 features with 1 class level) [6-8].

B. Data Partitions

K-fold cross-validation is a technique for data partition as training and testing. In this work, we have used 10-fold cross-validation for the partition of data into training and testing.

C. Multilayer Perceptron Neural Network

Multilayer feedforward networks are an important class of neural networks. In general, the network is made up of a set of sensorial nodes (source nodes) that involve the input level, one or more hidden level calculation nodes and an output layer for the

calculation node [9]. The input signal propagates through the network in the forward direction, layer by layer as Multilayer Perceptron (MLP).

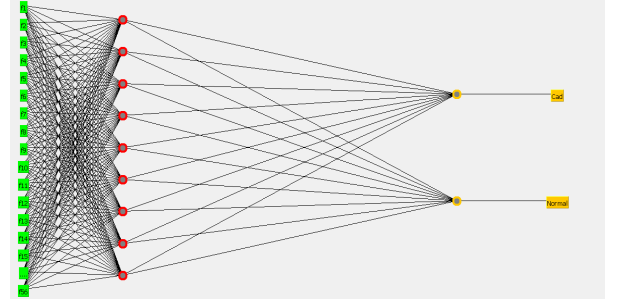


Figure 2: Multi-Layer Perceptron Network

The following three points highlight the basic features of multi-layer perspectives:

- Each neuron's model in the network includes a non-linear activation function that is different.
- One or more levels in the network are hidden from input and output nodes.
- The network shows a high level of connectivity, whose radius is determined by the synaptic weight of the network.

D. Radial Basis Function Network

It uses the class that implements a normalized Gaussian radial basis function network. An implementation of this hybrid approach for the classification of patterns through the use of a radial base function network (RBFN) [9]. RBFN consists of only three layers, input layer, hidden layer and output layer. In the framework of a neural network, the hidden nodes offer a set of "functions" that represent an arbitrary "basis" for the input patterns (vectors) after they are improved into the hidden space; these features are called radial basis functions [10].

E. Ensemble Model

Combining two or more classification techniques is called the ensemble model [11-12]. If we indicate that specific experts are more qualified than others, weighting the decisions of those qualified experts more heavily may further improve the overall [11].

F. Performance Measurement

In this part, we calculated the performance of classifiers based on the confusion matrix:

Table 1: Confusion matrix

Actual Vs. Predicted	Positive	Negative
Positive	True Positive (T.P.)	False Negative (F.N.)
Negative	False Positive (F.P.)	True Negative (T.N.)

$$\text{Accuracy} = \frac{TP+TN}{TP+TN+FP+FN} \quad (1)$$

$$\text{Sensitivity} = \frac{TP}{TP+FN} \quad (2)$$

$$\text{Specificity} = \frac{TN}{TN+FP} \quad (3)$$

$$\text{F1-Score} = \frac{2TP}{(2TP+FP+FN)} \quad (4)$$

V. RESULT AND ANALYSIS

To develop a robust classification model that will be able to classify the CAD. We have used Z-CAD and EZ-CAD data sets for analysis and to check the robustness of models. The classifiers have been trained and tested using a 10-fold cross-validation technique. Table 2 shows the overall accuracy for MLP, RBFN and their ensemble PEM-ANN. The performances of individuals and its ensemble models PEM-ANN is shown in table 2 and Table 3.

Table 2: Performance of classifiers for Z-CAD

	Accuracy	Sensitivity	Specificity	F1-Score
RBFN	79.21	78.71	80.46	84.37
MLP	82.18	87.04	70.12	87.44
PEM-ANN	85.15	90.28	72.41	89.66

Table 3: Performance of classifiers for EZ-CAD

Classifiers	Accuracy	Sensitivity	Specificity	F1-Score
RBFN	88.12	88.43	87.36	91.39
MLP	98.02	97.69	98.86	98.60
PEM-ANN	97.36	99.07	93.10	98.17

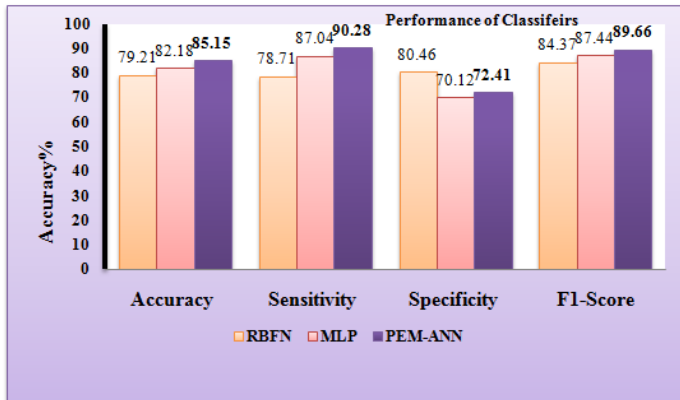


Figure 3: Performances of classifiers with Z-CAD dataset

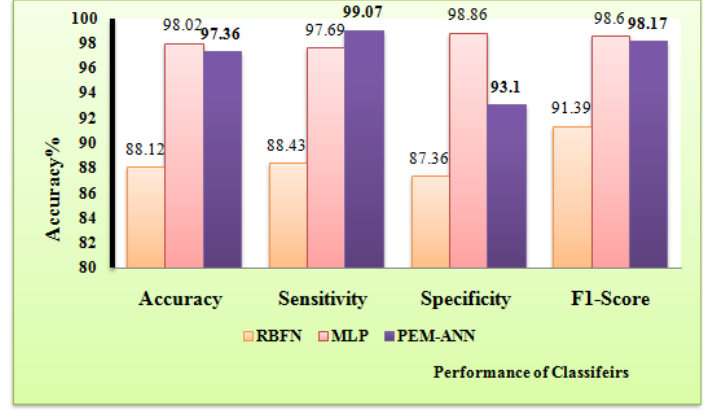


Figure 4: Performances of classifiers with EZ-CAD dataset

Graphs 2 and 3 show a performance wise comparison of MLP, RBFN and PEM-ANN methods for CAD data sets (Z-CAD and EZ-CAD). From this graph, it can be concluded that PEM-ANN is more accurate as compared to the other two.

A. Comparison of Proposed Model with Existing Models

Table 4 shows that the comparative analysis of the proposed model and existing model in terms of accuracy. The outcome demonstrates that the proposed model significantly improves the CAD classification accuracy. The highest accuracy has been obtained by the proposed ensemble model in all cases.

Table 4: Accuracy of the proposed model compared with existing models

Name of author and year	Dataset	Algorithms	Outcomes
Our Proposed model	EZ-CAD	RBFN, MLP, PEM-ANN	Ensemble model PEM-ANN Accuracy (97.36%)
Our Proposed model	Z-CAD	RBFN, MLP, PEM-ANN	Ensemble model PEM-ANN Accuracy (85.15%)
Alizadehsani et al. (2013)	Z-CAD	Bagging and C4.5 classification	79.54 (C4.5)
Alizadehsani et al. (2012)	Z-CAD	SMO, Naïve Bayes, C4.5 and AdaBoost.	79.86 SMO

6. CONCLUSION

This study has proposed an ensemble model for classifying the CAD. CAD is a major problem among the populace worldwide. Classification methods co-operate a crucial role in identifying diseases in Coronary Artery Disease (CAD). Ensemble learning classification is a process for generating multiple versions of classifiers and using these to get an aggregated classification results. The experimental result shows that the proposed PEM-ANN ensemble model classification accuracy of the dataset is enhanced compared to the MLP and RBFN classifiers. The ensemble model gives a more correct and precious classification performance.

6.1. The outcome of the study

This study has proposed an ensemble model for classifying the CAD. This model will be helpful for better recognizable proof and determination of CAD. The voting ensemble learning is utilized for fostering the gathering model. The MLP, RBFN and their gathering model PEM-ANN were applied on the both Z-CAD and EZ-CAD dataset and furthermore looked at the outcomes. The proposed ensemble model PEM-ANN gives 85.15% and 97.36% accuracy if there should be an occurrence of both the Z-CAD and EZ-CAD datasets.

6.2. Limitation of Study

Ensemble training is several slower than a traditional neural network. When solving some problems, the ensemble error is more remarkable than the error of a conventional neural network.

6.3. Future Research Work

It is suggested that other classification and ensemble learning like stacking can also be applied for better model performance.

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Endophytic Fungi: An Implied Source of Bioactive Compound

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Abstract:

Endophytic fungi are the group of fungi that is having by means of the symbiotic relationship with the host plant. The present look at targeted with an overview at the bioactive compounds by way of Endophytic fungi. Plant leaves are the source of herbal remedies. Endophytes are the institution of fungi and micro organism which might be capable source of different bioactive compounds and secondary metabolites including alkaloids, flavonoids, steroids, phenols, terpenoids and different compounds are widely known studied for their organic properties. Several researchers indicate that the endophytes play a crucial position in host against predators and pathogen. That is a review on bioactive compound produced with the aid of the endophytic fungi. Several researchers from all over the world have diagnosed the endophytic fungi of medicinal plant life that show prominence activities against tumor and microbial pathogen.

Index Terms: Endophytic fungi, bioactive compounds, Medicinal Plants, antimicrobial.

I. INTRODUCTION

A bioactive substance is any substance present in the diet of humans, animals, or plants that affects the body that we use. Caffeine, for example, can be a blend of coffee. In horticulture, many growers are inquisitive about locating methods to growth the degrees of natural compounds in their plants, as certain bioactive compounds contribute to plant coloration, aroma, and flavor. Humans nowadays face many of the challenges of living as a end result of new diseases, illnesses, drug resistance and inequality in their groups[2]. Right here endophytes are capacity resources of latest drugs. Endophytes are considered bioprospecting, and they help in lots of approaches to triumph over many troubles. Among the diverse endophytic bacteria the fungus has been identified as the largest

microorganisms which are the main source of bioactive compounds. In the future we need to look for endophytes with their living organisms.

II. BIOACTIVE COMPOUNDS

Endophytes as a supply of bioactive compounds: natural endophytes associated with medicinal vegetation are synthesizers that produce secondary chemicals that can be used to deal with many diseases[3][4]. Many researchers have remoted and recognized diverse metabolites from Endophytic fungi. The fermentation of Endophytic fungi which are capable of producing compounds has several blessings, such as solid and dependable production. it could be grown on fermenters to offer a regular deliver of bioactive compounds and therefore may be used commercially. The effectiveness of various biosynthetic techniques via direct adjustments in cultural contexts may be explored as a mechanism main to the production of extraction and similarity of novel compounds. Bioactive metabolites have a extensive range of medicinal features consisting of antibacterial, antifungal, antiviral, immunomodulators, antioxidants, and anticancer sellers [13].

A. Antimicrobial activity

Antibacterial hobby of antibiotics through metabolites can be defined as low-molecular-weight substances made from microorganisms that operate at very low stages towards different organisms. Antimicrobial activity has certain endophytic fungi that may be worried inside the simulation of a number plant within the human race combinations of antimicrobials can be used not most effective as pills however also as food preservatives to control meals spoilage and foodborne infection, that's a major problem for the worldwide meals chain[22].

B. Antifungal activity

Other endophytes show off antifungal pastime inclusive of *Serratia marcescens* located in *Rhyncholacis penicillata* generating Oocydin A, a novel antioomycetous compound with the residences of chlorine macrocyclic lactone.

C. Anticancer compounds

Research into cancer anti-most cancers capsules is in demand nowadays due to its global most cancers-inflicting mortality price. The robust antimitotic agent Taxol, which has exquisite anti-cancer houses, became to begin with remoted from the *Taxus brevifolia* plant by enhancing the synthesis of microtubules and stopping their reduction in deadly capacity it could kill tumor cells. This compound is the world's first most cancers-fighting drug and is used to treat breast, lung, ovarian most cancers and different human infections[23].

III. OBJECTIVE

- Endophytic fungi are critical resources of medicinally lively compounds.
- Endophytic fungi driven via the success of molecular screening of endophytic fungi able to producing taxol
- Endophytic fungi are the essential supply of bioactive compound consisting of flavonoids, carotenoids, carnitine, choline and many others.
- Endophytes are the potential source of the new remedies
- Endophytic fungi are easily cultured laboratories and fermenter which will help to avoid harvesting plant ad affecting environmental condition.

