

Post-Monsoon Season Physicochemical Parameters for Testing of Ground Water in Takhatpur Area, Bilaspur, Chhattisgarh, India

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Abstract:

Due to increased human population, use of fertilizers and man-made activity water is highly polluted with different harmful contaminants. Natural water contaminants due to weathering of rocks and leaching of soil etc. it necessary that the quality of drinking of water should be checked of regular time interval, because due to use of contaminated drinking water. Human population suffers from varied of water borne disease. The availability of good quality water is an indispensable feature for preventing disease and improving quality of life. it is to know details about different physic-chemical such as EC, Turbidity, TS, TSS, TDS, TH, Alkalinity, DO, BOD, COD, Chloride, Sulphate, Phosphate, Fluoride, Nitrate used for testing of water quality.

Key Words: *Post-Monsoon Season, Ground Water, Physicochemical Parameters, Takhatpur area.*

INTRODUCTION

The term environment is derived from two Greek word “environ” which means surrounding and “ment” means the actioning. The term environment refers to the surroundings provided by the natural world in which people, animals and plants live. It is that physical and biological arrangements, in which living beings live, grow and develops their own natural tendencies. According to Kendeigh (1974) “Environment is the sum total abiotic and biotic conditions influencing the response of a particular organism. Environment is completed by air, water

and soil in which inorganic and organic elements are present in fixed ratio. The physical, chemical and biological presence of living and non-living things outside an individual species is called as its environment. Each and every living organism has its own environment. According to ISO 14001, environment can be defined as, Surrounding in which an organization operates, including air, water, land natural resources flora, fauna, human and inter relation. Water is probably the most important natural resource in the globe, since without it life will be non – existence and industrial activities cannot take place. It plays a vital role in the development of communities because; a reliable supply of water is an essential pre-requisite for establishment of a permanent community. Water is the elixir for life. Adequate supply of potable safe water is absolutely essential and is the basic need biota on the earth.

Groundwater includes all water found beneath the earth's surface and part of the earth's natural hydrological cycle. It is the body of water derived primarily from percolation and contained in pore spaces of a pore space of soil, gravels, cracks and permeable rock like sandstone, limestone and other

rocks. 30% of liquid fresh water is stored underground in aquifers within a few kilometres of the earth's surface almost everywhere, beneath hills, mountains, plains and deserts. Ground water is ultimate and most suitable fresh water resource for human consumption in both urban as well as rural areas. Sources of ground water are gravity spring, surface spring, artesian spring, shallow well, jack well, infiltration gallery, infiltration well, deep well and tube wells. The quality of ground water depends upon several factors including climate, soil, characteristics of geological data, manner of circulation of ground water through the rock types and its chemical reaction with minerals, topography of the area, saline water intrusion in the coastal area and metal pollution through weathering and anthropogenic activities on the ground. Assessment of ground water quality is a complex problem. India is a vast country having diversified geological, climatological and topographical set-up giving rise

to divergent groundwater situation. The annually 'replenishable' ground water resources of India have been assessed as 432 billion cubic meter (BCM). After keeping a provision of BCM per year for domestic and industrial use, BCM/y is available for irrigation. There are several states in India where more than 90% populations are dependent on groundwater for drinking and other purposes. In India, there are over 20 million private wells in addition to the government tube wells.

MATERIAL AND METHODS

For this purpose experiment was conducted in the following steps:

i. Choosing appropriate sampling spots:

Sampling spots had been selected as the background of the degree of pollution around the Takhatpur urban and rural area. The locations of sampling spots are given in Table no.1. Named from TG1 to TG8. Takhatpur Town - TG1, Khamariya - TG2, Daukapa - TG3, Belpan - TG4, Khapari - TG5, Nigarbandh - TG6, Daijabija - TG7, Rajakapa - TG8.

Table: 1 Method of Different Water Quality Parameters

S.N.	Parameters	Unit	Methods Of Analysis	Instruments/Apparatus
1	Electrical Conductivity (EC)	µs/cm	Electrometric	Water Analyser Kit
2	Turbidity	NTU	Turbidity metric	Water Analyser Kit
3	Total Dissolved Solid (TDS)	mg/L	Gravimetric	Crucible & heating unit/Muffle furnace
4	Total Solids (TS)	mg/L	Gravimetric	Crucible & heating unit/Muffle furnace
5	Total Suspended Solid (TSS)	mg/L	Mathematical	-
6	Total Hardness (TH)	mg/L	EDTA Titrimetric Method	Titration Unit
7	Alkalinity	mg/L	Titrimetric Method	Titration Unit
8	Dissolved Oxygen (DO)	mg/L	Electrometric	Water Analyser Kit
9	Biological Oxygen Demand (BOD)	mg/L	Incubation Method	Titration Unit
10	Chemical Oxygen Demand (COD)	mg/L	Digestion Method	Refluxing Unit
11	Chloride (Cl ⁻)	mg/L	Argentometric Method	Titration Unit
12	Sulphate (SO ₄ ²⁻)	mg/L	Spectrophotometric Method	Digital Spectrophotometer
13	Phosphate (PO ₄ ³⁻)	mg/L	SnCl ₂ Method	Digital Spectrophotometer

14	Fluoride (F ⁻)	mg/L	SPADNS Method	Digital Spectrophotometer
15	Nitrate (NO ₃ ⁻)	mg/L	PhenolDisulphonic acid(PDA) Method	Digital Spectrophotometer

ii. Method for sample collection:

Ground water samples were collected at fixed time viz. 1st date of every month between 9:00 am to 4:00 pm in stopper polyethylene bottles of 2L capacity, for physicochemical analysis while glass bottles were used for heavy metals. Before sampling containers were washed in order of 6N HNO₃, Tap water, Bore wells water and finally with water samples respectively.

iii. Preservation Technique:

For physicochemical analysis water samples were preserved by keeping in Refrigerator at 4°C and adding 3 – 4 drops of conc. HNO₃ to minimize the pH below 2 to avoid precipitation or degradation of dissolved and suspended metallic elements.

RESULT AND DISCUSSION

Electrical Conductivity: The minimum value of electrical conductivity was analysed on TG2 (691.32µs/cm) in the month of Nov'2014 and maximum value was analysed on TG1 & TG6 (755.32µs/cm) in the month of Nov'2014, while the standard value of BIS &WHO is 750-2250 & 400-2000 respectively.

Turbidity: The minimum value of turbidity was noted on TG2 (3.2NTU) in the month of Jan'2015, Dec'2015 & Feb'2016 and maximum value of turbidity was noted on TG8 & TG4 (4.3NTU) in the month of Nov'2014 & 2015, while the standard value of BIS & WHO is 5.0-8.0 & 5.0-10.0 respectively.

Table: 2 Range of TG1- TG4 in Post-Monsoon Season(Nov'2014-Feb'2016)

Parameters	TG1	TG2	TG3	TG4
	Range	Range	Range	Range
EC	725.42-755.32	691.32-715.25	711.43-741.45	711.43-741.45
TURBIDITY	3.7-4.1	3.2-4.1	3.7-3.9	3.4-4.3
TS	410.15-430.44	409.52-419.43	423.24-460.51	425.15-451.62
TDS	396.72-419.2	397.1-408.08	408.63-444.09	408.63-437.08
TSS	10.25-15.43	10.32-13.54	12.55-18.24	13.64-16.52
TH	210-225	221-256	213-245	213-245
ALKALINITY	209-216	240-256	234-251	234-251
DO	5.02-5.32	5.41-5.49	5.1-6.5	6.2-6.7
BOD	1.2-1.8	0.9-1.5	1-1.4	1.1-1.5
COD	1.4-2.1	1.3-1.8	1.5-1.8	1.5-1.9
CHLORIDE(Cl ⁻)	164.32-175.35	164.32-175.25	164.32-174.65	162.52-170.45
SULPHATE(SO ₄ ²⁻)	158-175	145-175	142-165	145-178
PHOSPHATE(PO ₄ ³⁻)	0-0	0-0	0-0	0-0
FLUORIDE(F ⁻)	0.4-0.8	0.6-0.94	0.2-0.8	0.5-0.97
NITRATE(NO ₃ ⁻)	33.76-39.59	32.66-44.75	30.21-35.22	30.21-37.98

Total Solids: The minimum value of TS was calculated on TG2 (409.52 mg/L) in the month of Jan'2015 and maximum value of TS was calculated on TG3 & TG8 (460.51 mg/L) in the month of Feb'2016 & Nov'2014, while the standard value of BIS & WHO is 520-2050 & 500-1500 mg/L respectively.

Total Dissolved Solids: The minimum value of TDS was recorded on TG1 (396.72 mg/L) in the month of Feb'2016 and maximum value of TDS was recorded on TG3 (444.09 mg/L) in the month of Feb'2016, while the standard value of BIS & WHO is 500-2000 & 500-1500 mg/L respectively.

Total Suspended Solids: The minimum value of TSS was examined on TG6 (10.24 mg/L) in the month of Nov'2015 and maximum value of TSS was examined on TG3 (18.24 mg/L) in the month of Jan'2016, while the standard value of BIS & WHO is 20-50 & 100-600 mg/L respectively.

Total Hardness: The minimum value of TH was founded on TG1 (210.00 mg/L) in the month of Nov'2014. And maximum value of TH was founded on TG2 (256.00 mg/L) in the month of Dec'2015, while the standard value of BIS & WHO is 300-600 & 100-500 mg/L respectively.

Alkalinity: The minimum value of alkalinity was recorded on TG5 (208.00 mg/L) in the month of Nov'2014 and maximum value of alkalinity was recorded on TG2 & TG6 (256.00 mg/L) in the month of Nov'2014, while standard value of BIS & WHO is 300-600 & 200-600 mg/L respectively.

Dissolved Oxygen: The minimum value of DO was noted on TG1 (5.02 mg/L) in the month of Dec'2015 and the maximum value of DO was noted on TG4 (6.7 mg/L) in the month of Feb'2015, while the standard value of BIS & WHO is 5.0 & 5.0-6.0 mg/L respectively.

Biological Oxygen Demand: The minimum value of BOD was calculated on TG2 (0.9 mg/L) in the month of Dec'2015 and maximum value of BOD was calculated on TG6 (2.0 mg/L) in the month of Nov'2014-2015, while the standard value of BIS & WHO is 5.0 & 5.0 mg/L respectively.

Chemical Oxygen Demand: The minimum value of COD was calculated on TG2 (1.3 mg/L) in the month of Nov'2015 and maximum value of COD was calculated on TG1 & TG5 (2.1 mg/L) in the month of Nov'2015, while the standard value of BIS & WHO is 10.0 & 10.0 mg/L respectively.

Table: 3 Range of TG5- TG8 in Post-Monsoon Season(Nov'2014-Feb'2016)

Parameters	TG5	TG6	TG7	TG8
	Range	Range	Range	Range
EC	697.37-755.32	698.31-755.32	711.43-741.45	697.37-755.32
TURBIDITY	3.6-3.8	3.4-3.9	3.6-3.9	3.7-4.3
TS	409.54-421.25	411.74-430.15	425.42-451.73	421.17-460.51
TDS	397.2-409.71	397.65-413.91	410.81-436.01	406.39-445.97
TSS	10.54-13.54	10.24-17.11	12.55-16.61	12.64-16.52
TH	211-225	212-235	213-245	213-245
ALKALINITY	208-216	240-256	234-251	234-251
DO	5.2-5.7	5.1-5.9	5.1-6.5	5.4-5.9
BOD	1.5-1.9	1.5-2	1.2-1.7	1.2-1.6
COD	1.7-2.1	1.5-1.9	1.5-1.9	1.4-1.9
CHLORIDE(Cl ⁻)	162.52-170.45	162.52-169.54	160.54-169.54	162.45-168.52

SULPHATE(SO ₄ ²⁻)	145-188	145-168	132-165	123-154
PHOSPHATE(PO ₄ ³⁻)	0-0	0-0	0-0	0-0
FLUORIDE(F ⁻)	0.4-0.95	0.5-0.9	0.4-0.8	0.5-0.9
NITRATE(NO ₃ ⁻)	26.15-35.12	25.33-36.45	31.88-37.55	31.31-31.85

Chloride: The minimum value of chloride was recorded on TG8 (162.45mg/L) in the month of Dec'2015 and maximum value of chloride was recorded on TG1 (175.35mg/L) in the month of Nov'2014, while the standard value of BIS & WHO is 200-1000 & 200-1000 mg/L respectively.

Sulphate: The minimum value of sulphate was noted on TG8 (123.00 mg/L) in the month of Feb'2015 & Jan'2016 and maximum value of sulphate was noted on TG5 (188.00 mg/L) in the month of Feb'2015, while the standard value of BIS & WHO is 200-400 & 200-600 mg/L respectively.

Phosphate: In all the sampling station the observed value of PO₄²⁻ was below detection limit (BDL), while the standard value of BIS & WHO is 0.1 & 0.1 mg/L respectively.

Fluoride: The minimum value of fluoride was noted on TG3 (0.2mg/L) in the month of Nov' 2014 & 2015 and maximum value of fluoride was noted on TG4 (0.97mg/L) in the month of Dec'2014 & Nov'2015, while the standard value of BIS & WHO is 1-1.2 & 1-1.5 mg/L respectively.

Nitrate: The minimum value of nitrate was recorded on TG6 (25.33mg/L) in the month of Feb'2016 and maximum value of fluoride was recorded on TG2 (44.75mg/L) in the month of Jan'2015, while the standard value of BIS & WHO is 45 & 50 mg/L respectively.

CONCLUSION

Water is an important asset of ecology and it is the most essential commodity for human consumption without it no life can exist. Scarcity and lack of pure drinking water in the ecology will create disorder leading to ecological imbalance. Pure drinking water resources are deteriorating due to deforestation,

mining and industrialization. The systematic exploration has been taken in to consideration to assess the different water quality parameters of Takhatapur area. C.G. India. Physicochemical parameter their obtained value is compared with the national and international water quality regulatory authority (BIS and WHO).

The experimental value of Dissolved Oxygen(DO), was found in TG4 (6.7mg/L) in the month of Feb'2015 of post-monsoon season which is above the maximum limit of BIS & WHO (5.0 & 5.0-6.0 mg/L). And in all the sampling station the observed value of Electrical Conductivity(EC), Turbidity, Total Dissolved Solid(TDS), Total Dissolved Solid(TDS), Total Solids (TS), Total Suspended Solid(TSS), Total Hardness(TH), Alkalinity, Biological Oxygen Demand(BOD), Chemical Oxygen Demand(COD), Chloride(CL⁻), Sulphate(SO₄²⁻), Fluoride(F⁻), Nitrate(NO₃⁻), are under the desirable limit of BIS & WHO of monsoon season. And in all the sampling station the observed value of Phosphate (PO₄³⁻) is below detection limit (BDL) of post-monsoon season.

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Structural and Optical Properties of Pr Doped Rare Earth Element in (Cd- Ag) S Thin Film Obtained by Chemical Bath Deposition Technique

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Abstract:

The, Pr doped (Cd-Ag)S semiconducting film have been prepared by chemically bath deposition(CBD) method at room temperature. The films were forms in bath containing aqueous solution of silver nitrate, thiourea, EDTA, TEA, ammonia and used the Pr as the Rare Earth element. Cadmium Acetate used for Cd, Silver nitrate used for the silver ion source, thiourea for sulphur ion source, EDTA and TEA is the complexing agent and ammonia for pH. The SEM Studies of doped Pr silver sulphide films show the white small ball type structure and look like the granular bunch of solid material along with existence of micro particle .In the Photoluminescence study the emission peaks fall between 560nm to 600nm wavelength and Excitation peak found 300nm to 332 nm of the prepared films. The photoconductivity rise and decay curve have also plot and found that it is similar to the reported curve.

Keywords: *Chemical Bath Deposition, Photoconductivity, Films TEA & EDTA*

INTRODUCTION

In the Present Scenario semiconducting films have received much attention due to their world-wide applications in various fields of science and technology. Silver sulphide (Ag₂S) is an important chalcogenide compound and belongs to I–VI compound semiconductor materials with monoclinic

crystal structure. Ag₂S is not soluble in any solvent but is degraded by strong acids. It has three forms, known as mono-clinic, body-centered cubic and face centered cubic forms.

A silver sulphide film has the unique electrical (9), optical (10), photovoltaic and thermoelectric properties that's why it is the need of present research. The structure of Ag₂S is orthogonal. The important ore of silver is the acanthine. The I–VI semiconductor material particles also having the dimensions in the nanometer range and they are important nonmaterial for optoelectronic applications. In particular, when the sizes of materials are close to or smaller than the excitation Bohr radius, they exhibit very special physical and chemical properties [1]. Silver sulphide is an n-type I–VI compound material with a wide band gap (1.6–3.7eV) at room temperature. It is a promising material for future applications such as window layers of solar cells and coatings which are sensitive to UV light. Chemical deposition of Ag₂S thin films has been

carried out in aqueous alkaline baths by many workers [2–5]. Ag_2S is a photosensitivity material. Silver sulphide show quite good photoconductivity behavior. The optical properties of semiconductor thin films have attracted much attention due to the wide range of applications in science and technology. In recent years Ag_2S thin films show their value in material science due to its applications in optical and electronic systems such as photovoltaic cells, solar selective coatings, photo conducting cells, IR detectors, and high resolution optical memories. CBD is the low cost technique and it is well known as a prevalent low-temperature aqueous technique for depositing large-area thin films of semiconductors, has been recognized as the simplest and most economical one. In the past decade silver sulphide thin film by CBD method have been successfully prepared on silica (6) glass (7) and polyamide surfaces(8).

EXPERIMENTAL DETAILS

CBD technique has been used to prepare the reported (Cd-Ag)S: Pr films. The technique is based on slow release of Ag, Cd and S ions in aqueous basic bath of pH more than 10. In the present case a 50 ml beaker were used for deposition of films. A solutions of 7 ml of 0.01 M Silver Nitrate as a source of Silver, 3ml of 0.01M cadmium acetate as the source of Cd, 25ml ammonia for pH alkaline medium, 10 ml of 0.01 M thiourea as source of sulphur are mixed together and 2ml and 6ml Pr of 0.01M solution added to the basic solution. The Solutions of 0.01M thiourea 0.01M Silver Nitrate, 0.01M cadmium Acetate, 0.01M Pr were prepared from analytical grade (AR) chemicals. In the present study we have analysis the optical and structural properties of (Cd-Ag)S for the 2ml and 4 ml concentration of Pr. In the CBD method film deposition was produced by precipitation followed by condensation on glass substrates. The films were

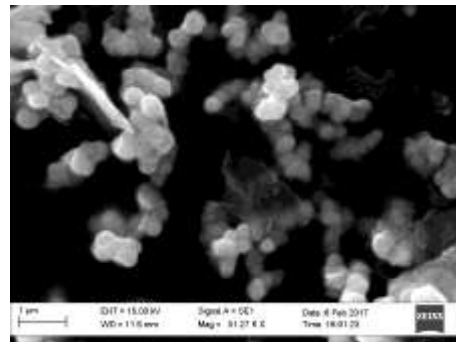
prepared at a room temperature for 5 hour. The reported films were homogeneous and well crystalline.

RESULT AND DISCUSSION

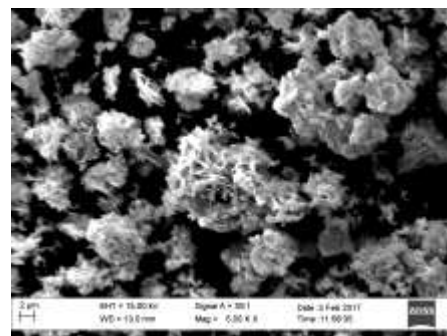
Structural Study

1. SEM Study

The SEM micrographs of (Cd-Ag)S: Pr films are shown in fig 1(a) and 1(b). The micrograph shows that uniform distribution of particle along with some granular and leaf type structure. The reported films clearly show the crystalline structure. In the presence of Pr the particle size of the films are quantized and looks the well define shape. In case of (Cd-Ag)S:Pr (concentration of Pr 2ml in fig 1(a)) an group of small spherically ball structure of 1micro meter size and their bunch is observed and in the fig 1(b) (For the 6 ml Pr) the micrograph is change and look likes some flower type structure. The shapes of the films are clearly indicated the reported films are well adherent and homogeneous.



(a)



(b)

Fig. 1 The SEM Micrograph of (Cd-Ag)S: Pr

OPTICAL STUDY

1. Photoconductivity study

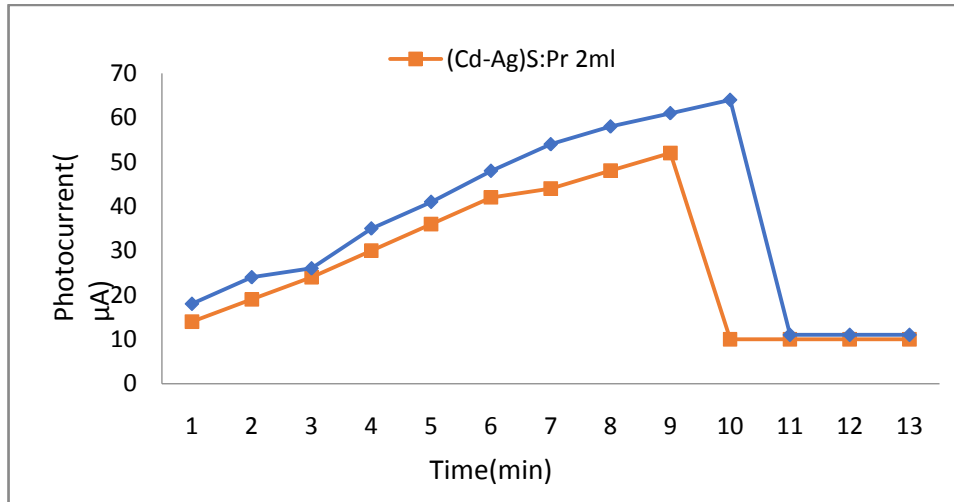


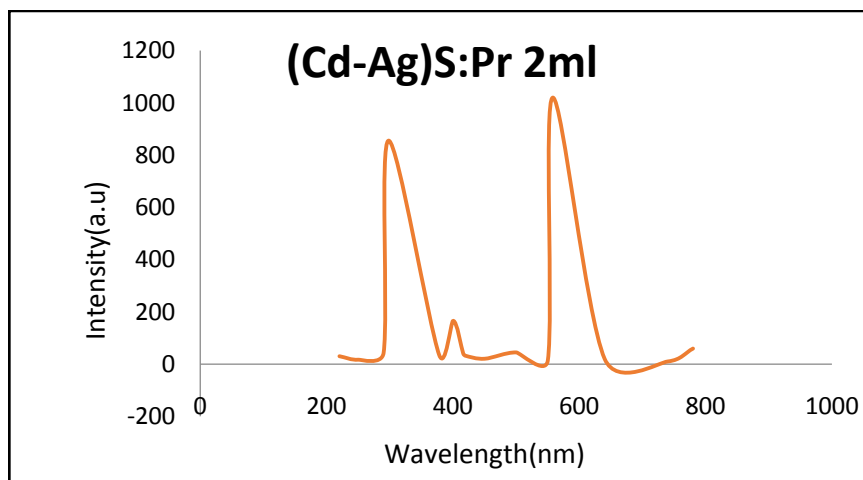
Fig. 2 Photoconductivity Rise and Decay Curve

fig 2 show the rise and decay curve of (Cd-Ag)S:Pr thin films. The value of photocurrent and dark current are calculated and presented in table 1.1.the photo excitation were made by a conventional 100 watt bulb. The ratio of I_{pc} and I_{dc} is of the order of 10^4 . The value of I_{pc} increases with the addition of rare earth element Pr and. In Silver sulphide the photoconductivity is of n-type because of the trapping of photo generated holes at the boundaries. It is found that the lanthanides element help in improving the photocurrent due to release of their valence electrons. The main role of impurities is to release the valence electron and thus increasing the component of photocurrent because of enhanced mobility.