IV. MATERIAL AND METHODS

1. Historically, various tools were utilized in experimental endophytic fungi beginning from the testing of bioactivities thru bio assays leading to the purification, identification, and characterization of the bioactive molecules.

2. Each of the remoted endophytic fungus is needed to be cultured and then extracted with distinct organic solvents for the isolation of the metabolites.

3. All the extracts are then interest the use of numerous interest particular bioassays processed via diverse ranges such as testing for the biological, purification of molecules chargeable for the examined biological activity.

4. Those natural compounds can be detected at mobile stages the use of a spread of visible strategies related to precise chromatographic gadget.

5. Chemical composition and related visual information in relation to numerous secondary metabolites inclusive of bioactive compounds available in diverse domains which includes the Human Metabolome database (HMDB) and Madison Metabolomics Consortium Database (MMDB).

6. Those compounds can be recognized through comparing their incredible data with the spectroscopic records received from the information.

7. even though records and chemical substances are saved in these repositories, in most unreported chemical substances, records aren't to be had in these repositories and are identified using a selection of visible strategies such as molecular ion mass spectrometry and fragmentation sample.

8. Currently, tandem mass spectroscopy blended with precise liquid chromatography structures is used to produce such data from fragmentary fragments.

9. in addition, facts generated the use of nuclear resonance and infra-crimson spectroscopy also provide crucial records approximately the formation of unknown chemical compounds, which enables decide the molecular structure of these computers.

10. Even though, such strategies serve as effective tools for the detection of released molecules and for the formation of latest molecules, experiments with big numbers of independent endophytic fungi by means of those approaches are effective and there may be always the possibility of dropping the capacity to supply novel metabolites.

Therefore, there's a want to create a powerful process for the trying out of large numbers of remote endophytic fungi so that you can locate fragments which can be able to producing positive essential chemical substances

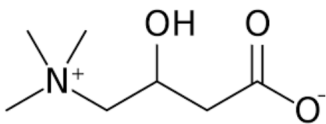
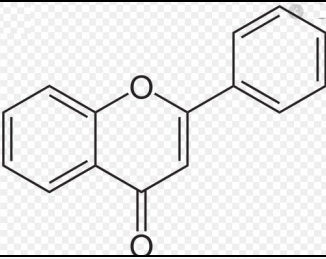
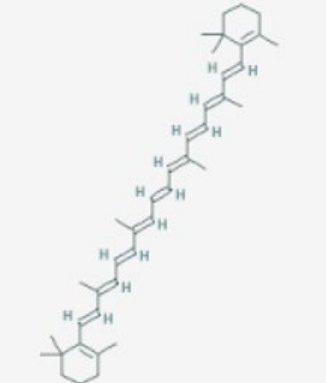
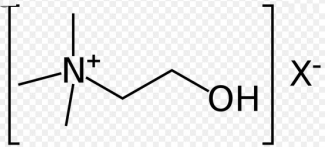
V.RESULT & DISCUSSION:

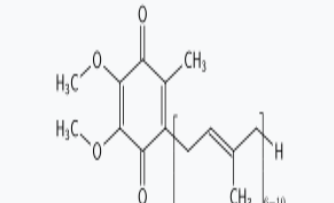
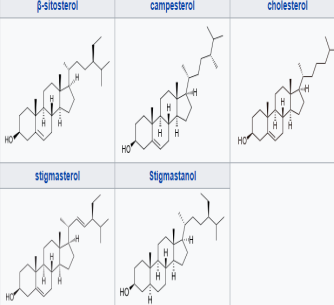
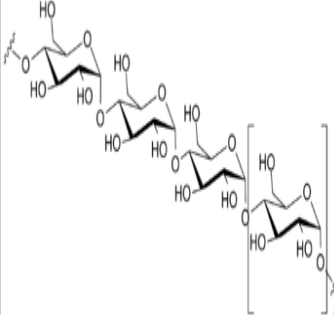
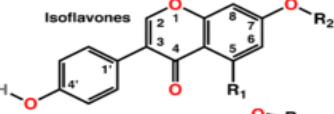
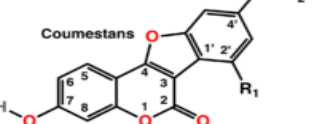
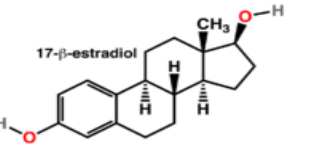
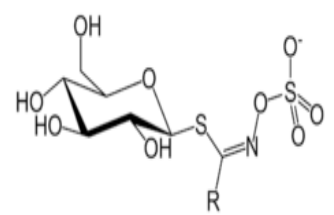
Data of soil of Mungeli District:

Sl. No.	pH	EC	OC	N	P	K	S	Zn	B	Fe	Mn	Cu
01	6.80	0.75	0.25	263.00	11.64	235.00	3.75	0.41	08.00	1.09	2.51	0.17
02	7.5	0.70	0.30	250.00	10.75	470.00	3.75	0.20	05.00	5.51	10.68	1.51
03	6.50	0.65	0.29	326.00	12.46	392.00	1.25	0.35	12.00	0.61	1.22	-
04	6.50	0.70	0.35	275.00	9.85	392.00	3.75	0.53	06.00	3.05	3.96	0.71
05	6.80	0.70	0.30	225.00	13.44	358.00	6.25	0.56	03.00	1.41	1.31	0.40
06	7.00	0.75	0.40	263.00	17.92	448.00	5.00	0.14	02.00	1.20	9.55	0.15
07	6.20	0.70	0.25	285.00	17.92	380.00	7.50	0.25	07.00	1.30	9.55	0.15
08	6.50	0.56	0.30	188.00	10.75	313.00	3.00	0.36	06.00	2.20	2.94	0.45
09	6.00	0.68	0.30	250.00	19.71	324.00	3.75	0.14	09.00	14.90	16.12	2.14
10	0.60	0.68	0.25	213.00	10.75	224.00	5.00	0.04	09.00	10.35	1.15	-

Graphical Presentation of Numerical Value of EC, OC & pH

IV. RESULT

Name	Chemical Structure	Effects	Source
Carnitine		➤ Deficiency ➤ Supplementation ➤ Male infertility ➤ Cardiovascular and peripheral arterial diseases ➤ Atherosclerosis ➤ Diabetes mellitus type 2 ➤ AIDS and HIV ➤ End stage renal disease and Hemodialysis	Recommended intakes of carnitine, Supplemental sources of carnitine
Flavonoids		➤ produce human protective enzyme systems ➤ its effects against infectious and degenerative diseases such as, cancers, cardiovascular diseases, and age-related diseases	greens, tea, cocoa and wine
Carotenoids		➤ Protect from disease and beautify immune gadget and be transformed into vitamin A, that is crucial for growth, immune gadget characteristic, and eye fitness.	<i>Apricots, asparagus, beef liver, beets, broccoli, cantaloupe, carrots, corn, guava, kale, mangoes, mustard and collard veggies.</i>
Choline		➤ Pregnancy and brain development ➤ Functions in the fetus ➤ Neural tube closure ➤ Choline and memory	Choline in food exists in either a free or esterified form such as phosphatidylcholine

Coenzyme Q		➤ Heart disease ➤ Migraine headaches ➤ Statin myopathy ➤ Cancer ➤ Dental disease	meat
Phytosterol	β-sitosterol campesterol cholesterol stigmasterol Stigmasterol 	➤ Cholesterol lowering	vegetable oils and products made from them
Polysaccharides		➤ β cell dysfunction ➤ Increase insulin secretion ➤ Inhibit α-amylase	Starch, Glycogen, Arabinoxylans, Cellulose, Chitin, Pectins, Acidic polysaccharides, Bacterial capsular polysaccharides
phytoestrogen	Isoflavones  Coumestans  17-β-estradiol 	➤ Males ➤ Females ➤ Infant formula	Western diet nuts and oilseeds soy products, cereals and breads, legumes, meat
Glucosinolates		➤ Humans and other mammals ➤ Toxicity ➤ Taste and eating behaviour	mustard, cabbage, and horseradish

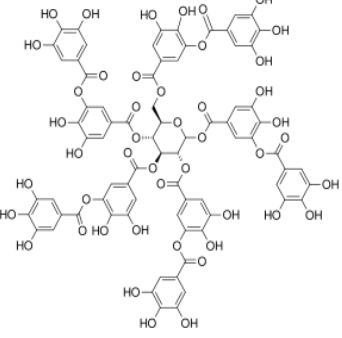
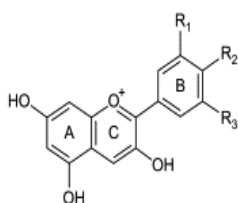
Polyphenols		➤ prevent blood clots ➤ reduce blood sugar level ➤ reduce disease risk ➤ improve digestion	fruit and vegetables, green tea, black tea, red wine, coffee, chocolate, olives, and extra virgin olive oil.
Anthocyanins		➤ decrease BP ➤ lessen cancer cell proliferation ➤ Inhibit tumor formation ➤ prevent diabetes	purple corn, blueberries, or lingonberries

Table 1: Bioactive compound with structure, effect and sources

VI. DISCUSSION

A. CARNITINE is a compound of quaternary ammonium worried in the conversion of medication to many mammals, plant life, and other diseases[9].

B. Flavonoids are polyphenolic molecules that comprise 15 carbon atoms and dissolve in water. They include two benzene rings related through a short chain 3 instances quick. One of the cabinets in this collection is attached to carbon in one of the benzene earrings, both by an oxygen bridge or without delay, which provides a 3rd vital ring[18].

C. Carotenoids these pigs produce bright yellow, crimson, and orange colors on vegetation, greens, and end result. Carotenoids act as a kind of human antioxidant. There are more than six hundred one of a kind sorts of carotenoids.

D. Choline is a crucial water-soluble nutrient just like vitamin. It is a component of lecithin, which is found in many eggs and flowers and in animal organs. The time period cholines confer with the quaternary ammonium salt element containing N, N, N-tri methyl ethanol ammonium cation (X⁻ at the right means an unspecified counteranion)[26].

E. CoenzymeQ, additionally known as ubiquinone, is a coenzyme own family located in lots of animals and micro organism (subsequently the name ubiquinone) food and Drug management (FDA) in treating any

medical circumstance. However, it is offered as a food supplement.

F. Cofactor is a chemical compound that isn't always a protein or steel ion required for the functioning of an enzyme along with catalyst, a substance that will increase the charge of chemical reactions.

G. Phytosterol-rich foods and dietary supplements were on sale for many years. Even though the outcomes of LDL cholesterol decreasing had been nicely documented, there may be no scientifically established proof of any beneficial effect on cardiovascular disease or overall mortality.

H. Polysaccharides are polymeric carbohydrate molecules composed of lengthy chains of monosaccharide units certain with the aid of glycosidic bonding, and in hydrolysis it gives monosaccharides or oligosaccharides [26].

I. Phytoestrogen is a xenoestrogen discovered in plants which isn't produced in the endocrine system, but is ate up by means of consuming phytoestrogenic vegetation.

J. Glucosinolates are the natural substances of many plants along with mustard, cabbage and horseradish.

k. Polyphenols (also referred to as polyhydroxyphenols) are part of the natural structure, but also through artificial or artificial, organic chemical substances are characterized via the presence of many debris of phenol shape units[24].

L. Anthocyanins (anthos) "flower" and "dark blue") are water-soluble pigments that, relying on their pH, may also seem red, pink, blue or black. Anthocyanin-rich meals plants encompass berries, raspberries, black rice, and black beans, among many other pink, blue, crimson, or black. Some coloration of autumn leaves is observed in anthocyanins.

VII. CONCLUSION

Endophytes were proven to be a wealthy source of novel herbal compounds with a extensive variety of organic capabilities and a excessive diploma of structural diversity. Bioactive compounds produced by using endophytes have been shown to be potentially effective and beneficial for protection and health concerns. The usage of current biotechnology along with genetic engineering, metabolic generation and microbial fermentation, we can higher understand and use this vital source of microorganisms, and make it more beneficial to humanity. Coming across new chemicals from natural products is vital to the development of latest tablets. It'll assist to avoid crop harvesting and affect biodiversity. On this paper we've got offered the element knowledge about endophytic fungi and its bioactive compounds. Additionally how the unique endophytic fungi and its microbial pastime are determined via distinct method[32].