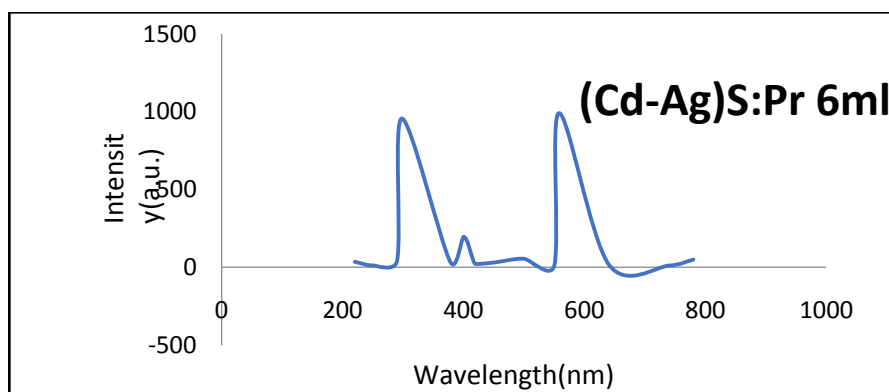
photocurrent. In the present study we have optimize the volume of praseodymium nitrate $Pr(NO_3)_3$ and study of photoconductivity on samples .It is clearly observed that the general nature of the curve is similar in both the sample. The curve is characterized by a fast rise in the beginning followed by saturation. In the beginning of the curve initial increase in photocurrent may be due to the generation of photo carrier. After some time duration the photocurrent becomes slower at that time recombination becomes effective .In between the generation and recombination processes saturation is observed .It is also noted that the slowly increasing compo

Table 1 Photoluminescence Study

Molar concentration of $Pr(NO_3)_3$	Volume of $Pr(NO_3)_3$	I_{dc} (nA)	I_{pc} (nA)	Gain (I_{pc}/I_{dc})
0.01M	2ml	43	0.52×10^4	0.012×10^4
0.01M	6ml	46	0.64×10^4	0.013×10^4



(a)



(b)

Fig. 3 Photoluminescence Spectra of (Cd-Ag)S: Pr

The Photoluminescence emission and Excitation spectra of (Cd-Ag)S: Pr film presented in Figures 3. The emissions were recorded under 230nm excitation wavelength. The emission spectra of both the film falls on the wavelength 588.22nm and 400.53nm but the intensity are different. It is observed that the 588.22 nm wavelength found to the band to band transition. The PL emission spectra of semiconducting (Cd-Ag)S: Pr film shows two peaks one at 588.22nm and the other 400.98nm. Both the peaks in both the curve indicted that in the presence of Pr emission is in visible region are observed. the energy level scheme of the rare earth element Pr³⁺ the different emission of this ions are 295nm, 335nm recorded. In the present study the observed peaks are not exactly same as

expected for the transition in this ion. So it is said that the energy transfer takes place from band of Pr to the host emitting centers. The (Cd-Ag)S:Pr are suitable material to absorb Ultra violet(UV) radiation and convert it into the visible (598.98nm) region.

CONCLUSION

The (Cd-Ag)S: Pr films prepared by chemical bath deposition (CBD) technique show good Optical and structural properties . In the present work reported films have been successfully prepared by chemical bath deposition (CBD) technique using Silver nitrate, Cadmium acetate and ammonia-thiourea system. The SEM micrograph shows the white granular ball in crystalline face and flower type structure of prepared thin film.

PL spectra show that the emission occurs in visible region. The rise and decay curve reflect information that the generation of photocurrent is very fast and decay rates appeared to be slower. The photoconductivity gain found to be order of 10^4 . So we conclude that the deposited (Cd-Ag)S: Pr is good photosensitive and photovoltaic material.

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Highly Sensitive Diazotized Coupling Method for the Determination of Phorate in Various Agricultural and Environmental Samples

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Abstract :

A spectrophotometric diazotized coupling method is developed. This method is highly sensitive and selective for the determination of phorate (Thimet) which is a systemic organophosphorus insecticide. The method is based on the oxidation of phorate to Sulphones by using concentrated sulphuric acid and its hydrolysis under acidic conditions at approximately 100 °C to release formaldehyde, which is then treated with p-aminoacetophenone. The yellowish-orange dye has an absorbance maximum of 455 nm. Beer's law is obeyed in the range of 12-85 µg (0.5-3.4ppm) per 25 ml of the final solution of phorate. This method is applicable for the determination of phorate in various agricultural and environmental samples. And the method is free from interferences of most of the commonly used pesticides and other common ions.

Keywords: Phorate, spectrophotometer, p-aminoacetophenone, agricultural and environmental samples.

INTRODUCTION

Phorate is a systemic organophosphorus insecticide. Chemically it is [O, O-diethyl-S-(ethylthio) methyl phosphoradiothioate]. Phorate is also called as Thimet and is known as pesticide of restricted use because it is highly toxic to birds, fish, and reptiles. In spite of being hazards to the human health, Phorate is still used in agriculture practices in many countries (Zambonin et al., 2004). It is widely used in agriculture, both in pre-and post-harvest pest control (Hassall, 1983). These pesticides are preferred to organochlorine pesticides because of their broad range of activity. Most

organophosphorus pesticides degrade fairly quickly after application but some persist in one form or another for a long period. Crops with such persistent pesticides create a potential source of harm when consumed by either human beings or animals (Janice et al 2004). Due to its severe acute risk for human health, the WHO has classified phorate as a technical product of extreme hazard. Phorate causes a potential risk to human health when vegetables containing 2.2 and 2.68-fold higher levels of phorate residues, the WHO acceptable daily intake (ADI) limit is 0.0005 mg kg bw/d (Mansour et al., 2009). For the safety of the environment, it is pertinent that the levels of these pesticides in the environment are closely monitored. This would ensure that the tolerance level of the pesticides set by the Food and Drug Administration is not exceeded (Judicate et al., 2005).

EXPERIMENTAL

Apparatus :

- Systronics UV-Visible spectrophotometric (model 104).
- A systronic pH meter model 335
- A Remi C-854/4 (clinical centrifuge force of 1850 g with fixed swing out rotors was used for centrifugation)

Reagents

- All reagents used were of Anala R grade or of the best available quality.
- Double distilled deionised water was used throughout.
- Phorate (Northern Minerals Ltd., India): A stock solution of 1mg ml^{-1} was prepared in chloroform. Working standard solution were prepared by appropriate dilution of the stock standard solution with chloroform.
- Concentrated sulphuric acid: Analytical grade chemicals were used.
- P-aminoacetophenone (E. Merck, Germany) : 0.05% (m/v) solution of the reagent was prepared by dissolving
- 0.05 gm of p-aminoacetophenone in 100 ml ethanol.

Procedure:

Different test solution containing 12 to 85 μg of phorate was taken in a 25 ml graduated tube and to it one ml of concentrate sulphuric acid was added. The solution was kept for 20 min at 100°C temperature for complete hydrolysis. The solution was cooled at room temperature and then adds 1ml of 0.05% p-aminoacetophenone. A yellowish-orange dye is obtained. The solution was then diluted to the mark with distill water and absorbance was measured at 455 nm against a reagent blank.

Determination of phorate in water:

River water samples, receiving run off water from agricultural fields, sprayed with phorate were collected. These samples were extracted with 2×25 ml of chloroform. The solution was evaporated to dryness and the residue was dissolve in 10 ml of ethanol .Phorate was then analyses by above procedure. (Table 3)

Determination of phorate in rice wheat and cauliflower:

Various samples such as rice, wheat and cauliflower were collected from the fields where phorate was used as an insecticide. The samples were weighed (50g) crushed and

extracted with two portions of 25ml of chloroform. The chloroform was then evaporated to dryness .The solution was evaporated to dryness and the residue was dissolve in 10 ml of ethanol and analysed as reported method. (Table 3)

RESULTS AND DISCUSSION

Spectral Characteristics:

The yellowish - orange compound formed in the proposed reaction shows maximum absorption at 455 nm. Deionised water was used as the reagent blank which showed negligible absorption at this wavelength to carry spectral measurements. The colour system obeys Beer's law in the range of 12 to 85 μg of phorate in 25 ml of final solution at 455 nm. The molar absorptivity, Sandell's sensitivity and correlation coefficient were found to be $2.1 \times 10^4 \text{ l mol}^{-1} \text{ cm}^{-1}$, $0.012 \mu\text{g}$ and 0.9889 cm^{-2} , respectively.

Optimization of conditions:

Hydrolysis of phorate to acetaldehyde was studied at different temperatures and acidity. It was observed that acidic conditions were required for the hydrolysis. Maximum hydrolysis was observed with 1ml of sulphuric acid at temperature of up to 100°C as it gave maximum absorbance values, good stability and quantitative results. It was observed that 1ml of 0.05% p-aminoacetophenone was sufficient for complete colour reaction. Precision of the method was checked by the replicate analysis of working standard solution containing $10 \mu\text{g ml}^{-1}$ of phorate in 25 ml final solution over a period of 7 days. The standard deviation and relative standard deviation were found to be ± 0.002 and 2.63%, respectively.

Effect of foreign species:

The effect of some foreign species and pesticides were studied to evaluate the authority of the method. Known amounts of foreign species and pesticides were added to the standard solution containing $10 \mu\text{g}$ of phorate prior to hydrolysis and the solution was analysed by the proposed method. The method was free from interferences of most of the foreign species and pesticides. (Table 1)

Application:

The proposed method has been applied satisfactorily to the determination of phorate in various samples of water, vegetables, and rice. The results are in a good agreement with the reported method.

To check the recoveries, known amount of phorate were added to these samples and then analysed by the proposed as well as the reported method (Table 3). The recoveries were found to be 88 to 99%.

CONCLUSION

The proposed method has been compared with other spectrophotometric methods and found to be more sensitive

and selective. (Table 2) This method is a good alternative to some of the reported costly instrument method. The advantage of the proposed method is mainly its sensitivity, simplicity and selectivity and higher stability of the colored solution. The proposed method has been successfully applied for the determination of phorate in water, soil and vegetables.

ACKNOWLEDGEMENT

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Table 1 Effect of various pesticides and pollutants (Concentration of phorate 10 μ g in 25ml).

Foreign species	Tolerance limit* ppm	Foreign species	Tolerance limit* ppm
Benzene, ether	350	CO ₃ ²⁻	200
Malathion	200	NO ₂ ⁻	250
2; 4-D, 2:4:5-T	250	NO ₃ ⁻	150
Cyanide	180	Cu ²⁺ , Pb ²⁺	50
Kelthane,		Sb ³⁺ ,	60
Fluoride, chloroform	130	Ca ²⁺ , Mg ²⁺ , Cd ²⁺	50
Parathion	40	K ⁺ , Cl ⁻	40

* The amount causing an error of $\pm 2\%$ in absorbance value.

Table 2 Comparison with other reported reagents.

Reagent	λ_{max}	Detection limit (ppm)	Interference
Chromotropic Acid	570	11.4	It involves a number of steps, uses per benzoic acid which is not an easily available reagent Not specific, as malathion interferes Involves only 1step, does not require perbenzoic acid Highly sensitive, involve 1step, commonly available reagents
Formation of Cu complex	420	50	
J-acid	472	1	
p-aminoacetophenone	455	12	
(Present Method)			

Table3: Determination of phorate in various agricultural and environmental samples.

Samples	Phorate originally found*		Prorate added(μg) (b)	Total prorate found by proposed* method (c)	Difference (c-a)	Recovery % $\frac{(c-a)}{b} \times 100$
	Proposed method(μg) (a)	Reported method (μg)				
Water	11.52	10.81	10	19.89	8.37	83.70
	15.74	14.32	20	34.83	19.09	95.45
Rice	15.85	4.76	10	24.67	8.82	88.20
	14.64	3.92	20	33.56	18.92	94.60
Wheat	12.12	3.88	10	21.77	9.65	96.50
	15.34	5.11	20	34.93	19.59	97.95
Cauliflower ^c	10.14	5.28	10	19.97	9.83	98.30
	13.58	5.23	20	32.97	19.39	96.95

* Mean of two replicate analysis.

a = Water sample 250mL, after treatment 1 ml aliquot was analysed.

b, c and d = Sample 50gm (taken from agriculture field, 1 ml aliquot of sample was

analysed after treatment as described in procedure section)

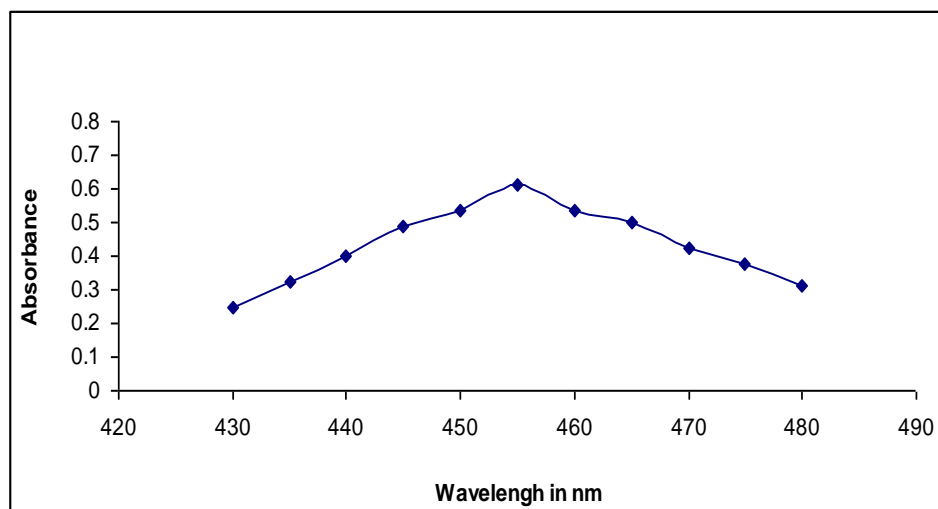


Fig 1 - Absorption spectra of phorate

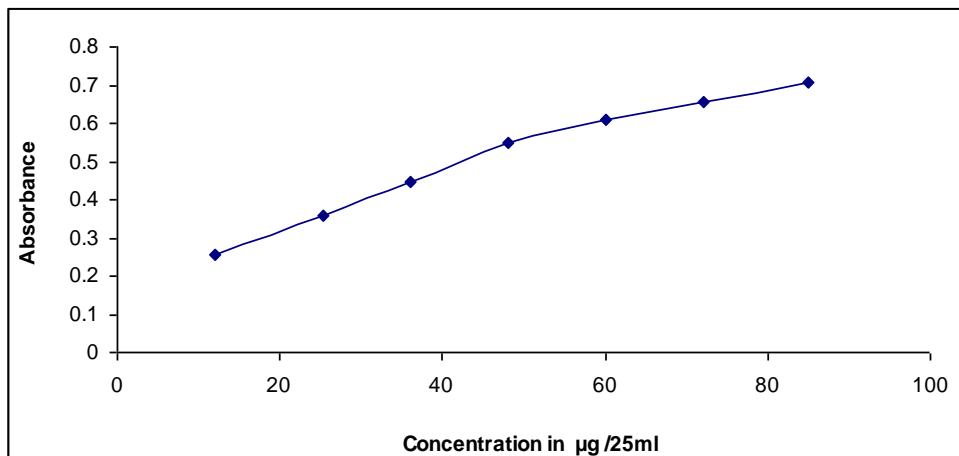


Fig 2 - Calibration curve of phorate

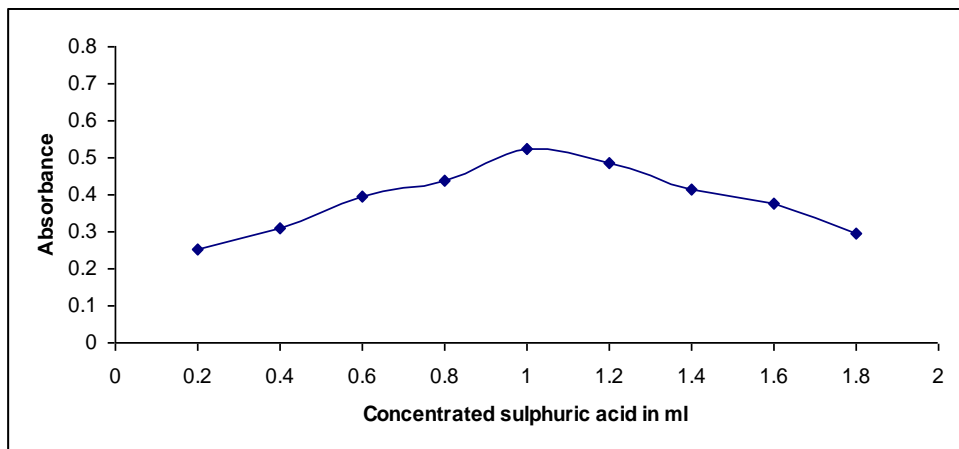


Fig 3 - Effect of concentrated sulphuric acid on absorbance of phorate

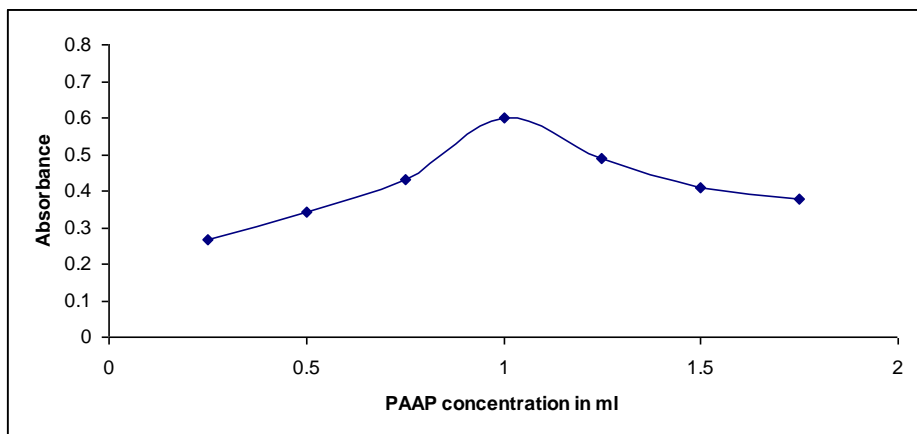


Fig 4 - Effect of reagent concentration (0.05%) on absorbance of Phorate

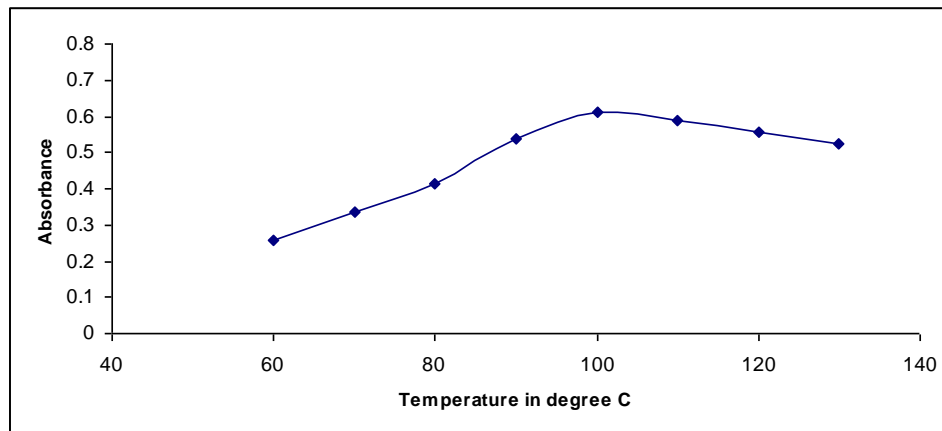


Fig 5 - Effect of temperature on absorbance of phorate.

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screening method for the assessment of organophosphorus pesticides residues in wine and fruit juices. *Food Chemistry*, 86(2), 269-274.

Comparative Studies on the Physico-chemical Properties of Different Soils to High Yield in Crop of Bastar Zone

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Abstract:

These classification of soils according to their of physical properties it is based on the properties their identifications and study in soil taxonomy order to their sailent features in bastar division these are three soils order such as entisols, inceptisols and alfisols they are formed under a variety of climatic conditions. particles size classifications mechanical analysis. Specific surface of soil porosity similarly chemical properties such as chemical composition of soil contain minerals i.e silica iron calcium magnesium potassium sulphur macro and micro nutrients enhance the productivity of soils the chemical nature of soil under the soil^{ph} acidity and alkalinity and all trace elements used to advance instruments for detection of these elements in soil to know the basic chemical properties of inceptisols entisols and alfisols in divided categories of bastar division.