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Pattern of Ichthyofaunal Diversity and Distribution Across Different Seasons of Kori Dam, Bilaspur of Chhattisgarh

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Abstract:

The ichthyofaunal diversity of Kori dam, Bilaspur Chhattisgarh was studied. Kori Dam is also known as Ghongha Tank and is located 5kms from Kota, Bilaspur. The fishes of the dam were sampled for 12 months (July 2020-June 2021) using gill net, hook and line and cast net. The fishes were identified by observing the morphological data. The use of the integrative taxonomic approach reported the identification of 41 species belonging to 26 genera. All these species and genera belong to 14 families viz Ambassidae, Anabantidae, Bagridae, Belontiidae, Cichlidae, Clariidae, Cobitidae, Cyprinidae, Mastacembelede, Mugilidae, Notopteridae, Osphronemidae, Osphronemidae, Synbranchidae and Saccobranchidae. It was revealed that 13 genera were reported in family Cyprinidae and remaining all families belong only one genus each. The analysis showed that the species belonging to the family Cyprinidae dominates the dam. The ichthyofaunal biodiversity of Kori dam revealed that the highest fish diversity was observed in monsoon season and followed by winter season and then summer season. The study clearly indicate the presence of rich fish diversity in Kori dam of Bilaspur Chhattisgarh. From the conservation point of view it was observed that among 41 fish species only 8 falls under vulnerable category of IUCN list. One of the major reasons of their vulnerability is the anthropogenic activities in and around the Kori dam. It's recommended that a systematic bio-monitoring and assessment of fish diversity across Bilaspur, Chhattisgarh. In addition appropriate species identification by using integrated taxonomic approach is recommended.

Index Terms: Ichthyofaunal diversity, Kori dam, conservation status, Seasonal variation.

I. INTRODUCTION

The knowledge regarding the aspects of fish ecology like species distribution and biodiversity is the fundamental aspect for developing effective strategies of conservation. Since, the ichthyofaunal diversity across different inland fresh water bodies has been playing a significant role in socio-economic and ecological perspectives. Fish has been regarded as an important aspect of aquatic ecosystem. In addition it has been reported to be the indicator of the water quality. Fishes bear a wide diversity in shape, size, and the habitat which they occupy. It has been revealed that out of 54000 vertebrate species in the world approximately 34000 are fish species found in different aquatic ecosystems. India is regarded as a mega diversity country due to its

richness in biodiversity. The country is also known by its rich biodiversity in fish species. The fresh and marine water of India comprise of 3231 fish species, which account about 9.7 percent of total number of fish species found in the world. The country also comprise of good diversity of inland fresh water fish assemblage. The central India is a region of high diversity and high endemism of fish fauna, because of the geoclimatic conditions [1]. Due to various manmade and natural causes freshwater habitats are now contracting every year and hence decreasing the fish species at a rapid rate.

The major factors which structure the fish assemblage in the aquatic ecosystems biotic and abiotic factors [2] like; geo-hydrological feature of the aquatic ecosystem [3,4] microhabitat heterogeneity [5] and to a certain degree, habitat alteration, aggravated by urbanization, anthropogenically induced climate change [6,7] and the presence of invasive exotic fish species [8]. Environmental conditions like dissolved oxygen, water pH, and water temperature across different seasons affects the diversity and distribution of fish assemblage. India has been also known by its diverse climatic conditions. This diversity of climatic conditions gave rise to different seasons. Each season has its own climatic parameters, which vary from place to place. This varied seasons and seasonal parameters result in the varied water physicochemical and biological parameters across the year.

The changing aquatic environment is a major reason for the diversity of fish species across India. Since the Inland fresh water fishes are harbored in the dams, reservoirs, lakes, and ponds of different rural and urban areas. In the rural areas of India fishing in the dams, reservoirs, lakes, and ponds has been well reported. Since these villagers have no knowledge about the conservation, protection and management of the fish biodiversity and they exploit these resources at alarming rate. Thus it's necessary for the scientific community across the country to study the diversity and conservation status of different fish assemblages. The present research work has been done to reveal the Pattern of Ichthyofaunal Diversity and Distribution Across Different Seasons of Kori Dam, Bilaspur of Chhattisgarh.

II. MATERIAL AND METHODS

Kori Dam (Ghongha Tank) is located 5kms from Kota, Bilaspur, CG. The dam is located between 22°18' 02" N Latitude and 81° 58' 00" E Longitude. The dam has been an important source of drinking, cooking, bathing and irrigation. The fishes of the dam were sampled for 12 months (July 2020-June 2021) using gill net, hook and line and cast net. To assess the fish diversity across different

seasons of the Kori dam of Bilaspur Chhattisgarh A boat was hired and the sampled dams were visited and the fish samples were collected carefully throughout the study period. After the arrival at the sampling sites, a careful observation was made from the bank of the water bodies and visual counts from an approximate 2mx2m area was carried out in clear water. All the fish specimens were identified based on morphometric and meristic characters following Rahman [9,10] and Talwar and Jhingran [11]. Identified species were classified based on the classification system of Nelson [12]. Scientific names and authorities follow those of Froese and Pauly [13]. The conservation status categories (Near Threatened, Least Concern, Vulnerable etc.) are based on the online classification database developed by the International Union for the Conservation of Nature and Natural Resources [14].

III. RESULT AND DISCUSSION

The Ghongha Tank is known as Mathura Jalashay and locally as Kori Dam. Kori Dam is located 5 km from the Kota Block in the Bilaspur district of Chhattisgarh. The Kori Dam is located between latitude 22°18' 02'' N Latitude and 81° 58' 00'' E Longitude. The edge of this dam is covered by hills and forests and is also connected by four small rivers Katori, Ghongha, Bagaiha and Suknaiya. The fish production of this reservoir in the year (2019-2020) was 64.00 tons (0.14 tons / ha). The morphometric features of the Kori dam are given below

Morphometric features of Dam

Geographical Ordinates : Latitude 22°18' 02'' N

Longitude 81 58 00E Toposheet No

: 64/F/15&16, 64/J/3&4

Full storage level (m) : 318.20M

Dead storage level (m) : 311.50M

Catchment area (km²) : 43.00 sq miles

Gross storage capacity (x 10⁶m³) : 1199.45Mcft

Dead storage capacity (x 10⁶m³) :138.71Mcft

Water spread area at FRL (ha) : 718 Ha

Mean depth (m) : 7.00M

Length of shore line(km) : 60.00Km

The fish diversity of Kori dam in the present study comprised of 26 genera and 41 species belonging to 14 families (Table-1 and Table-3). The combined morphometric and meristic approach enabled accurate identification of the fishes at species-level. The different species identified in Kori dam during the study were; *Amblypharyngodon microlepis*, *Amblypharyngodon mola*, *Amphipnous cuchia*, *Anabas cobojus*, *Aspidoparia morar*, *Badis badis*, *Barilius barila*, *Barilius barila*, *Chanda nama*, *Chanda ranga*, *Channa gachua*, *Channa marulius*, *Chela laubuca*, *Catla catla*, *Clarias batrachus*, *Colisa fasciata*, *Crossocheilus latius*, *Esomus danricus*, *Garra gotyla*, *Heteropneustus fossilis*, *Labeo calbasu*, *Labeo pangusia*, *Labeo bata*, *Labeo gonius*, *Lepidocephalichthys guntea*, *Macrognathus armatus*, *Mystus bleekeri*, *M. oar*, *M. tengara*, *M. vittatus*, *Notopterus notopterus*, *Osteobrama cotio*, *Puntius chola*,

P. sophor, *P. conchoni*, *Oxygaster bacaila*, *Rasbora elanga*, *Rasbora daniconius*, *Rhinomugil corsula*, *Telapia mossambica* and *Xenotodon cancila* respectively. However in Chhattisgarh a total of 96 species were recorded by different scientists [15-23]

The maximum share of 51.21 % was contributed by family cyprinidae followed by ambassidae and bagridae have 9.75% of species in both of these families. The dominance of these families could be in relation to their prolific breeding capabilities and high adaptation to varying environmental conditions [24,25]. The remaining 11 families had an equal contribution of 2.43% species (Table-3 and Fig-2). The results of the present are in consistent with those of Oyewo [26], Atile et.al., [27] and Abiodun and John [28]. The highest number of fish species was recorded in Monsoon at different sampling sites, of Kori dam of Bilaspur Chhattisgarh (Table-2). Among all the sampling locations, the lowest number of species was found in summer season respectively. Oladipo et.al., [29] have reported in his study entitled "Patterns of ichthyofaunal diversity and distribution across Jebba Hydro-Electric Power (HEP) dam, Jebba, north-central Nigeria" that the highest fish diversity was recorded in monsoon season. The results are contrasting to some authors like Galib et al., [30] recorded presence of the highest number of fish species in the Choto Jamuna River in February, November and December. One of the cause of decrease in the fish diversity in winter and summer months is because the water level of water bodies starts to decrease during this time and large number of catch is generally made by the fishermen in almost all the water bodies of country. Similar trend of monthly occurrence of fish species in different water bodies of Bangladesh was also revealed through several other studies [31-32].

Table 1: Ichthyofaunal diversity and distribution across different seasons of Kori Dam, Bilaspur, Chhattisgarh during July 2020 to June 2021

S.No	Fish Species	Family	SEASON		
			Monsoon	Winter	Summer
01	<i>Amblypharyngodon microlepis</i>	Cyprinidae	+	+	+
02	<i>Amblypharyngodon mola</i>	Cyprinidae	+	+	+
03	<i>Amphipnous cuchia</i>	Synbranchidae	+	-	+
04	<i>Anabas cobojus</i>	<u>Anabantidae</u>	-	+	+
05	<i>Aspidoparia morar</i>	Cyprinidae	+	-	+
06	<i>Badis badis</i>	Nandidae	+	-	+
07	<i>Barilius barila</i>	Cyprinidae	+	+	-
08	<i>Barilius barila</i>	Cyprinidae	+	+	-
09	<i>Chanda nama</i>	Ambassidae	+	+	-
10	<i>Chanda ranga</i>	<u>Ambassidae</u>	+	+	-
11	<i>Channa gachua</i>	Ambassidae	-	+	+
12	<i>Channa marulius</i>	<u>Ambassidae</u>	+	-	+
13	<i>Chela laubuca</i>	Cyprinidae	-	+	-
14	<i>Catla catla</i>	Cyprinidae	+	+	-
15	<i>Clarias batrachus</i>	Clariidae	+	-	+
16	<i>Colisa fasciata</i>	<u>Osphronemidae</u>	+	+	+
17	<i>Crossocheilus latius</i>	Cyprinidae	+	-	+
18	<i>Esomus danricus</i>	Cyprinidae	+	+	+
19	<i>Garra gotyla</i>	<u>Cyprinidae</u>	+	+	+
20	<i>Heteropneustus fossilis</i>	Saccobranchidae	+	+	-
21	<i>Labeo calbasu</i>	Cyprinidae	+	+	+
22	<i>Labeo pangusia</i>	Cyprinidae	+	+	-
23	<i>Labeo bata</i>	Cyprinidae	+	+	+
24	<i>Labeo gonius</i>	Cyprinidae	-	+	-
25	<i>Lepidocephalichthys guntea</i>	Cobitidae	+	+	-
26	<i>Macrognathus armatus</i>	Mastacembelede	+	-	+
27	<i>Mystus bleekeri</i>	Bagridae	+	+	+
28	<i>M. oar</i>	Bagridae	+	-	+
29	<i>M. tengara</i>	Bagridae	+	+	-
30	<i>M. vittatus</i>	Bagridae			
31	<i>Notopterus notopterus</i>	Notopteridae	-	+	+
32	<i>Osteobrama cotio</i>	Cyprinidae	+	-	+
33	<i>Puntius chola</i>	Cyprinidae	-	+	+
34	<i>P. sophor</i>	Cyprinidae	+	+	-
35	<i>P. conchoniis</i>	Cyprinidae	+	+	-
36	<i>Qxygaster bacaila</i>	Cyprinidae	+	+	-
37	<i>Rasbora elanga</i>	Cyprinidae	-	+	+
38	<i>Rasbora daniconius</i>	Cyprinidae	+	-	+
39	<i>Rhinomugil corsula</i>	Mugilidae	+	+	+
40	<i>Telapia mossambica</i>	Cichidae	+	+	+
41	<i>Xenotodon cancila</i>	Belonidae	+	-	+