INTRODUCTION

Particles organic decay. Soils are formed from hard rocks, classification of soils according to their physical and chemical properties eg. Acidic alkaline, calcareans, gypsiferanse soils etc. Physical

classification it in grouping of soils based on their texture properties of soils closely associated loamy, sandy and clay soils. In bastar zone surveying of different samples of soils finding the soil taxonomy according to their physical and chemical properties the major types of soils are obtained these are entisols, inceptisols and alfisols contains many micro and macro nutrients are responsible for enhance the productivity. The method applied for improving the soil productivity using different chemicals method by Block wise demonstrations these are several samples collecting from farmers to identify the micro & macro nutrients ratio for productivity of variety of crops and i enhance the yield ratio accordingly Soils is surface covering on most of the earth's land area an aggregation of unconsolidated mineral and organic

Table-1:- Different block of bastar division collecting sample of soils to study, the physical properties

S.No	Sample place (block)	soil order	Particle size(mm)	Specific surface(m ² /g)	Bulk density (mg/m ²)	Moisture retention (g/100g)bar	Organic carbon (%)
1.	Jagdalpur	Inceptisols	2 - 0.2	37 – 45	1.50	9.8	0.11
2.	Bakawand	Entisols	0.2 - 0.02	120 – 170	1.56	10.0	0.15
3.	Keshlur	Entisols	10 ⁻⁴ - 10 ⁻⁶	35 – 43	1.55	9.3	0.06
4.	Dharampura	Alfisols	0.2 - 0.02	-47 – 58	1.54	3.8	0.06
5.	Lohandiguda	Inceptisols	1.2 - 0.2	130 – 180	1.36	4.2	0.31
6.	Tokapal	Alfisols	0.2 - 0.5	780 – 900	1.48	4.0	0.24
7.	Asna	Inceptisols	2.0 - 7.6	580 – 750	1.52	3.9	0.17
8.	Adawal	Entisols	0.5 - 2.0	120 - 170	1.49	1.3	0.24

The above given data shown in table-1 of the physical properties of soil play an important role in determining its suitability for crop production. The characteristic like the supporting

power and bearing capacity properties moisture, storage capacity and its availability to plants drainage, retention of plant nutrition

Table -2:- Selected block of bastar division collecting sample of soil to study the chemical Composition and specific properties

S.No	Sample place (block)	Sample order	pH	Acidity	Alkalinity	Salinity
1.	Jagdapur	Inceptisols	4.8 – 7.0	4.8 – 7.0	9.6	6.2
2.	Bakawand	Entisols	5.0 – 7.0	5.0 – 7.0	1.9	1.6
3.	Keshlur	Entisols	5.0 – 6.5	5.0 – 6.5	26.9	1.8
4.	Dharampura	Alfisols	5.0 – 6.8	5.0 – 6.8	1.8	2.9
5.	Lohandiguda	Inceptisols	5.2 – 6.7	5.2 – 6.7	19.9	6.8
6.	Tokapal	Alfisols	5.5 – 6.0	5.5 – 6.0	9.8	6.7
7.	Asna	Inceptisols	5.1 – 5.4	5.1 – 5.4	14.7	5.3
8.	Adawal	Entisols	4.7 – 6.0	5.2 – 5.7	15.6	12.8

The above estimation of chemical analysis shown in table-2 for collecting the different zone of bastar district the collecting sample classified accordingly p^H, alkalinity, acidity salinity in bastar zone farmer take a single crop and depending the natural raining there no any alter of irrigation source and farmer

having not capable to used the best fertilizers in their field so single crop resulting ignorance of scientific cropping and soil management here we have changing the chemical analysis of soil in different stages and how soil order will exchanging the productivity will remains

Table -3:- Various block of bastar division taking the sample of soil to study the percentage of micronutrients

S.No	Sample place (block)	Soil order	Elements	Soil solution ratio	Critical level of deficiency
1.	Asna	Inceptisols	Zinc	1:2	0.5 – 1.0
2.	Adawal	Entisols	Copper	1:5	0.2 – 0.5
3.	Lohandiguda	Alfisols	Iron	1:10	2.5 – 5.8
4.	Tokapal	Alfisols	Manganese	1:5 – 10	2 – 4
5.	Bastar	Entisols	Boron	5:10	0.5 – 1.0
6.	keshlur	Inceptisols	molybdenum	1:10	0.05 – 0.2

Both soluble and insoluble micronutrients carries are utilised in routine agriculture practises to supply adequate level of micronutrients in soil a list of common micronutrients fertilizers given in above list their rates of application for each micronutrients are used as a fertilizers of growing crops

MATERIAL AND METHOD

This first developed in emission spectrophotometer had significant impact contains following parts

1. Pressure regulator
2. Atomizer
3. Burner

4. Optical system
5. Photo sensitive detector

Principal:- The membrane separate sample from electrode filling solution and selective ion being determined applied Nernst equation $E = E_0 - S \log(A)$

E= measured electrode potential

E_0 = reference potential

A= ion concentration in unknown solution

S= electrode slope

Procedure:- The nutrients carried out in the soil sample provided by the different field

1) A known weight (0.250g) of the soil solution is transferred in a 250ml measuring flask and is

dissolved in 100ml of deionised water about 5ml of 6N HCL or 40% aquaregia is added to acidity the medium and final volume is made up with deionised water these solution can be direct by analysed on an ICAP- AES for analysis on an atomic absorption spectrophotometer. The detection limit are much lower and further dilution of their solution would be needed. For soil solution containing about 6-610% of the element as aliquot(1ml) of the solution made as above is transferred to a 100ml measuring flask and volume is made up with deionised water this solution will be around 2ppm with respect to the element to be analyse

Table-4:- Different nutrients containing in sample solution of soil. (Analysis part - 2)

S.No	Sample place	Soil order	Nutrients	Content (%)	Applied instrument for analysis
1.	Jagdapur	Inceptisol	Sulphur(s)	9 – 12 s	AES
2.	Bakawand	Entisol	Calcium(ca)	80 – 95 c_aCO_3	Flame photometer
3.	Keshlur	Entisol	Magnesium(mg)	2 – 10 mg	Ion chromatography
4.	Dharampura	Alfisol	Nitrogen(N)	5 – 13	Kjedahl's method
5.	Lohandiguda	Inceptisol	Potassium(k)	6 – 17.2	AES
6.	Asna	Inceptisol	Chloride(cl)	0.2 – 0.6(ppm)	Gas chromatography
7.	Adawal	Entisol	Iron(fe)	0.36 – 174(ppm)	Ion chromatography

CONCLUSION

From the comparative data obtained from various sample of soil collected from different places of bastar district there is various essential nutrients finds in Entisols, Alfisols, and Inceptisols the soil order the main object is that how improve the soil fertility so that here all above experiment will shown the addition of basic slag by product of steel industry the slag having p_2O_5 10-20% these are excellent water soluble compounds the nature of solubility cause easily dissolved with rain water to perlocates of all these soil order resulting inhance their productivity

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Some Herbaceous Medicinal Plants in Bilaspur (C.G.)

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Abstract :

India is one of the 12 mega biodiversity centre. Chhattisgarh state located centrally in India has approx. 44% forest area are the principle repository of large number of medicinal and aromatic plants due to this C.G. is declared as herbal state in 2001. The flora of medicinal and aromatic plant is depleting quit fast due to use of forest land in other purpose and over exploitation of herbs. The state is dominated by tribal population and major tribal population depend on forest for fiber, food, fuel, fodder, medicine. In the present investigation 15 wild herbaceous medicinal species were collected from different area within bilaspur district. Out of these identified species most of the plant belongs of family asteraceae, amaranthaceae, euphorbiaceae, liliaceae, papaveraceae, caesalpinaceae, solenaceae, lamiacea, a apocynaceae, fabaceae, cruciferaceae, and poaceae. Present investigation revealed that villagers and tribal used traditionally these plants species against various disease like cough, laxative, boil, wound, healing, skin problems and other diseases. Generally leave, flower, roots, shoots, and some time whole plant are used for the treatment of diseases. Herbarium of these plants have been prepared notet with entire information like botanical name, local name, family and plants parts used for diseases.

Keywords; *Herbacious medicinal plants, biodiversity, herbal, Bilaspur.*

INTRODUCTION

India has a rich culture of medicinal herbs and spices, which includes about more than 2000 species and has a vast geographical area with high potential abilities for Ayurvedic, Unani, Siddha traditional medicinal systems only few medicinal herbs have been studied chemically and pharmacologically for their potential medicinal value (Gupta et al., 2005; Sandhu and Heinrich, 2005). Human beings have used plants for

the treatment of different health problems for thousands of years (Sofowara, 1982; Hill, 1989). According to the World Health Organization, most populations still rely on traditional medicines for their psychological and physical health requirements (Rabe and Van Stoden, 2000). Rural areas of many developing countries still rely on traditional medicine for their primary health care needs. These natural medicines are relatively safer and cheaper than synthetic or modern medicine (Iwu et al., 1999; Idu et al., 2007; Ammara et al., 2009). People living in rural areas from their personal experience know that these traditional remedies are valuable source of natural products to maintain human health and animal healthcare. However, they may not understand the interaction between these medicines and human body. Moreover, knew that certain medicinal herbs are highly effective only when used at specific therapeutic doses (Maheshwari et al., 1986; Van Wyk et al., 2000).

In central region of India constituting Madhya Pradesh and Chhattisgarh, large numbers of wild plants were reported to be commonly used as medicine. Some plants are used singly, where as others are used in collectively. Similarly certain plants are considered useful for only one disease where as few are used as multiple disease. Herbal medicines are in great demand in both development and developing countries as a source of primary

health care owing to their attributes having wide biological and medicinal activities high safety margin and lesser cost .Herbal molecules are safe and would overcome the resistance produced by in a pooled from of more than one molecules in the protoplasm of the plant cell. Even with the advent of modern allopathic medicine have noted that a number of important modern drugs have been derived from plants used by indigenous people.

During present investigation Bilaspur district in Chhattisgarh was selected for medicinal studies of herbal plants. Most of the area of Bilaspur district is covered by large number of herbal plants has been perform throughout the natural vegetation area. The tribal people, villagers used these plants as food, fodder and medicinal purposes; they have good knowledge about herbal medicinal plants and their uses for different types of diseases. But today various important medicinal herbal species become threatened condition due to increase urbanization, pollution as well as heavy demand of these plants species. The present paper has been restricted to the medicinal uses of only 15 such herabacies plant species have been properly identified and stored as herbarium.

MATERIAL AND METHOD

The study was conducted at some villages of Bilaspur district of Chhattisgarh. Geographically Bilaspur located at 25° 5' N Latitude and 82° 12 ' E Longitude. The height is 292.00 m above M.S.L. It is situated in the eastern part of the Madhya Pradesh, almost in the centre of the region as Chhattisgarh. The plants were

collected in the Botanical Laboratory either in the form of herbarium sheets or museum specimens. The detailed information pertaining to their Botanical name, local name, family name and medicinal uses. All information's regarding the usages of plants for treating various ailments and diseases was collected by directly interviewing elderly learned and experienced persons of rural people of the villages. The plant have been indentified in the laboratory by literatures including Flora/Encyclopedia like De.L.C.[2005], Hookers[1875].Sharma R. [2003] .Trivedi P.C.[2006] and Pullaiah, T. [2006], further confirmation was made with the help of the field also.

RESULT AND DISCUSSION

One the basis of field survey on medicinal plants it is resulted that 15 species under 12 families showed their presence in the Bilaspur which were collected indentified and listed. Recorded medicinal plants showed different parts [Root, shoot leaf, clove, rhizome etc.] are uses for different diseases .The plants are arranged following their botanical name, local name family, parts uses and uses of plants shown in table 1. A singal species was used to cure more than one disease. Plants are very useful for skin disease, asthma, fever, leprosy, diarrhea, piles and wound healing .There are medicinal plants belonging to the family Asteraceae, Amaranthaceae, Euphorbeciaceae, Liliaceae, Papaverace, Fabaceae, Solanaceae, Caesalpinaceae, Lamiaceae, poaceae, Apocynaceae , Cruciferaceae.

TABLE-1

Medicinal plants in Bilaspur [C.G.]

SN	Botanical name	Local name	Family	Parts	Uses
1	<i>Acalypha indica</i>	Harita manjari	Euphorbiaceae	Whole plant	Skin troubles, anti septic and applied to boils in the form of poultice, ulcer, eczema pyorrhoea, tonic, and stomachic
2	<i>Achyranthgns aspera</i>	Latjira	Amaranthaceae	Root, shoot, leaf	Boils, wound healing, antidiabetic, Bleeding control, scorpion- sting, diuretic, antidote antidiabetic, toothache

3	Aegaratum conizardis	Jangli pudina	Asteraceae	Leaf	Treatment of cut and sores, piles, wound healing
4	Aloe vera	Gritkumari	Liliaceae	Leaves	Laxative, would healing skin, burns and care, ulcer
5	Argemon maxicana	Prickly poppy	Papaveraceae	Root, shoot	Fever, anthelmintic, leaves, smoked for asthma
6	Baerhavia variegata	kachnar	Caesalpinaceae	Whole plant	Obesity, scrofula, cutaneous, troubles ulcer, leprosy, diarrhoea, dy sentery and piles.
7	Catharanthus roseas	Sda bahar	Apocyanaceae	Whole plant	Leakmia , hypotensiv
8	Cassia tora	Charota	Fabaceae	Leaf ,seed	Dermatiosis, cough and respiratory disease, laxative, carminative, skin disease
9	Cleome viscosa	Bagra	Crucifereceae	Leaf, flower	Ear trouble, swelling, carminative, anthelmintic, antiseptic, boil, wound tonsilitis, leucoderma, cough
10	Cynodon dactylon	Dub ghas	Poaceae	Leaf	Vomiting, bleeding, diuretic, diarrhea, ophthalmia
11	Datura stromonium	Dhatura	Solanaceae	Leaves, flower, fruits	Asthma, skin eruptions, colds, nervous disorder, surgical, procedure
12	Euphorbia hirta	Baradudhi	Euphorbiaceae	Bark, leaf, root	Boil, antiasthematic, cough, dysentery
13	Ocimum sactum	Tulsi	Lamiaceae	Leaf flower	Cough, cold, bronchitis, erpectorand
14	Mimosa podica	Lajjavanti	Fabaceae	Whole plant	Allergy, asthma, ulcer, bleeding
15	Solanum nigrum	makoi	Solanaceae	Fruit, whole plant	Dropsy, general debility, diuretic antidysenteric

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An Impact of Digital India: A Review

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Abstract:

Digital India is very important dream project and helpful in every field for human being. Digital India provides various convenience resources and makes easy to life project. This dream project was aimed at digitizing India as a whole, its purpose is to promote technology, provide internet connectivity facility and technologically. The programme is proposed by honorable Prime Minister Mr. Narendra Modi. The Digital India is a step by the government to inspire and connect Indian Economy to such a knowledge savvy world. It also brings out various schemes like E-Health, Digital Locker, E-Sign, E-Education, jan-dhan yojana, paperless, cashless payment, etc. which is benefits for human being. The main aim of this paper is to explore benefits of digital India in various fields like education, economy, society and IT Industry.

Keyword: *Digital India, Technology, Internet Connectivity.*

INTRODUCTION

Digital India (N. Gupta N. and K. Arora, 2015) [9] is a large umbrella national program started on 1 July 2015 by our Prime-Minister Mr. Narendra Modi. Digital India (J. Sharma J. 2016) [12] is providing universal digital literacy and universal accessibility of all digital resources for citizens. Digital India is a step by the government to inspire and connect Indian Economy to such a knowledge savvy world. It brings out various schemes like E-Health, Digital Locker, E-Sign, E-Education, jan-dhan yojana, paperless, cashless payment, etc. Digital India is a dream project of the government for the citizens and Industries of India which could help in connecting the various past and present projects to bring India to a global platform. This will ensure that all government services and information are available anywhere, anytime, on any device that is easy-to-use, highly available and secured. Digital India Project

removes digital gap between the rural and urban India.

The vision of Digital India program is to transform India a Digitally society and knowledge economy. The Digital India program is centered on three key vision areas:

A. Digital Infrastructure as a Utility to Every Citizen

- To provide high speed internet connectivity as a core utility for delivery of services to citizens.
- To provide digital identity that is unique, lifelong, online and authenticable to every citizen.
- Easy access to a Common Service Centre. Shareable private space on a public cloud for every citizen.

B. Governance and Services on Demand

- Seamless integration across departments or jurisdictions ensuring availability of services in real-time from online & mobile platforms.
- To make all citizen elements portable and available on the cloud.
- To digitally transform services for improving ease of doing business.

C. Digital Empowerment of Citizens

- To empower citizen through universal digital literacy.
- To provide universal accessible digital resource.
- To make available digital resources / services in Indian languages.

- To provide collaborative digital platforms for participative governance.

Digital India [1] is an umbrella program that covers multiple government Ministries and Departments. Digital India aims to provide the much needed thrust to the nine pillars of growth areas, namely Broadband Highways, Universal Access to Mobile Connectivity, Public Internet Access Program, e-Governance: Reforming Government through Technology, e-Kranti - Electronic Delivery of Services, Information for All, Electronics Manufacturing, IT for Jobs and Early Harvest Programs. Each of these areas is a complex program in itself and cuts across multiple Ministries and Departments.

A. Highways to have broadband services

Government aims to lay national optical fiber network in all 2.5 lakh gram panchayats. Broadband for the rural will be laid by December 2016 and broadband for all urban will mandate communication infrastructure in new urban development and buildings. By March 2017, the government aims to provide nationwide information infrastructure.

B. Easy access to mobile connectivity

The government is taking steps to ensure that by 2018 all villages are covered through mobile connectivity. The aim is to increase network penetration and cover gaps in all 44,000 villages.

C. Provide public access to internet

The government aims to provide internet services to 2.5 lakh villages which comprises of one in every panchayat by March 2017 and 1.5 lakh post offices in the next two years. These post offices will become Multi Service centers for the people.

D. E-Governance

The government aims to improve processes and delivery of services through e-Governance with UIDAI, payment gateway, EDI and mobile platforms. School certificates, voter ID cards will be provided online. This aims for a faster examination of data.

E. E-Kranti

This service aims to deliver electronic services to people which deals with health, education, farmers, justice, security and financial includes.

F. Information for All

Hosting data online and engaging social media platforms for governance is the aim of the government. Information is also easily available for the citizens.

G. Manufacturing of electronics

The government is focusing on zero imports of electronics. In order to achieve this, the government aims to put up smart energy meters, micro ATMs, mobile, consumer and medical electronics.

H. IT Training for Jobs

This initiative seeks to train 10 million people in towns and villages for IT sector jobs in five years. It also aims to train 0.3 million agents to run viable businesses delivering IT services. Additionally, the project involves training of 0.5 million rural IT workforce in five years and setting up of BPOs in each North-eastern state.

I. Early harvest programs

Government plans to set up Wi-Fi facilities in all universities across the country. Email will be made the primary mode of communication. Aadhaar Enabled Biometric Attendance System will be deployed in all central government offices where recording of attendance will be made online.

LITERATURE REVIEW

Digital India' initiative has been an area of interest of numerous researches from various Impact because of its great significance and influence on the economy as a whole and particularly the technological sector. There are various authors have suggested about digital India programme.

N. Gupta et al. (2015) [9] studied the impact of digital India project on India's rural sector. The study found that many schemes have been launched in digital India to boost agriculture sector and entrepreneurship development in rural areas. Digital

India program has also set the stage for empowerment of rural Indian women.

J. Sharma (2016) [12] studied that ICT (Information and Communications Technology) alone cannot directly lead to overall development of the nation. The overall growth and development can be realized through supporting and enhancing elements such as literacy, basic infrastructure, overall business environment, regulatory environment etc.

R. Suman (2016) [11] concluded at the digital India project provides a huge opportunity to use the latest technology to redefine India the paradigms of service industry. It also pointed out that many projects may require some transformational process, reengineering, refinements to achieve the desired service level objectives.

R. Midha (2016) [13] concluded that digital India is a great plan to develop India for knowledge future but its improper implementation due to inaccessibility and inflexibility to requisite can lead to its failure. Though digital India program is facing number of challenges yet if properly implemented it can make the best future of every citizen. So we Indians should work together to shape the knowledge economy.

S. Dua (2017) [16] discussed about persistent attention must be given to each and every pillar so that this program does not end up in failure. In fact we all should be mentally prepared for the change and be ready to face the challenges in implementing this policy, only then it would be possible to make this vision a reality.

S. Srivastva (2017) [15] Microsoft CEO, Satya Nadella intends to become India's partner in Digital India program. He said that his company will set up low cost broadband technology services to 5laks villages across the country.

J. Dashora (2017) [17] the Digital India program success will associate with the regulatory framework. The Government completely ensures that these regulations create such an environment in which

private organizations come in, work together and create efficient ecosystems. The Government role should be line with administration that is Maximum role of Governance and Minimum role of Government, with these efforts India will be digitally ready within three years.

IMPACT OF DIGITAL INDIA

Now a days digital India play very important role and useful impact in various field like society, education, IT Industry and Economy etc. and most of the people are habitual to use resources of Digital India.

A. Impact of Digital India in IT Industry

Software spending [4] is projected to grow by 15.6 percent in 2017, and will grow another 15.1 percent in 2018 to reach \$1.2 billion. IT services spending is on pace to grow by 15.3 percent in 2017 to total \$2 billion in 2017, and increase by 13.8 percent in 2018 to reach \$2.3 billion.

B. Impact of Digital India in Education

Its [4] provides an opportunity to access learning sources through a global platform, providing reach ability to teachers and breaking the barriers to gain quality education through physical classes. Some of the schemes introduced under the Digital India concept by government are Digishala, Digital e-book, e-basta, e-learning apps, smart schools, smart tools and many more with an envision of better and educated country.

C. Impact of digital India in Economy

India [4] is chalking out its own growth strategy driven by digitalization, connectivity, cash - less/paper-less economy, and start-up innovation ecosystem. Indian economic growth will be driven by the rising tech adoption. Smart phones penetration is rising in the country with 700 million users expected by 2020; we will have 331 million internet users by 2020. With Aadhaar UID, 1 billion users can authenticate 100 transactions per day in real time. India Stack is a complete set of APIs for developers which include Aadhaar for authentication, e-KYC,

and e-sign amongst others. All these will propel technological disruption, digital connectivity, growth of tech start-ups in order to achieve the said vision of Digital India.