*(Note: LC=Least concern, NE= Not Evaluated, VU= Vulnerable, NT=Not Threatened)

Table 2: Conservation status of Ichthyofaunal diversity in Kori Dam, Bilaspur, Chhattisgarh during July 2020 to June 2021

S.No	Fish Species	Family	Conservation
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			Status
01	<i>Amblypharyngodon microlepis</i>	Cyprinidae	VU
02	<i>Amblypharyngodon mola</i>	Cyprinidae	NE
03	<i>Amphipnous cuchia</i>	Synbranchidae	NE
04	<i>Anabas cobojus</i>	Anabantidae	VU
05	<i>Aspidoparia morar</i>	Cyprinidae	LC
06	<i>Badis badis</i>	Nandidae	VU
07	<i>Barilius barila</i>	Cyprinidae	LC
08	<i>Barilius barila</i>	Cyprinidae	NE
09	<i>Chanda nama</i>	Ambassidae	NT
10	<i>Chanda ranga</i>	Ambassidae	NT
11	<i>Channa gachua</i>	Ambassidae	LC
12	<i>Channa marulius</i>	Ambassidae	LC
13	<i>Chela laubuca</i>	Cyprinidae	LC
14	<i>Catla catla</i>	Cyprinidae	NT
15	<i>Clarias batrachus</i>	Clariidae	NE
16	<i>Colisa fasciata</i>	Osphronemidae	NT
17	<i>Crossocheilus latius</i>	Cyprinidae	LC
18	<i>Esomus danricus</i>	Cyprinidae	NE
19	<i>Garra gotyla</i>	Cyprinidae	NE
20	<i>Heteropneustus fossilis</i>	Saccobranchidae	VU
21	<i>Labeo calbasu</i>	Cyprinidae	LC
22	<i>Labeo pangusia</i>	Cyprinidae	LC
23	<i>Labeo bata</i>	Cyprinidae	NE
24	<i>Labeo gonius</i>	Cyprinidae	VU
25	<i>Lepidocephalichthys guntea</i>	Cobitidae	VU
26	<i>Macrognathus armatus</i>	Mastacembelede	NE
27	<i>Mystus bleekeri</i>	Bagridae	NT
28	<i>M. oar</i>	Bagridae	NT
29	<i>M. tengara</i>	Bagridae	LC
30	<i>M. vittatus</i>	Bagridae	NE
31	<i>Notopterus notopterus</i>	Notopteridae	NT
32	<i>Osteobrama cotio</i>	Cyprinidae	VU
33	<i>Puntius chola</i>	Cyprinidae	NT
34	<i>P. sophor</i>	Cyprinidae	NT
35	<i>P. conchoniis</i>	Cyprinidae	NT
36	<i>Qxygaster bacaila</i>	Cyprinidae	VU
37	<i>Rasbora elanga</i>	Cyprinidae	NE
38	<i>Rasbora daniconius</i>	Cyprinidae	NE
39	<i>Rhinomugil corsula</i>	Mugilidae	VU
40	<i>Telapia mossambica</i>	Cichidae	VU
41	<i>Xenotodon cancila</i>	Belonidae	NE

*(Note: LC=Least concern, NE= Not Evaluated, VU= Vulnerable, NT=Not Threatened)

In case of the conservation status of Kori dam across total of 41 species 10 species were belonging to Not Threatened category, 09 fish species were declared in least concern category, 10 species were under Not Evaluated category (Table-2). From the conservation point of view it was observed that among 41 fish species only 8 falls under vulnerable category of IUCN list Similar potentiality was also reported by several researchers while working with similar issues in various natural waters ecosystems [31-33].

Results generated through interviews and ranking by the experienced fishermen revealed that population trend of over two-third (70.97%, 44 species) fish species in the Kori dam of Bilaspur Chhattisgarh was Decreasing from last few years due to some concerned threats.

TABLE 3 Number and percent composition of families, genera and species in Kori dam of Bilaspur, Chhattisgarh.

S.No	Families	Genera	%contribution of genera to families	Species	%contribution of species to families
01	<u>Ambassidae</u>	1	3.85	4	9.75
02	<u>Anabantidae</u>	1	3.85	1	2.43
03	Bagridae	1	3.85	4	9.75
04	Belonidae	1	3.85	1	2.43
05	Cichidae	1	3.85	1	2.43
06	Clariidae	1	3.85	1	2.43
07	Cobitidae	1	3.85	1	2.43
08	<u>Cyprinidae</u>	13	50.00	21	51.21
09	Mastacembeledae	1	3.85	1	2.43
10	Mugilidae	1	3.85	1	2.43
11	<u>Notopteridae</u>	1	3.85	1	2.43
12	<u>Osphronemidae</u>	1	3.85	1	2.43
13	<u>Synbranchidae</u>	1	3.85	1	2.43
14	Saccobanchidae	1	3.85	1	2.43

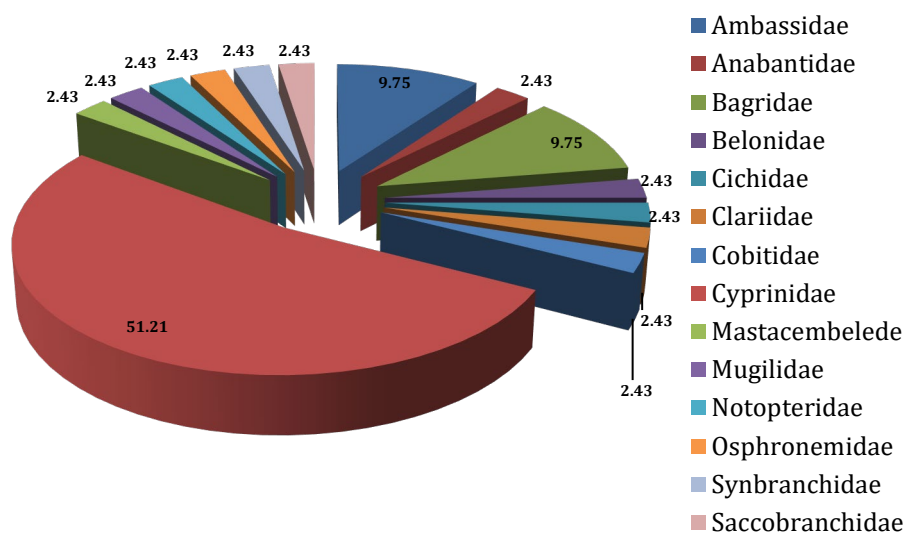


Fig. 1: Percentage (%) contribution of Fish species to families in Kori dam, Bilaspur.

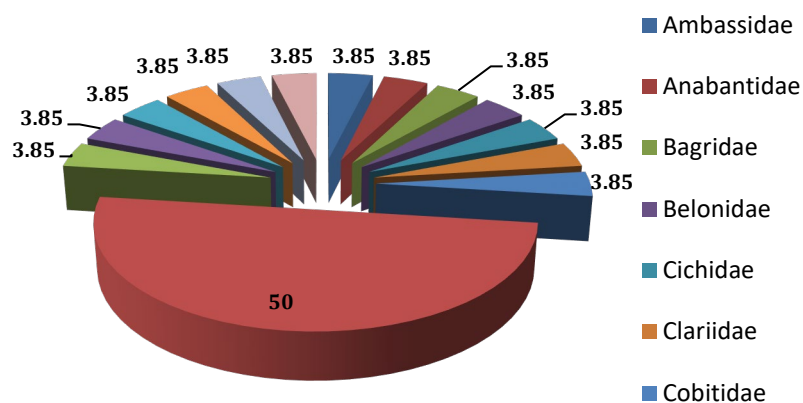


Fig. 2 : Percentage (%) contribution of Fish species to genus in Kori dam, Bilaspur.

IV. CONCLUSION

The present research study shows that Kori comprises a high number of fish diversity. It was noted that from last few decades the diversity of fishes was reduced due to some concerned threats. The fish fauna faces challenges due to the unregulated fishing gear and poor conservation techniques. The reported challenges could be correlated to low level of conservation awareness across the fishermen of the area, inappropriate laws of fishing, and lack of proper regulations of fishing across the village community. Hence, the implementations of community-based conservation programmes are necessitated. This include educating the local village community on the need for proper management and controlled fishing in the area will improve the understanding of the fishermen on the need for sustainable fishing activities. Finally, this study has provided vital information about the fish diversity and conservation status of Kori dam Bilaspur, Chhattisgarh.

CONFLICT OF INTEREST

The authors declare that they do not have any conflict of interest

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NÜkh l x < dh ukjh fo" k; d ykdxkFkkvk dh ijEijk e ohjxuk fcyklk d oVhu dk eY; kdu
feFky'k flg jkt ir¹ Mk-Lugyrk fuey d j²

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Lkkjk'k&

छत्तीसगढ़ी लोकपरम्परा आदिम युग से प्रचलित-प्रवाहित लोकमानस के अनुभव का वह खजाना है जो वह भावी पीढ़ी को हस्तांतरित करता है। नयी पीढ़ी युगानुरूप संशोधित-परिवर्धित संस्कृति के रूप में ग्रथित है जो लोक के रहन-सहन आवास-निवास आचार-विचार रीति-रिवाज, वस्त्राभूषण, पर्व, उत्सव, त्यौहार, व्रत लोकविश्वास, धर्म, कला, लोकसाहित्य आदि में विस्तीर्ण है।

छत्तीसगढ़ी लोककथाओं और लोकगाथाओं में जहाँ संस्कृति के साथ लोकविज्ञान घुलमिल कर गयी पीढ़ी को जीवन-दर्शन से साक्षात्कार कराते हैं, वही दृश्यकाव्य होने और लोकमंच से जुड़ने के कारण छत्तीसगढ़ी लोकनाट्य पात्रों के माध्यम से जीने का तरीका सिखाते हैं और उनमें सत्य-असत्य धर्म-अधर्म, न्याय-अन्याय, नीति अनीति, हिंसा-अहिंसा के धमको समझाकर मानवता की सीख प्रदान करते हैं।

मुख्य शब्द:- लोकगाथा, लोकसाहित्य, लोकजीवन, लोकपरम्परा

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लोकगाथा की दृष्टि से छत्तीसगढ़ अत्यंत समृद्ध है। डॉ. सत्येन्द्र सिन्हा के अनुसार "समस्त भोजपुरी जनपद में प्रधान रूप से नौ लोकगाथाओं का प्रचलन है।" जबकि छत्तीसगढ़ लोकसाहित्य में तीस से अधिक लोकगाथाएँ प्रचलित हैं। छत्तीसगढ़ के अधिकांश लोकगीतों में किसी न किसी रूप से लोकगाथा का प्रभाव रहता है। लोकगाथाओं के नायक-नायिकाओं में वीरता, श्रुता एवं साहस के अतिरंजित गुण मिलते हैं। "छत्तीसगढ़ जनपद के प्रायः समस्त प्रधान लोकगीतों में किसी न किसी रूप में लोकगाथा का समावेश रहता है। लोकगाथा की परंपरा वैसे हर लोक गीतों में पायी गई है जो कि उस क्षेत्र में घटित कोई ऐतिहासिक घटना से संबंधित रहती है। ये घटना राजनैतिक, ऐतिहासिक, प्रेम-प्रासंगिक, वीरतापूर्ण तथा विभिन्न परिस्थिति जन्य प्रभावों से युक्त होते हैं। इन लोकगाथाओं का निर्माण काल मध्ययुग है, अतः इनमें तात्कालीन परिस्थितियों का चित्रण मिलता है। अक्सर कथा के नायक में वीरता अधिक है। वीरतापूर्ण प्रधानगुणों में नारियां भी पुरुषों से पीछे नहीं हैं। प्रायः सभी लोकगाथाएँ किसी न किसी कहानी को लेकर चलती हैं, और यद्यपि मूलतः ये कहानियाँ ही हैं, परन्तु गेय हैं।"[1]

डॉ. मेरे के अनुसार- "बेलेड छोटे-छोटे परिच्छेदों में रचित सीधी-सादी जीवन कविता है, जिसमें कोई लोकप्रिय कथा चित्रात्मक रूप में कही गई है।"[2] "लोक गाथाएँ चूंकि