D. Impact of Digital India in Society

Ever since the launch of the Digital India program in July 2015, an array of milestones has been achieved, this has helped in taking forward the vision of a digitally empowered India. Various schemes/projects/services have been rolled out under the program to promote e-Governance efforts in India through digitization of its various schemes and projects. Providing the basic Infrastructure for a Digital India 1, 21,871 kms of optical fibre cable, 19.3 lakh registered users on myGov platform, 1.66 lakh CSCs operational make e-services available in rural areas, 1005 crore user have registered under aadhaar programme, 81 lakh people under Digital shaksharta abhiyan(DISHA), 13,000 crore have MNEGRA wages disbursed, 85 lakh sukanya samridhi yojana opened, 21,319 post offices equipped with core banking facilities, 1.059 million Telephone Subscribers and 105.2 crore phone users [4].

MERITS AND DEMERITS

Each and every thing have merits as well as demerits. The merits are advantages and useful while demerits are disadvantages and harmful for users. There are some advantages and disadvantages of digital India as shown below:

A. Merits

There are some advantages of digital India are:

- Connectivity: The digital India [6] project has revamped the NOFN project and it aims to provide broadband connectivity to 2,50,000 Gram Panchayats by the end of 2017. With increased connectivity and greater access to information, more and more people would be able to enjoy the fruits of development in the country.

- E-government and service delivery: E-governance [6] is in essence, the application of Information and Communications Technology (ICT) to government functioning in order to create 'Simple, Moral, Accountable, Responsive and Transparent'(SMART) governance. The focus today is on designing e-Governance applications in such a way that the related information, services and grievance-handling mechanism are accessible online on a real time basis and across all types of access devices such as desktop computers, laptops, tablets, mobiles etc.
- E-commerce/E-business: Most business houses [6] are shifting their operations to the online world. Right from buying apparels to computers to booking tickets and renting out apartments, everything can be done through the Internet now. It is a win-win formula for both the customers and the business houses. Digital India aims to boost E-business and the E-commerce industry with the vision that it would in turn boost the economy as a whole.
- Education: The pedagogy [6] in the Indian educational system is hardly dynamic and effective. This is reflected in the poor learning outcomes witnessed at all levels of the education system in the country(India disappoints in educational outcome test).Greater penetration of IT (combined with a push from the government in that direction) will enable schools to design effective curriculum and keep themselves abreast of the recent trends in various fields.

B. Demerits

There are some disadvantages of digital India are [6] :

- Many poor people do not have bank accounts. Although the Jan Dhan Scheme launched by the government succeeded in bringing millions into the banking system, the process is not complete and many of the accounts are non-

functional. The government has to rectify this problem and bring the entire poor and marginalized section into the banking system.

- The small retailers in India deal only in cash and have not been able to invest in the digital infrastructure.
- The taxes, charges and the fees charged on digital transactions need to be made liberal in order to encourage the people to adopt the practice. Otherwise the public would not be willing to move towards a cashless society.
- Hacking and cyber theft are grave dangers that plague the digital world. Hackers can steal information and money from anywhere in the world. It increases the cybercrimes.
- It makes students addict to video games.
- Decentralised currency will grow which will affect our rupee.

CONCLUSION

Digital India play very important role in every field like education, society, IT Industry, economy etc. for easily and convince use of resources. Digital India does not only mean to expand technology but it is also the development of all India which is the Highways to have broadband services, easy to mobile connectivity, providing public access to internet, e-governance, e-Kranti, information for all, manufacturing of electronics, it training for jobs and early harvest program (nine pillar of Digital India) are being done by under which e-books, e-library, e-basta, online education, tablet and laptop distribution, kaoshal vikash yojana, jan-dhan yojana, electronic device production, economical growth, online transaction, cashless payment, Wi-Fi facility, hotspot connectivity, internet services, government services, biometric attendance system service or scheme provided. This research work specially explored the impact of digital India that is beneficial for human being in each and every field.

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Analysis and Classification of Diseases Using Data Mining and Feature Selection Technique

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Abstract:

Now a days medical science are facing challenging and critical problem due to increase number of disease and patient. An identification and diagnosis of health condition is very essential and betterment for safe human life. In this research work we have used different data mining based classification techniques for identifying and classification of diseases. This research work used Thoracic Surgery Dataset, Indian Liver Patient Dataset and Breast cancer dataset. We have applied these dataset with 10-fold cross validation into various classification techniques like J48, Random Tree, Random Forest, REP Tree, SVM (RBF Kernel Function), MLP (Single layer) and Naïve Bayes and compare the performance in the term of accuracy. The SVM with RBF kernel function achieved better classification accuracy with three healthcare dataset with reduced feature subset.

INTRODUCTION AND LITERATURE SURVEY

In medical science identification and diagnosis of health condition is very challenging task due to increase number of patients. Data mining based classification techniques are useful to extract the knowledge from database. The main motive of this research work is to analysis and identification of disease like Thoracic Surger, ILPD and Breasr cancer. Thoracic Surger problem related to the post-operative life expectancy in the lung cancer patients. There are most of the people are facing the problem of Liver

patient. Breast cancer is common problem in women and facing and suffering from this disease. There are various other diseases are also facing by people and medical science try to identify and diagnosis these disease. There are various researchers have analysis and develop models to identify and diagnosis such type of disease.

A. U. Harun et al. [13] have suggested data mining techniques for prediction of Thoracic Surger data and compared classification accuracy among classifier. They suggested boosted simple logistic regression is generally better or at least competitive against other data mining techniques. V Sindhu et al. [14] used different classification techniques like Naïve Byaes, PART, J48, OneR, Random Forest and Decision Stump for classification of Thoracic Surger data where Random Forest gives better classification accuracy compare to others. M. Koklu et al. [15] used rule based classification techniques to identify the condition of Thoracic Surgery. They used rule based techniques like Conjunctive Rule, Decision Table, Decision Table/Naive Bayes (DTNB), Java Repeated Incremental Pruning (JRip), Navajo Nation Gaming

Enterprise (NNge), One Rule (OneR), Partial C4.5 (PART), Ripple-Down Rule learner (Ridor) and ZeroR. The result shows that ZeroR given better prediction ratio among the four techniques regarding to classification rules.

H. Jin, et al. [7] suggested naïve bayes, MLP, Decision tree and k-NN as classifier for classification of liver and non liver patient and compared proposed naïve bayes with others classifiers which given high classification accuracy.

P. Sexena, et al. [8] used various clustering algorithm for classifying of liver and non liver patient. The proposed k-means clustering algorithm is simplest and fastest algorithm as compared to other algorithms.

A. Gulia, et al. [6] compared performance of classification techniques like J48, MLP, SVM, Random Forest and Bayes Net for classification of liver patient. Random Forest technique gives highest accuracy with reduced number of features.

A. Higa et al.[9] have proposed ANN for classification of benign” group that is non- cancerous or a” malignant” group that is cancerous disease. The proposed ANN has given 96.42% of accuracy as best classifier.

Kahksha et al. [10] have suggested Decision tree, Neural Network, and SVM model over the breast cancer dataset, where SVM has the highest accuracy 83.64% as compared to other two algorithms.

R. Rajbharath et al. [11] have suggested hybridization of Random Forest and Logistic Regression for predicting of breast cancer disease. S. K. Mandal et al. [12] compared the classification accuracy of Naïve Bayes, Logistic Regression and Decision Tree for classifying breast cancer disease where Logistic Regression given better accuracy compares to others.

PROPOSED ARCHITECTURE

The Figure1 shows that architecture of research work where we have used three difference healthcare data set collected from UCI repository [16] i.e. Thoracic Surgery, ILPD and Breast cancer data set. We have compared the performance of classifiers with these three data sets and achieved better accuracy in case of SVM classifier with RBF kernel function. We have also applied the Info gain and Gain ratio FST on these dataset to achieve better performance with same classifier in terms of accuracy, sensitivity and specificity.

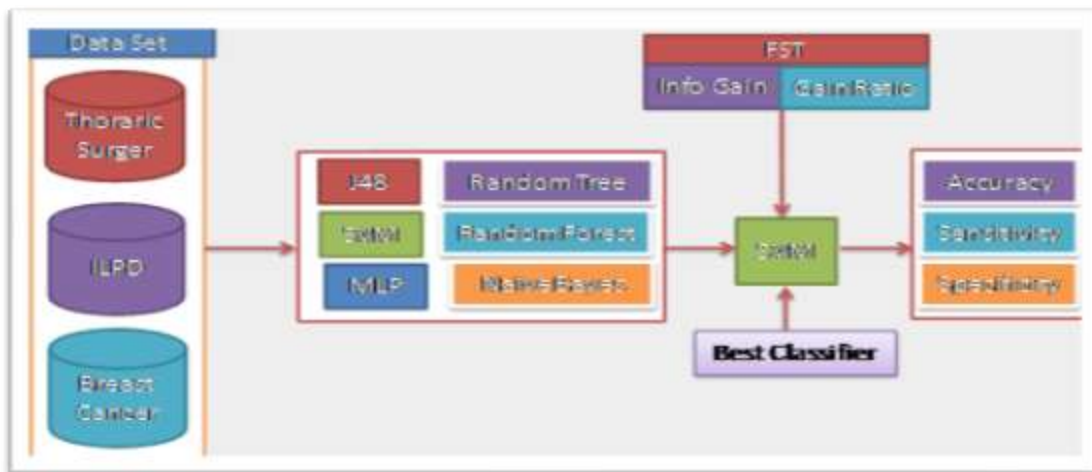


Figure1: Proposed architecture

3. Data Set

The table 1 shows that description of data sets.

Table 1: Description of data set

Thoracic Surgery		ILPD		Breast Cancer	
Number of Instances	470	Number of Instances	583	Number of Instances	699
Number of Attribute	16	Number of Attribute	10	Number of Attribute	9
Nature of Class	Binary	Nature of Class	Binary	Nature of Class	Binary

We have used three dataset in this research work namely. Thoracic Surgery, ILPD and Breast cancer collected from UCI repository shown in above table 1.

METHODOLOGY

In this research work, we have used various classification techniques for analysis and identification of various types of disease. We have also used one of the Info Gain FST to computationally improve the performance of classifiers.

A. Decision Tree

Decision Tree (DT) is one of the data mining technique and classifier for classification of data according to its classes. The basic idea of a decision tree is to split our data recursively into subsets so that each subset contains more or less homogeneous states of our target variable (predictable attribute). At each split in the tree, all input attributes are evaluated for their impact on the predictable attribute. When this recursive process is completed, a decision tree is formed. This research work has used J48, Random Forest, Random tree and REP Tree for classification of various types of diseases. J48 [1] is an extension of ID3 that handle the unavailable values, continuous attribute value ranges, pruning of decision trees and rule derivation. Random Forest (or RF) [2] is an ensemble classifier that consists of many decision trees and outputs the class that is the mode of the classes output by individual trees. REPTree [3] builds

a decision or regression tree using information gain/variance reduction and prunes it using reduced-error pruning.

B. Naïve Bayes

Classification algorithms [4] have found a simple Bayesian classifier known as the Naive Bayesian classifier to be comparable in performance with decision tree and selected neural network classifiers. Bayesian classifiers have also exhibited high accuracy and speed when applied to large databases. Bayesian classifiers are statistical classifiers. They can predict class membership probabilities, such as the probability that a given tuple belongs to a particular class.