लम्बी होती हैं, अतएव कहानी एवं गीत-संगीत का समावेश होने के कारण ये काफी रोचक होती हैं एवं जनसमूह द्वारा काफी तन्मयता से सुनी जाती हैं। इसलिए कुछ लोकगाथा-गायक इसे स्मरण कर अपनी जीविका का साधन बना लेते हैं तथा गांव-गांव घुमकर लोकगाथाओं का गायन करते हैं। कई परिवारों में तो यह कार्य पीढ़ी दर पीढ़ी गायी जाती है। कई क्षेत्रों में तो विशिष्ट जातियों के जीविकोपार्जन का साधन मात्र बन गई है। इन लोक गाथाओं से जन सामान्य का मनोरंजन ही होता है। जैसे छत्तीसगढ़ की देवार एवं पठारी जातियाँ [3]

लोकगाथाओं का आकार कुछ निश्चित नहीं होता है। कई लोकगाथाएँ तो इतनी लम्बी होती हैं कि उन्हें आकार की दृष्टि से शिष्ट साहित्य के "महाकाव्य" की श्रेणी में रखा जा सकता है, जैसे आल्हा और पंडवानी। पंडवानी, आल्हा में लम्बी कहानियाँ ही वर्णित हैं जबकि ढोला मारु, लोरिक चंदा, वीरसिंह तथा सरवन की कथा प्रायः उतनी लम्बी नहीं। छत्तीसगढ़ में नारी प्रमुख लोकगाथाओं में अहिमन रानी, रेवा रानी, कंवला रानी, रहीमत रानी आदि की गाथा प्रमुख हैं जिसमें इनकी वीरता, सतीत्व, धर्म परायणता एवं पातिव्रत धर्म का उल्लेख है और उनकी गाथाएँ छत्तीसगढ़ में प्रमुख रूप से गायी जाती हैं [4]

Mk- fot; dekj flUgk d vulkj
NÜkh l x < dh ukjh ç/ku ykdxkFkk dk oxh d j.k
fuEuku l kj l fd; k x; k g-

छत्तीसगढ़ी नारी प्रधान लोकगाथाएँ

अहिमन रानी	फूलबासन
केवला रानी	बिलासा कॅवटिन[5]
रहिमत रानी	
नगेश्वर कइना	
चंदा-ग्वालिन	
फूलकुंवर	
रेवा रानी	
दसमत ओड़नीन	
कवलापति	

यह सभी नारी प्रधान लोकगाथाएँ देवार जातियों के द्वारा गायी जाती है।

छत्तीसगढ़ी लोकगाथाएँ एक ओर जहाँ सार्वदेशिक लोकगाथाओं के आंचलिक रूप को उद्घाटित करती हैं, वहीं दूसरी ओर स्थानीय रंग व तरंग के अनुरूप विशिष्ट लोकगाथाओं को भी प्रस्तुत करती है। जिन गाथाओं का क्षेत्र वृहद् विस्तृत है, वे इस अंचल में भी प्रचलित हैं जबकि इतिहासकारों के मौन रहने के बावजूद अनेक स्थानीय गाथाएँ छत्तीसगढ़ी जनमन में रची बसी है। ये गाथाएँ इस अंचल की धरोहर ही नहीं अपितु ऐतिहासिक, सांस्कृतिक दस्तावेज हैं। लोकगाथाकार कल्पना कौशल व भावसागर के सहारे त्रिलोक को ही गेय कथा की सीमा समझता है।

2- Nùkhlx< dh ukjh fo"K;d ykdxFkk ijEijk ei fcyklk dïVhu dk eY;kdu

Nùkhlx< dh ukjh fo"K;d ykdxFkk ijEijk ei fcyklk dïVhu dk eY;kdu v|kfyf[kr fcUnvk ij çLr r g&

2-1 HkfDr&Hkkouk

छत्तीसगढ़ की नारियों में भक्ति-भावना कूट-कूटकर पायी जाती है। वे शंकर-पार्वती की पूजा करती हैं उन्हीं को अपने कुल देवी-देवता के रूप में मानती हैं। शंकर-पार्वती भी उनके ऊपर अपनी कृपा बनाये रखते हैं। जैसे—

vfgeu jkuh

“जब अहिमन रानी को उनके पति राजा वीरसिंह के द्वारा घोड़े की पूँछ से बांधकर खींचा जाता है। तब अहिमन रानी मर जाती है। उसका व्यापारी भाई आता है। मृत बहन को देखकर शोक-मग्न होता है। इसी समय महादेव-पार्वती के प्रताप से अहिमन पुनर्जीवित हो जाती है। ये सभी अहिमन रानी की भक्ति का प्रताप था।”

doyk jkuh

राजा मदनसिंह केवलारानी को अपने घोड़े के पूँछ से बांध देते हैं और घोड़ा कूदाते हुये आगे बढ़ते हैं। केवला रानी रोती-बिलखती है। अन्त में सोलहों सिंगार किये रानी स्वर्ग-सिधारती है। उधर से नारद मुनि पधारते हैं पार्वती भी आ पहुँचती हैं। वे नारद मुनि से केवला को पुनर्जीवित करने का आग्रह करते हैं और केवला रानी जी उठती है। ये सभी केवला रानी की भक्ति और विश्वास का प्रतीक है।

doykifr

“देवराज इन्द्र की पुत्री कंवलापति लक्ष्मण जती से अत्यधिक प्रेम करती थी। एक मालिन वृद्धा के द्वारा बताये जाने पर वह लक्ष्मण तक पहुँचती है। वह शंकर जी की पूजा-अर्चनादि से संतुष्ट कर वरदान में पति रूप में लक्ष्मण को प्राप्त कर लेती है। इस गाथा में कंवलापति द्वारा शंकरजी पर विश्वास व अपने भक्ति-भावना द्वारा लक्ष्मणजती को पति रूप में प्राप्त करना बताया गया है।”

nler duk

दसमत कैना भी ईश्वर पर आस्था रखती थी, विश्वास करती थी परन्तु कर्म करना नहीं छोड़ती थी। “कर्म करो फल की चिंता मत करो” गीता के उपदेश का अनुसरण करते हुए वह भगवान का नाम लेकर कर्म करती थी। एक बार जब उसके पिता भोजराज उससे पूछते हैं कि तुम किसके भाग्य में खाते-पिते हों तथा किसका नाम लेती हो। तब जब उत्तर में दसमत कैना कहती है कि पिताजी ! मैं अपने भाग्य का खाती-पीती हूँ तथा ईश्वर का नाम लेती हूँ।

छत्तीसगढ़ी में भाग्य को ‘करम’ कहा जाता है। यहाँ पर दसमत कैना का ईश्वर के प्रति पूर्ण आस्था स्पष्ट होती है। वह आजीवन ईश्वर पर विश्वास करती है तथा उसका नाम भी लेती है। ईश्वर ही उसकी रक्षा करते हैं। इसीलिए वह अपने कर्तव्य पथ पर सफल हो अपने सतीत्व की रक्षा कर पाती है।

fcyklk dïVhu

जिस प्रकार छत्तीसगढ़ की नारियाँ अहिमन रानी, केवला रानी, कंवलापति, व दसमत कैना आदि पार्वती (दुर्गा) व शंकर जी पर पूर्ण आस्था रखती तथा पार्वती शंकर जी की ही भक्ति-भावना से पूजा करती थी। उनकी गाथा में शंकर जी पार्वती की भक्ति स्पष्ट रूप से परिलक्षित है। तथा संकट आने पर शंकर-पार्वती उनके ऊपर कृपा भी करते हैं।[6]

इसी प्रकार बिलासा कंवटीन भी गौरा-गौरी, दुर्गा, लक्ष्मी पर आस्था रखती थी युद्ध के समय दुर्गा लक्ष्मी की नाम रटती थी। राजा कल्याण साय बिलासा कंवटीन को महिला सेनापति बनाते हैं। तब राजदरबार से बिलासा घोड़े पर सवार होकर निकलती है। बिलासा ने अपने जागीर का विस्तार किया गाँव को विकसित कर नगर का निर्माण किया उसके बड़ते प्रभाव को देखकर पड़ोसी राज्य ने उसकी जागीर पर हमला कर दिया। बिलासा डटकर मुकाबला किया अपने राज्य की रक्षा करने के लिए हिम्मत नहीं हारी और माँ दुर्गा का नाम लेते हुए एक-एक को मार गिराई।

2-2 l rhRo

छत्तीसगढ़ की नारियाँ पतिव्रता होती हैं। वे पति की पूजा करती हैं तथा अत्यधिक प्रेम भी करती हैं। वे पति को परमेश्वर मानती हैं। प्रत्येक नारी में सतीत्व की भावना पायी जाती है। चाहे उनके पति उन्हें मारे-पीटे या शंका करे फिर भी वह उसे ईश्वर मानती है। जैसे—

uxlj dbuk

सीताराम अपनी पत्नी नगोसर कइना पर कोड़े की वर्षा करके उनकी प्राण ले लेता है। उसी समय परमात्मा वृद्ध के वेश में आकर अमृत वर्षा कर नगोसर को जीवित करता है। एक दिन जब सीताराम नदी में गिर जाता और उसे नदी पार करना मुश्किल पड़ जाता है और बहने लगता है तब नगोसर कइना नदी में कूदकर अपने पति को बचा

लेती है। यहीं पर नगेसर कइना की सतीत्व दिख जाती है कि वह अपने पति से कितना प्रेम करती है।

नलर दुक

दसमत कैना भी अपनी पतिव्रता धर्म, धर्मशीलता व सतीत्व के लिये पूरे उड़िया समाज व छत्तीसगढ़ में आदर्श नारी के रूप में जानी जाती है। जब दसमत कैना के स्वजन-परिजन राजा महमदेव के हाथों मारे जाते हैं और उसके पति सुदन बिहड़िया भी गोली के शिकार हो जाते हैं तब भी दसमत सब कुछ खोकर भी अपने स्वाभिमान, मान-मर्यादा और अस्मिता की रक्षा के लिये प्राणप्रण से जुटी रहती है। अंत में जब अकेली पड़ जाती है तब अपनी इज्जत व मर्यादा की रक्षा के लिये अपने पति की चिता में खुद सती हो जाती है। इस प्रकार नारी समाज तथा छत्तीसगढ़ में अपने सतीत्व का छाप छोड़ जाती है [7]

फक्यकल दौवहु

जिस प्रकार नगेसर कइना व दसमत कैना अपनी पतिव्रता धर्म, धर्मशीलता, सतीत्व के कारण आज छत्तीसगढ़ में आदर्श नारी के रूप में विख्यात है उसी प्रकार बिलासा कॅवटीन अपनी पतिव्रता धर्म, धर्मशीलता व सतीत्व के लिये पूरे कॅवट (निषाद) समाज व छत्तीसगढ़ में आदर्श नारी के रूप में जानी जाती है। एक बार बाहरी शासक अपने लाव-लास्कर के साथ शिकार करने इसी जंगल में आये थे जहाँ उन्हें बिलासा के राजपाट की प्रसिद्धि और शान शौकत की जानकारी हुई। इस शासक ने अपनी विशाल सेना बुलाकर बिलासा के नगरी में आक्रमण कर दिया बंशी के नेतृत्व में बाहरी राजा के सैनिकों से घनघोर युद्ध हुआ। दुष्ट राजा के सैकड़ों सैनिकों का संहार करते हुए अततः बंशी शत्रुओं का शिकार हो गया उन्हें अपना प्राण गंवाना पड़ा। बंशी के वीरगति प्राप्ति की सूचना से बिलासा अत्यंत दुखी हुई और अपना रौद्र रूप दिखाते हुये बड़ी संख्या में शत्रु सैनिकों का नर संहार की। शत्रु सैनिकों की संख्या अत्यधिक होने के कारण बिलासा भी लड़ते-लड़ते वीरगति को प्राप्त हुई।

फु"द"कल &

छत्तीसगढ़ में अनेक नारी के लोकगाथा प्रचलित हैं जिसमें बिलासा कॅवटीन की नारी लोकगाथाओं में एक प्रमुख लोकगाथा है। यहाँ नारी लोकगाथाओं की प्राचीन परंपरा है। बिलासा का नाम अमर। उसके नाम पर बसे बिलासपुर में ही आज हाईकोर्ट है। यहाँ 1933 में महात्मा गाँधी आये वे बिलासा के नगर में पधारे जहाँ व आये अब गाँधी चौरा कहलाता है। वीर नारी का नाम अमर हो गयी। अरपा नदी के किनारे माता बिलासा की मूर्ति लगी है। इसका यश चारों ओर फैला है। इतिहास के तथ्य तर्क प्रमाण आश्रित होते हैं, लोकगाथाओं की तरह सहज स्वाभाविक नहीं इसलिये इतिहास नायकों को चारण-भाV बारोट की आवश्यकता होती है, जो उनकी सत्ता और कृतिव सके प्रमाणीकरण स्व-गढ़ सके, पत्थर-तांबे पर उकेरे जा सके, लेकिन लोक नायकों के व्यक्तित्व की विशाल उदस्तता जनकवि को प्रेरित और बाध्य करती है, गाथाएँ गाने के लिये। इसलिए संदेश से परे नहीं होते, किन्तु लोक नायकों का सच काल व समाज स्वीकृत होकर सदैव असंदिग्ध होता है।

इसी तरह “बिलासा कॅवटीन” काव्य, संदिग्ध इतिहास नहीं बल्कि जनकवि-गायक देवारों की असंदिग्ध गाथा है, जिसमें “सोने के माची, रूप के परा” और “धुरा के मुरा बनाके, थूक में लाडू बांधे” कहा जाता है। कॅवटीन की गाथा देवार गीतों के काव्य मूल्य का प्रतिनिधित्व कर सकने में सक्षम है ही कॅवटीन की वाक्पटुता और बुद्धि-कौशल का प्रमाण भी है।

लुनहक xUFk &

[1] निशाद डॉ. दशरथ लाल “बहादुर सती बिलासा देवी” संगम साहित्य एवं सांस्कृतिक समिति मगरलोड धमतरी (छ. ग.)

[2] बिंद बलराम “निशाद संस्कृति”

[3] पाठक डॉ. विनय कुमार “छत्तीसगढ़ी लोकगाथा” प्रयास प्रकाशन बिलासपुर(1970) ।

[4] निर्मलकर डॉ. बलदाऊ प्रसाद “छत्तीसगढ़ समीक्षा साहित्य को डॉ. विनय कुमार पाठक का प्रदेय”-प्रयास प्रकाशन बिलासपुर।

[5] सिन्हा डॉ. विजय कुमार छत्तीसगढ़ी लोकगाथा समग्र भावना प्रकाशन नई दिल्ली।

[6] वर्मा रामकुमार ‘नारी प्रधान देवार लोकगाथा केवलारानी’ प्रकाशक बिहनिया संस्कृति विभाग रायपुर (छ.ग.)

[7] निर्मलकर डॉ. स्नेहलता छत्तीसगढ़ी लोकगाथा की परम्परा और दसमत कैना एक विवेचना डॉ. सी.वी. रामन् विश्वविद्यालय करगी,रोड कोटा बिलासपुर (2014) ।

विप्र जी के जीवन और साहित्यिक व्यक्तित्व पर

मुरलीशंकर शर्मा¹ और सनेहलता निर्मलकर²

¹शोधार्थी, ² शोध निर्देशक (सह प्राध्यापक) हिन्दी विभाग, डॉ. सी.वी.रामन् विश्वविद्यालय करगी रोड कोटा, बिलासपुर(छ.ग.)

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सारांश :

सूर्य जिस प्रकार उदित होता है, और अपनी आभा किरणों के विकीर्णन द्वारा समस्त प्रकृति-जगत् को आच्छादित करते हुए उन्हें नव-जीवन प्रदान करता है, ठीक वैसे ही पं. द्वारिका प्रसाद तिवारी 'विप्र' सूर्य की भाँति हिन्दी-जगत् में उदित होते हैं एवं अपनी लेखनी के प्रकाश द्वारा हिन्दी एवं छत्तीसगढ़ी समाज को आच्छादित करते हुए विचारों एवं मूल्यों, संस्कृति तथा समाज, भाषा एवं साहित्य को नव-जीवन प्रदान करते हैं। प्रकृति का सूर्य तो गोधूलि बेला में अस्त हो जाता है। किंतु पं. द्वारिका प्रसाद तिवारी जैसे साहित्यिक सूर्य साहित्यिक जगत् में सदैव विद्यमान रहकर हिन्दी एवं छत्तीसगढ़ी साहित्य को पुरस्कृत एवं उपकृत करते रहे हैं। साहित्य-साधना की अदम्य जिजीविषा के साथ 'विप्र' जैसे ज्ञानी पुरुष साहित्य-कर्म में प्रवृत्त होते हैं। उनकी लेखनी में विषयों का वैविध्यमयी इंद्रधनुषी रंग भी हैं तो विचारों का एक नया तेवर एवं कलेवर भी। साथ लोक साहित्य के प्रति लगाव इतना अधिक रहा है कि उनके लेखन में स्पष्टतः दिखाई देते हैं। प्रस्तुत शोध पत्र में पं. द्वारिका प्रसाद तिवारी 'विप्र' जैसे अनुशीलनकर्ता, अन्वेषक, आलोचक, अनुवादक, सहृदय कवि, लेखक, भाषाविद, प्रबंधक जैसे साहित्यिक व्यक्तित्व के साथ उनके मानवीय पहलुओं जैसे- स्नेह, प्रेम, करुणा, दया, दान, मधुरता, वाक्पटुता से भरा रहा है।

विवरण :

पं.द्वारिका प्रसाद तिवारी 'विप्र' जी के जन्म छत्तीसगढ़ के संस्कारधानी बिलासपुर के एक मध्यमवर्गीय ब्राह्मण परिवार में 6 जुलाई सन 1908 को हुआ था। विप्र जी अपने पिता पं. नान्हराम तिवारी और माता देवकी के गोद में पला बढ़ा। विप्र जी, दो भाई और दो बहनें होते थे। इनकी प्रारंभिक शिक्षा बिलासपुर के विद्यालय से पूरा किया। विप्र जी जब 14-15 वर्ष की आयु के हुए तभी से इनका झुकाव इस आंचल की लोक परंपराओं तथा लोकगीतों की ओर हुआ। हाई स्कूल तक की शिक्षा इन्होंने बिलासपुर में ही प्राप्त की फिर इम्पीरियल बैंक रायपुर एवं सहकारिता क्षेत्र में कार्य करते हुए सहकारी बैंक बिलासपुर में प्रबंधक नियुक्त हुए। विप्र जी शुरु में ब्रजभाषा और खड़ी बोली में रचना करते थे। बाद में छत्तीसगढ़ी में लिखना शुरु किये। सन् 1934 में

आपकी एक छोटी सी पुस्तिका छत्तीसगढ़ी भाषा में "कुछ कहीं" नाम की प्रकाशित हुई।[1] उसमें मात्र 10 गीत ही थे। लेकिन लोकगीतों की धुन पर नव आयाम का संदेश लिए हुए थे। आगे चलकर विप्र जी की पुस्तिका 'सुराज गीत', 'गाँधी गीत', 'योजना गीत', 'फागुन गीत', 'डबकत गीत' नाम की प्रकाशित हुई। आपकी अन्य पुस्तकें हैं – राम अउ कैंवट संग्रह, कांग्रेस विजय आल्हा, शिव-स्तुति, क्रांति प्रवेश, गोस्वामी तुलसीदास (जीवनी), महाकवि कालिदास कीर्ति आदि प्रकाशित हुई। शुरु से ही उन्हें छत्तीसगढ़ के लोक परंपराओं और लोकगीतों में रुची थी।[2]

विप्र जी के व्यक्तित्व में एक अलहड़पन अवधूतपन मार्गदर्शन एवं परदुखकातर की भावनाएं निहित थी। उनकी गणना एक महान सुधारक एवं राष्ट्रप्रेमी की श्रेणी में की जा सकती है। दरअसल व्यक्तित्व व्यक्ति की वह विशेषता है— जो उसे अन्य व्यक्तियों से भिन्न करती हुई उसके निजत्व का स्वरूप धारण करती हैं यू तो व्यक्तित्व परपरिवेश संस्कार आदि का व्यापक प्रभाव प्रभाव होता है, परंतु इसके निर्माण में स्वयं भक्ति का जितना हाथ होता है, उतना किसी अन्य का नहीं।[3] पं. द्वारिका प्रसाद जी जीवन में संघर्ष के साथ लगन, निष्ठा, ईमानदारी, समर्पण और आस्था से युक्त आकाशधर्मी गुरु हैं। वे अपनी असफलताओं और संघर्षों से हतोत्साहित होकर पलायन करने वाले व्यक्ति नहीं बल्कि उन्हीं असफलताओं और संघर्षों से प्रेरणा प्राप्त कर सफलता के नूतन आयाम गढ़ते और रचते हैं। मध्यवर्गीय परिवार की तमाम समस्याओं से जूझते हुए अपने परिश्रम और लगन से अपने जीवन को एक नई राह दी। उनके शिष्य तथा जानने वाले भी उसकी संघर्षयी जीवनगाथा के कायल हैं। और वे उन्हें प्रेरित करते रहते हैं।[4] पं. द्वारिका प्रसाद तिवारी 'विप्र' स्वभाव से ही जितने विनम्र एवं मृदुभाषी हैं उतने ही वे अपनी रचनाओं में भी उपस्थित हैं। उनकी भाषा-शैली आडंबरहीन, सुरुचिपूर्ण, अर्थवत्ता, आंचलिकता, लोक साहित्य के प्रति लगाव रहा था।[5] भाषा का सहज संस्कार एवं परिष्कार उन्हें वाग्देवी की असीम अनुकंपा से स्वतः ही प्राप्त है। वर्षों की अनवरत् हिन्दी सेवा और साधना एवं भाषा के प्रति उनके दृष्टिकोण ने उनकी भाषा-शैली को नया आयाम, एक विशिष्ट चमक अद्वितीय है। उनके वाक्य सरल हों या संश्लिष्ट उनमें अर्थ-प्रेषण एवं भावप्रेषण की पूर्ण क्षमता विद्यमान है। इनकी कविता के मुख्य विषय हैं – प्रेम, श्रृंगार

एवं राष्ट्रीयता। इनके अतिरिक्त आपने तीखे हास्य-व्यंग्य गीत भी लिखे हैं। आपकी भाषा अभिधात्मक है तथा शैली इतिवृत्तात्मक भारतेन्दु तथा द्विवेदी गीत प्रवृत्तियाँ आपकी कविताओं में परिलक्षित होती है। पं. सुन्दरलाल शर्मा आपके नाना ससुर थे। विप्र जी भारतेन्दु साहित्य-समिति के प्रधान सचिव थे।[6]

इनके प्रमुख छत्तीसगढ़ी साहित्य के कविता निम्न है—

/keuh gkV

तोला देखे रेहेंव गा, हो तोला देखे रेहेंव रे

धमनी के हाट मा, बोईर तरी रे

लकर धकर आये जोही, आंखी ला मटकाये

कइसे जादु करे मोला, सुक्खा मा रिझाये

चूंदी मा तैं चोंगी खोचे, झूलूप ला बगराये

चकमक अउ सोल मा, तैं चोंगी ला सपचाये

चोंगी पीये बइठे बइठे, माडी ला लमाये

घेरी बेरी देखे मोला, हांसी मा लोभाये

चना मुरा लिहे खातिर, मटक के तैं आये

एकटक निहारे मोला, बही तैं बनाये

बोइर तरी बइठे बइहा, चना मुरा खाये

सुटूर सुटूर रेंगे कइसे, बोले न बताये

जात भर ले देखेंव तोला, आंखी ला गडियाये

भूले भटके तउने दिन ले, हाट म नई आये

तोला देखे रेहेंव गा, हो तोला देखे रेहेंव रे।[7]

छत्तीसगढ़ी लोकाक्षर के संपादक समालोचक व साहित्यकार नंदकिशोर तिवारी जी के संपादन में विप्र जी की संपूर्ण रचनाओं का 'विप्र रचनावली' के नाम से प्रकाशन किया गया है। नंदकिशोर तिवारी जी ने विप्र रचनावली में अपने लेख अकुंठित व्यक्तित्व के धनी पं. द्वारिका प्रसाद तिवारी 'विप्र' में उनके व्यक्तित्व एवं रचना संसार के संबंध में लिखा है। भविष्य में विस्तार से विप्र जी के संबंध में जानकारी हम यहां प्रस्तुत करेंगे, विप्र जी को आज याद करते हुए उनकी कविताओं के कुछ अंश हम यहां प्रस्तुत कर रहे हैं —

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हम गांव ला अपन बढ़ाबोन गा, हम गांव ला अपन बढ़ाबोन गा।

जइसन बनही तइसन ओला, सरग मा सोझ चढ़ाबोन गा।

खेत खार खुबिच कमाके, रंग-रंग अन्न उपजाबोन गा,

अपन देस के भूख मेटाबो, मूड़ी ला उंचा उठाबोन गा।

उपन देस के करब बढ़ोतरी, माई-पिल्ला कमाबोन गा,

चला रे भईया चली हमू मन, देस ला अपन बढ़ाबोन गा।

कई किसिम के खुलिस योजना, तेमा हाथ बटाबोन गा।[8]

n'k ɕe &

हिन्द मेरा वतन, मैं हूँ उसका रतन

इस वतन के लिए जन्म पाया हूँ मैं

इसकी धूलि का कण, मेरा है आवरण

इसकी गोदी में हर क्षण समाया हूँ मैं.

Hkfä dkyhu pruk &

यह संसार बसेरा है सखि

विपदा विवश बसेरा है

बंधा कर्म जीवन में जाने

कितने दिनो का डेरा है।

डाली डाली उड उड करके

खाए फल अनमोल

वृक्षों को किसने उपजाया

देख उसे दृग खोल।

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तोला वंदब वो छत्तीसगढ़ महतारी

तोर माटी मां जनम लिहेंव मैं तै मोर परम पियारी

इंहे रतनपुर — शबरी नरायेन, पीथमपुर वेलपान ।
 सोमनाथ, सिरपुर, राजिम सब करत हे तोर गुणगान ।
 महानदी तो कोख ले ओगरिस, महासमुंद तनधारी
 बिजली कोईला कोरवा उगलिस लोहा ढारे भिलाई ।
 वैलाडीला के वाढिस महात्तम, करिस विदेशी कमाई ।
 धान तो उपजातेच हस तै, सबके स जेवन थारी
 विद्या बुद्धि गजव बढ़ाईन, माखन कवि गोपाल ।
 भानु कवि, लोचन पांडे अउ पांडे श्री सुखलाल ।
 सरस्वती के पुत्र कहाईन, जस पाईन बढ भारी
 शर्मा सुंदर लाल इंहे के, ठाकुर प्यारे लाल ।
 छेदिलाल वैलिस्टर, मेघावाले रमादयाल ।
 बाबू छोटेला ल जनम के, खपगे पारी पारी

पं. द्वारिका प्रसाद तिवारी 'विप्र' जी की रचना संसार विपुल है और यह विपुलता उनकी अनवरत साधना का प्रतिफल है। 'विप्र' की विशेषज्ञता का क्षेत्र व्यापकता एवं विविधता को समेटे हुए है। एक साथ मध्यकाल, भाषा-विज्ञान, काव्य-शास्त्र, प्रयोजनमूलक हिंदी, व्यवहारिक हिन्दी, छत्तीसगढ़ी लोक साहित्य, पत्रकारिता आदि में उनकी असाधारण गति एवं पकड़ लोगो को विस्मय विमुग्ध कर देती है, 'विप्र' जी ने जो कुछ भी लिखा है, पूरी आस्था के साथ लिखा है। इसलिए उनका लेखन विषय का तलस्पर्शी एवं प्रामाणिक लेखन बन पड़ा है। वे उन गिने-चुने विद्वानों में से हैं जो मध्यकाल से लेकर आधुनिक विमर्शों के बारे में साधिकार बात कर सकते हैं।[9]

इसी प्रकार अनुवाद विज्ञान की उनकी पुस्तक सिद्धांत एवं व्यवहार के संतुलन का श्रेष्ठ निर्देशन प्रस्तुत करती है। प्रयोजनमूलक हिंदी पर उनकी लेखनी रम कर चलती है। हिंदी के आजीविका साधक संदर्भों को उन्होंने गहराई में जाकर विश्लेषित किया है। पत्रकारिता के सरोकरों को वे साहित्यिक घेरे में बाँधकर नहीं देखते बल्कि उसे समाज सापेक्ष बनाते हैं। पत्रकारिता पर लिखते हुए उन्होंने इस विशिष्ट और आधुनिक विधा की आवश्यकताओं के अनुरूप विश्लेषण प्रस्तुत किया है। कुल मिलाकर पं. द्वारिका प्रसाद तिवारी 'विप्र' की लेखनी से निस्तृत हर पंक्ति उनकी गहरी अंतर्दृष्टि और तीक्ष्ण विश्लेषण क्षमता का प्रमाण बनकर दिखाई देती है।[10]

mi lgkj %&

पं. द्वारिका प्रसाद तिवारी विप्र ने साहित्य जगत् को बहुत कुछ दिया है। वे किसी बँधी-बँधाई परिपाटी पर चलने वाले लेखक नहीं हैं बल्कि भाषाई तकनीकी के क्षेत्र में नित नए होने वाले परिवर्तनों एवं समाज पर पड़ने वाले प्रभावों को वे बखूबी समझते हैं। विशेषकर हिन्दी भाषा और छत्तीसगढ़ी भाषा के तमाम पहलुओं, आधारों एवं उसकी सीमाओं पर विविध प्रकार से विचार करते हुए उनका सकारात्मक प्रत्युत्तर भी देते हैं। वे हिन्दी भाषा की संभावना शक्ति को अनुवाद के संदर्भ में जोड़कर उसे नई पहचान देने की आकांक्षी है।[11] उनकी अनुवाद से संबंधित सभी पुस्तकों में गहन शोध एवं विचारों का समावेशन मिलता है। उनकी पुस्तकें साहित्य जगत् के लिए अमूल्य धरोहर से कम नहीं। का कोश विषयक कार्य उनकी गहन अध्ययनशीलता एवं परिश्रम-साध्य कार्य की अनवरतता को परिपुष्ट करता है। उनके कार्य कोशों में उनके कोश संबंधी विचारों का सफलतापूर्वक प्रतिपादन हुआ है। उन्होंने कोश निर्माण के सभी सिद्धांतों यथा सामग्री संकलन, प्रविष्टि तथा उसकी संरचना, वर्तनी, क्रम-निर्धारण, व्याकरण, व्युत्पत्ति, अर्थ-निर्धारण, उद्धरण तथा सार आदि के श्रम-साध्य कार्य निष्पादन का प्रतिफल है। उनके कोश, वैज्ञानिक, तथ्यपूर्ण, सुसंबद्ध, क्रमानुसार, अर्थपरक उदाहरणों के साथ हैं। जो जाने कितने ही ज्ञान-पिपासुओं की साधना को साथ रहे हैं।[12]

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Establishing Entrepreneurship through Street Vending – A Salient Contribution to India's Informal Economy in context with State of Chhattisgarh

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Abstract:

Govt of India's new loan scheme especially designed for street vendors has been named PM Street Vendors Self-Reliant Fund (PM Swanidhi). The aim of the government is to promote shopkeepers who sell goods by putting road carts and benefit them from this scheme so that they can bring their small business back on track.

Govt of India operates Street Vendor scheme with the objective of accelerating the small business affected by the corona crisis. Keeping in mind, the concept of the same Antyavai Co-operative Finance and Development Corporation, initiated the replica of the scheme in the state in which street vendors belonging to Scheduled category of the state will be provided a loan minimum of Rs 20000 in which the state corporation will give a maximum subsidy of Rs. 10,000 per beneficiary. To evaluate the effect of the scheme the impact tools like GAP analysis, bar graphs has been used. Ms- Excel and Word have been opted for computing purpose of the article. It was found that time taken for loan disbursement and quantity of loan amount, effects majorly the satisfaction of beneficiary and success of establishment. Findings of the study draws a path for future action plans to be made with an aim to develop the economic conditions of beneficiaries from Scheduled Caste. It was found that on given target of 6000 Beneficiaries, only 4581 number, of beneficiaries were covered under the schemes. A total of 76% were, satisfied with service delivery system and were able to establish source of income

Index Terms: Entrepreneurship, Loans, Economy, Street Venending.

I. INTRODUCTION:

Scheduled Castes and Scheduled Tribes as per provisions contained in Clause 1 of Articles 341 and 342 of the Indian Constitution respectively. For the Socio-economic and overall development of the scheduled people, special provisions and safeguards have been provided in the Constitution of India and

some initiatives have also been taken by the Government of India.

A. The State:

Chhattisgarh state with a total of 3274269 (as per census 2011) schedule cast population, which is 12% of total population. Scheduled cast is a class which has been deprived of even the basic amenities in the country in both pre and post-independence era. Though after independence numerous schemes at both centre and state level were initiated for their development, but very few resulted to be fruitful. Schemes to provide proper residence, sanitation, safe drinking water, hygiene and health have been key areas in which the govt schemes have been focusing. Apart from these, few important income generation schemes have been in the process of changing lives of the deprived section.

In the changing scenario, we can find people from scheduled caste class representing themselves in the service sector especially in govt jobs, politics and allied areas, but in the area of self-employment and entrepreneurship their participation is very less in compared to that of other backward classes, despite the number of schemes and efforts being put for their development. Also the exploration level for new trades has been very low.

Though there have been constant efforts within past few years to improvise the service delivery mechanism and areas of self-employment development. Surveys and studies conducted at different level by various agencies on different target groups have concluded that selection of trade and time period required to receive the benefits of the scheme leaves a greater impact on the success of the enterprise.

II. REVIEW OF LITERATURE

Author focused on PMMY Scheme, present status of scheme and relevant suggestions. The researcher explained that the major problem in the growth of

Non- Corporate Small Business Sector is the dearth of financial support from organized sector. By providing financial support, MUDRA Banks are playing a crucial role in improving standard of living, increasing job opportunities, increasing national income and reducing poverty [1].

Author explained the key objectives of Micro Units Development and Refinance Agency (MUDRA) Scheme. In a developing country like India most of the people are engaged in small businesses. Small businesses face financial problem as a major problem on their way to development [2]. After identifying the contribution of small businesses in Indian economy, Government of India launched MUDRA Scheme to overcome the financial problem. The main focus of MUDRA Scheme is to support small businesses and entrepreneurs.

Author emphasized that scarcity of finance is the major obstacle for small and micro business sector [3]. To solve this problem, Government of India launched MUDRA Scheme. Through this scheme, Government of India is supporting small and young entrepreneurs [4]. This scheme will be helpful in supporting small and micro sector by proving financial assistance at reasonable rates [5-7].

III. OBJECTIVE:

1. To assess the interest of prospective beneficiaries in lieu of establishing business models for them.
2. To find the impact of schemes implemented by selected agency over beneficiaries' satisfaction.
3. To suggest possible course of action to improve service delivery in the schemes and making it more effective.

A. The Agency:

Chhattisgarh State Antyavasai Sehkari Vitt evam Vikas incorporated under MP cooperative society on 30.10.2000, since the day of its inception Antyavasai Nigam has been putting its efforts for socio economic development of beneficiaries of Scheduled Caste, Scheduled Tribe, Other Backward Class, Minority, Safai karmachari. 16 Vocational training centers (11 ST & 05 SC) are being run across the state to provide an opportunity to the unemployed youth of the state for establishment of business and placement.

Working as State Channelizing agency for National Finance and Development Corporation, Antyavasai Nigam has implemented various schemes to benefit the community of the state in sectors of transport, agriculture and service. Schemes like tractor trolley, passenger vehicle, small business, has covered a large number of beneficiaries of related community in the state. Apart from this Antyavasai Nigam also runs special Bank formulated scheme for schedule cast and schedule tribe beneficiaries under which the case is recommended for sanction of loan and a maximum subsidy of Rs 10000.00 is given to the beneficiary. In the field of skill development, Antyavasai Nigam contributes by running 11 training centers for Scheduled Tribe and 05 training centers for Scheduled caste, these centers are located in remote and naxal affected areas of the state and facilitate the unemployed youth of the districts in various areas of skill development like Kosa making, Automobile, Electric, Fabrication, Garment making, Computer hardware, etc. students aspiring for establishment of trade are encouraged and priority in sanctioning of loan is given to them.

B. The Schemes:

Apart from the schemes of 05 national finance and development corporation Antyavasai Nigam also runs special Bank formulated scheme for schedule cast and schedule tribe beneficiaries funded from special central assistance to scheduled caste sub plan and tribal sub plan. This scheme focuses on the needs of small shopkeepers and beneficiaries willing to start their own enterprise at a small scale. Beneficiaries from the target group apply for the loan in district offices of state corporation after scrutinizing of the relevant documents and their project the cases are recommended to area specific banks for sanction of loan and a subsidy of Rs 10000 is given to the beneficiary after the approval of the loan.

Seeing the conditions of small level street vendors in covid 19 situations the department decided to initiate a small level scheme with the financial support from SCA to SCSP funds with an objective to enhance the socio economic conditions of the street vendors belonging to scheduled caste group of the state, very similar to the bank formulated scheme mentioned above this scheme also carries the provision of a maximum subsidy of Rs 10,000/- and offers various options to the beneficiaries willing to establish their own enterprise. The key feature of the scheme is that

the loan amount can be as low as upto a minimum of Rs 20,000/- per beneficiary. The scheme implementation has brought out colourful results despite the fact that it was initiated for the first time.

IV. METHODOLOGY:

Financial Year 2020-21 has been taken as assessment year for the study, reason behind is that the beneficiaries selected in this period will be easily assessable and their interest towards establishment of business and repayment of loan can be easily identified.

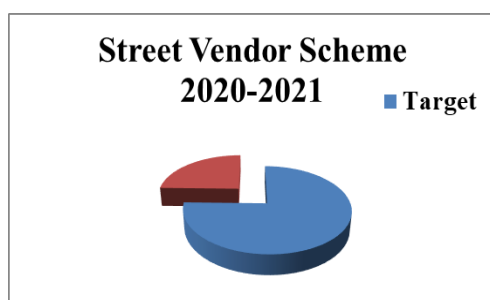
As a matter of fact, street vendors belong to various caste and class, but the selection of scheduled caste for implementation of the scheme carried a strong reason behind it; as this class has been most deprived class of the society and has been living isolated from even the basic amenities since years, hence section of society has been considered for study. GAP analysis model has been adapted and modified to fulfil the objective of the study.

V. DATA ANALYSIS:

Name of scheme	Target			Progress		Percentage(%)
	Unit cost	No. of Uni	Amount	No. of Uni	Amount	
Street vendor scheme	0.20	2000	200.00	654	65.40	32.70
Total		2000	200.00	654	65.40	32.70

Following table reveal some relevant information about the beneficiaries taken as sample for study

Table-1



From information given above in the table it can be perceived that out of total 654 beneficiaries 462 beneficiaries are male and 192 are female. 471 no of

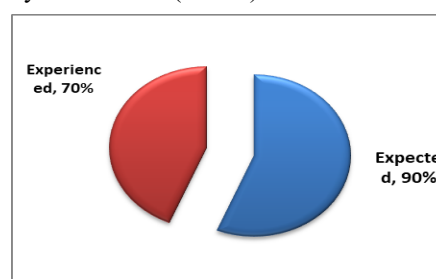
beneficiaries belong to rural belt and 183 come from urban area. Which again is 72 % and 28 % of total sample size. Beneficiaries with their aadhar card are 100% and loan amount has been given to 100% directly into their accounts.

GAP Model of Service delivery:

Researcher identified 03 potential gaps associated with the delivery of service:

1. GAP I – Beneficiary expectation - Agency perception gap
2. GAP II – Agency perception – Service quality specification gap
3. GAP III - Service delivery – external communications gap

Gap analysis of expected and experienced service quality dimensions (n=110)



Area of GAP	Expected	Experienced
Selection of Beneficiaries in their choice of scheme	100	89
Awareness about the schemes with specifications	90	70
Interaction with the Officers of Agency	90	80
Amount of loan desired as per trade	100	70
Time period for selection in the scheme and disbursal of loan	80	60
Time period for documentation	70	55

VI. DISCUSSION ON FINDINGS:

Based on the areas of potential gaps identified the table above indicates that apart from total number of beneficiaries selected for the benefits of scheme, there were few more who applied for the schemes but were not selected for the scheme, despite the fact that they fulfilled the eligibility criteria for the scheme, but insufficient target for the district outlined them; further those who were selected for the scheme on giving replies to the questions related to this study indicated that their expectation for the loan amount was bit different from what they receive, also that some of them had to shift from their original idea of trade to some other option due to insufficiency of fund. Few more reported about

lack of knowledge about the scheme and its specifications. It normally takes 02 months for a beneficiary to get selected and receive funds, but for few this year it took more than that which they didn't expected. Frequent objections and lengthy and complex documentation have always been an issue for the beneficiaries.

From the above it is clear that there are few areas in which the beneficiaries desire improvement from the agency side, whereas the agency's utmost area of interest is to ensure recovery from the beneficiary funded through the scheme.

A. Limitations and Future Research

Apart from focused efforts on assessment of the schemes, the study faced few limitations, important here to mention are; the agency implements various other schemes for the betterment of the SC class, but the researcher with limited resources was not able to cover or involve them for the purpose of study. A few more points in the study should have been included like the background of the beneficiaries, income before and after establishment of enterprise. Index for their socio-economic development could have also been developed.

VII. CONCLUSION:

This study was conducted with an objective to assess the impact of the schemes on scheduled class of Chhattisgarh state, a class which for years have been deprived even of the basic amenities. Study included income generating scheme funded by the SCA to SCSP funds under the aegis of Ministry of Social Justice and Empowerment, Govt of India and implemented by state channelizing agency Chhattisgarh Rajya Antyavasai Sehkari Vitt evam Vikas Nigam. Though the sample taken for the study was less, a total of 654 beneficiaries only, but this was because the assessment year taken was only a single financial year i.e 2020-21. Sample size covered all the 27 districts of the state covering all the schemes of national corporation with all the sectors being covered viz agriculture and services.

Data analysis was made with the basic data available with the agency related to the implementation of the scheme. Demographic profile was created on the basis of the data and a questionnaire was developed for the field visits. A general gap analysis at a very initial and low level was carried out to identify the gaps created while implementing the scheme for the

target group. The analysis indicated that the only dimension in which the beneficiary's expectation exceeded the experience is that of the nominal interest rate levied by the agency on the loan amount which in comparison with bank's interest rate is very low. While the analysis of other dimensions revealed the other side, i.e. the target group expects more funding than the usual quantity which is always insufficient as there are many who now are willing to have an enterprise of their own, also the documentation procedure is quite lengthy and complex at the same time, this section particularly needs a revision. Time taken for inviting application, verification, documentation, selection, disbursal of loan is really a test of patience level of the beneficiary, there are times when after all exercise the beneficiary has to return empty handed with one or another technical reason given by the agency. Agency needs to understand the real expectation or interest of the beneficiary from the ground level because dissatisfaction of the beneficiary at any level results in low recovery level and failure of the enterprise which again is against the only expectation of agency. Diversion from the traditional trades like fancy and general stores is utmost important, it should be the prime task of the agency to explore new business avenues for the beneficiary and invest its share into it. Also, more stress on counselling should be given at the time of selection of the beneficiary for any particular scheme as because there are times when a beneficiary just follows his fellow resident from the neighbourhood and seeks for a loan amount ending with a burden of loan and NPA to the agency. Pre counselling or training will surely result selection of such beneficiaries who will strive hard to become a successful entrepreneur.

In a nutshell it could be believed that this study work of the researcher could be used as a reference material by the agency while drawing future action plans and strategies for the development of target group and effective implementation of the schemes resulting in overall development of the beneficiary and enterprise by real means.

Glossary:CGAVVN – Chhattisgarh Rajya Antyavasai Sehkari Vitt evam Vikas Nigam

NSFDC – National Scheduled Cast Finance & Development Corporation

SC – Scheduled Cast

NPA -	Non-Performing Assets
EMI -	Equated Monthly Instalments
SCA-	Special Central Assistance
SCSP-	Scheduled Caste Sub Plan

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A LITERARY INSIGHT INTO THE WORK LIFE BALANCE OF FEMALE EMPLOYEES

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Abstract:

Work and motive to work are the two most critical factors in a person's life. Majority of the women engage in multi tasking- varying from toddler care , occupational success, peer pressure, professional preference, personal life and work life balance at large. This paper tries to study the diverse problems and troubles faced by the women at work and their Work Life Balance (WLB). The sources stated in this paper include numerous diaries, reports, web locations etc.

I. INTRODUCTION

A major percentage of the working women stretch their boundaries to strike a balance on both their fronts- work and family. This may result in undesirable consequences for them as individuals in terms of increased stress, greater family conflicts or declined mental health. This it is important to study the problems and find solutions to issues faced by women professionals

II. LITERATURE REVIEW

Author highlights the central point affecting work life equality of women specialists in India, e.g., partial battle, absence of reputation, legitimate government problems, gender segregation, views of the aged and youth- issues , the nature of properly being, issues in time administration and shortage of appropriate social aid [1].

He discovered that educative foundations have to cope with issues associated with work life offsets among their employees, specifically women, in a way to tackle the framework and actualize the processes complete approach ought to be followed. Encouraging and directing employees to cope with their WLB [2].

Author have taken into consideration and broken down the giant relationship among demographic variables and WLB [3].

Author pointed out the nature of work existence is being used by unions as a first-rate device to drag and hold delegates and more importantly, to present them an equal

work life. Being used to help maintain equality- gave consideration of performance and duty on the job.

WORK LIFE BALANCE

Work Life Balance refers to the fitness of an individual expert to plan hours to lead a balanced personal and professional life It outlines the qualities, attitudes and convictions of women in relation to their age to settle and accommodate their work and personal lives [4]. Following factors have been identified as influencing WLB experience of women, when inspecting various literary works.

- Work Family Conflict And Family Work Conflict
- Role And Responsibilities Of Women
- Career Progression and WLB
- Work Stress
- Child Care

WORK FAMILY CONFLICT AND FAMILY WORK CONFLICT

Work Family Conflict occurs when the work commitments affect and disturb the family life. These may include job stress, interpersonal conflict, lack of support from superiors, job transitions etc.

Family work conflict occurs when family responsibilities interfere with the work life. This includes child care, elder care, familial obligations etc.

Family and Work Conflict and work talk about issues of family conflict, are more prone to impose negative influences in the family sphere, bring less life fulfillment and are more prone to family variables. More major conflicts inside affect Experience of WFC and FWC [5].

ROLE AND RESPONSIBILITIES OF WOMEN

Majority of the working women find it difficult to strike a balance between work and their family responsibilities. They need to adapt to high work goals, office duties, tight meeting timetables and the obligations of life and home. Author states that to empower and attract women representatives, work life equality should be encouraged.

Author agreed that work life equality must be maintained and supported at all levels of the organization.

CAREER PROGRESSION AND WLB

According to Dr. Ines Wichert, 2012, various factors in the following three levels play a role in determining their work life balance during career growth and planning:

- Organizational context: work life balance, flexible working hours, human resource process and Profit
- Work environment: Supportive assistants, supervisors and task assignment
- Personal Space: future plan, Favourable Tasks, Performance Affiliates, Promotion

Author recommended flexi time, work from home, kids care as some of the options for the women to adjust to family and work schedules.

Author expressed that women employees in India were primarily used in non-administrative, subordinate or low profile positions earlier. Currently, they encompass all classes of positions in the work environment. These adjustments in work society have added responsibilities and obligations of women to their family and society [6].

WORK STRESS AND WORK LIFE IMBALANCE

He have investigated and explored the problems and issues faced by women workers in educational institutions. Similarly it was found that female employees experienced severe anxiety during the time they spent achieving work life equalization [7].

Author observed that “women experts in high positions in their offices return from office on time, cook, clean and take care of their family issues. This pushes them further and indicates some wellbeing issues [8].

He discussed the causes, consequences and mediation of work life equality in a study among married female representatives of BPO organisations. The study showed that more than two thirds of the respondents reported compulsive one-sidedness in work life due to interruptions in work as well as personal life [9].

CHILD CARE

He clarified that working women who have young children are forced to leave their child in childcare or in the hands of a servant. This puts more pressure on them and they think less about their work and sometimes they are not ready to give them proper attitude [8]. He expressed in her study that arrangements focused on expanding parental

leave and youth idea buying lead to a more prominent adaptability in business.

III. CONCLUSION

To accomplish Work Life Balance, every woman must set realistic goals and move out of their comfort zones both in personal and professional life.

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