C. Support Vector Machine (SVM)

Support vector machines (SVMs) [5] are supervised learning methods that generate input-output mapping functions from a set of labelled training data. The mapping function can be either a classification function (used to categorize the input data) or a regression function (used to estimation of the desired output). For classification, nonlinear kernel functions are often used to transform the input data to a high dimensional feature space in which the input data becomes more separable (i.e., linearly separable) compared to the original input space. SVMs belong to a family of generalized linear models which achieves a classification or regression decision based on the value

of the linear combination of features. They are also said to belong to “kernel methods”.

D. Multilayer Perceptron

MLP (Pujari A. K. 2001) is a development from the simple perceptron in which extra hidden layers (layers additional to the input and output layers, not connected externally) are added. More than one hidden layer can be used. The network topology is constrained to be feed forward, i.e., loop-free. Generally, connections are allowed from the input layer to the first (and possible only) hidden layer, from the first hidden layer to the second and so on, until the last hidden layer to the output layer. The presence of these layers allows an ANN to approximate a variety of non-linear functions. The actual construction of network, as well as the determination of the number of hidden layers and determination of the overall number of units, is sometimes of a trial-and-error process, determined by the nature of the problem at hand. The transfer function generally a sigmoid function.

E. Information Gain and Gain Ratio FST

Feature selection play very important contribution to improve the performance of classifier. In this research work we have used one of the ranker methods that is Information gain and Gain ratio FST.

Information gain [4] is attribute selection measure based on its ranking. This measure is based on pioneering work by Claude Shannon on information theory, which studied the value or “information content” of messages. Let node N represents or hold the tuples of partition D. The attribute with the highest information gain is chosen as the splitting attribute for node N. This attribute minimizes the information needed to classify the tuples in the resulting partitions and reflects the least randomness or “impurity” in these partitions.

The Information gain [4] measure prefers to select attributes having a large number of values. The extension to information gain known as gain ratio based on ranking, which attempts to overcome bias.

RESULT AND DISCUSSION

The experimental work is done using open source WEKA Data mining Tool in window7 environment. In this research work we have used various data mining based classification techniques like J48, Random Tree, Random Forest, REP Tree, SVM (RBF Kernel Function), MLP (Single layer) and Naïve Bayes and compare the performance in the term of accuracy, sensitivity and specificity with three different data set i.e. Thoracic Surgery, ILPD and Breast Cancer data set. Table 2 shows that tuning parameter of different classifiers. The performance of classifier depends upon tuning parameter. The partition of data play important role to check the robustness of model and classification accuracy. We have used 10-fold cross validation [4] technique to partition of data set. Table 3 shows that accuracy of classifiers with 10-fold cross validation with Thoracic Surgery, ILPD and Breast Cancer data set. We have achieved better classification accuracy in case of SVM with RBF kernel function) with all three data set. The suggested SVM gives 85.10% of accuracy with Thoracic Surgery Data set, 71.35% of accuracy with ILPD data set and 95.99% of accuracy with Breast Cancer data set. Figure 2 shows that accuracy of classifier with three different data set. Table 4 shows that confusion matrix of best classifier as SVM (SVM) with three data set. In case of Thoracic Surgery data set, negative samples are misclassified 100% while same case occurs in case of ILPD data set where non-liver patients are misclassified 100%. In case of Breast Cancer, 11 samples of Benign are misclassified while 17 samples of Malignant are misclassified. We have calculated

the various performance measures like sensitivity, specificity and accuracy with the help of confusion matrix as shown in table 5. Figure 3 shows that the

performance measures of best SVM model with three different data set.

Table 2: Tuning parameter of models

Model	Tuning Parameters
J48	---
Random Tree	Criteria= gain ratio, minimum size of split=4, minimal leaf size=2, minimal leaf size=0.1, minimal depth=20,confidence=0.25
Random Forest	Number of tree=10, criteria= gain ratio, minimal size for split=4, minimal leaf size =2, minimal gain=0.1,maxmimal depth= 20, confidence=0.25
REP Tree	Numfolds=3, seed=1,MinVarianceProp=0.001
SVM	Kernel= RBF Function
MLP	Hidden Layer= Single, Learning rate =0.3, Momentum=0.2, seed=0, training=500,
Naïve Bayes	Default

Table 3: Accuracy of models with 10-fold cross validation

Model	Thoracic Surgery dataset	ILPD	Breast Cancer dataset
J48	84.46%	68.78%	68.78%
Random Tree	77.87%	67.58%	67.58%
Random Forest	83.82%	70.15%	70.15%
REP Tree	84.04%	68.43%	68.43%
SVM(RBF Kernel Function)	85.10%	71.35%	95.99%
MLP (Single layer)	84.04%	70.84%	70.84%
Naïve Bayes	78.51%	55.74%	55.76%

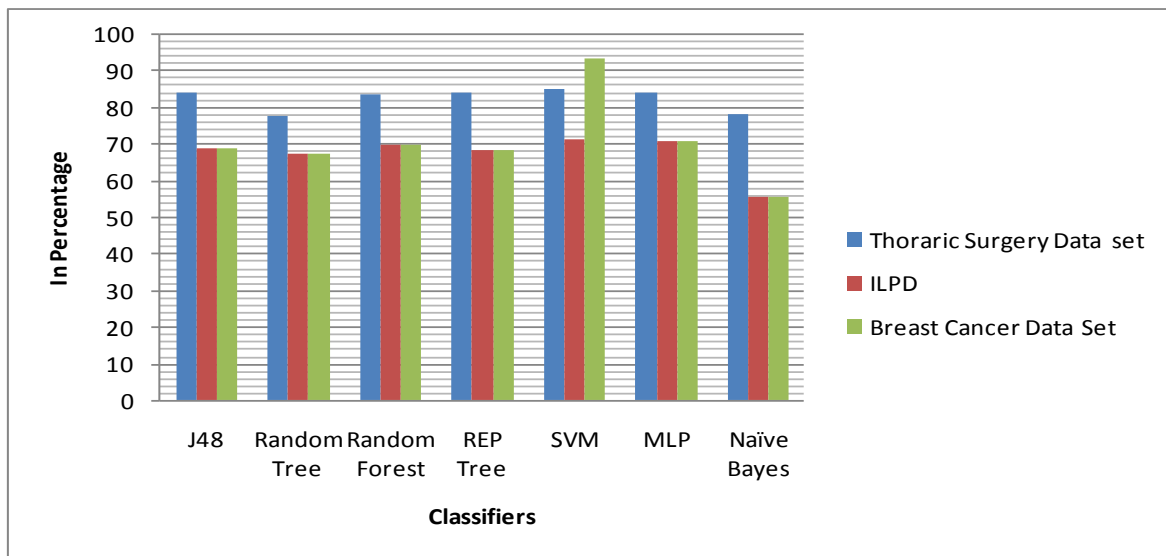


Figure 2: Accuracy of classifier with different data set

Table 4: Confusion matrix of best SVM (SVM) classifier with three data set

Actual Vs. Predicted	Thoraric Surgery		Actual Vs. Predicted	ILPD		Actual Vs. Predicted	Breast Cancer	
	Positive	Negative		Liver	Non-Liver		Benign	Malignant
Positive	400	0	Liver	416	0	Benign	447	11
Negative	70	0	Non-Liver	167	0	Malignant	17	224

Table 5: Performance measures of best model SVM

Performance measures	Thoraric Surgery Data set	ILPD data set	Breast Cancer
Accuracy	85.10%	100%	95.99%
Sensitivity	100.0%	71.35%	97.59%
Specificity	0.0%	0.0%	92.94%

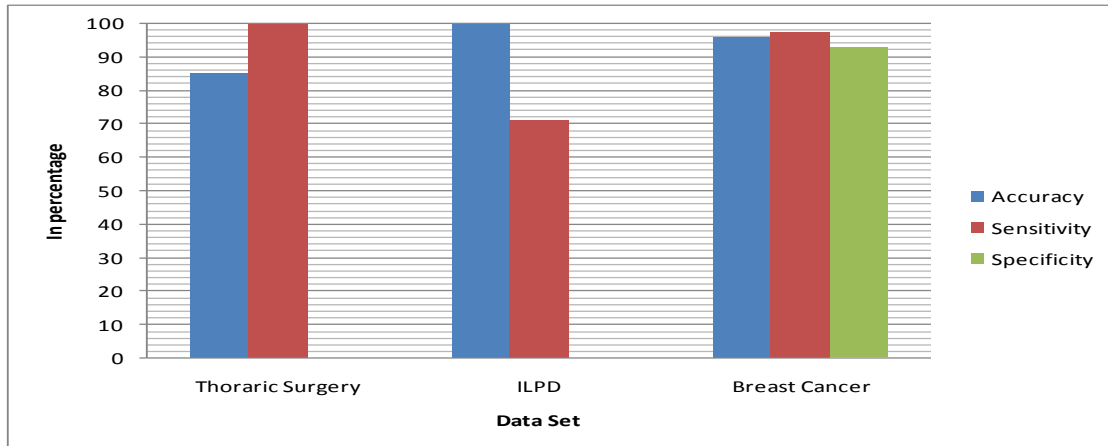


Figure 3: Performance measures of best SVM model with different data set

Feature selection is also play important role to improve the performance of classifiers and decrease the computational time. In this research work we have used Info gain and Gain ratio FST to rank the features of Thoraric Surgery, ILPD and Breast cancer data set, hence we can remove the less relevant feature from data sets. The rank of features of Thoraric Surgery, ILPD and Breast Cancer data set with Info gain and Gain ratio FST as shown in table 6. We have applied the different feature subsets on best SVM classifier

with Thoraric Surgery, ILPD and Breast Cancer data set. The suggested SVM classifier is not giving any improvement with different reduced feature subsets in case of Thoraric Surgery and ILPD data set but achieved few improvement i.e. 96.13% with breast cancer dataset and Info gain FST in case of 8 features.

Table 6: Ranking of features of three data sets

FST	Features Ranking from high to low important		
	Thoracic Surgery	ILPD	Breast Cancer
Info Gain	1,10,11,7,4,8,14,9,6,5,12,15,13,2,3,16	3,6,4,7,5,10,1,9,2,8	2,3,6,7,5,8,1,4,9
Gain Ratio	15,12,7,1,11,10,14,9,13,8,5,4,6,2,3,16	4,3,7,5,6,1,10,9,2,8	8,5,2,6,3,7,9,4,1

CONCLUSION AND FUTURE WORK

Data mining based classification techniques are playing very important role to identification and classification of disease. This research work specially focuses on identification and classification of diseases using classification techniques. We have used three datasets like Thoracic Surgery, ILPD and Breast Cancer from UCI repository and analyzed and compared the performance using data mining based classifiers. The performance of SVM with RBF kernel function gives better accuracy compared to others in case of all three data set. We have also applied the Info Gain and Gain ratio FST on SVM classifier but no improvement of accuracy with Thoracic Surgery and ILPD data set in different feature subsets. The suggested SVM classifier gives better accuracy 96.13% of accuracy with 8 feature subset of breast cancer data set in case of Info gain FST. In future we will develop new integrated model and FST to improve the classification accuracy and increase the computational time.

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Creation of Institutional Digital Repository (IDR) for a University Using DSpace

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Abstract:

The primary objective of this paper is to provide practical guidelines for creating up an institutional digital repository using DSpace open source digital library software. In the electronic publishing age, the demand for information has been growing steadily in all spheres of work. At the same time, the concept of access to information at the free of cost in electronic format is gaining momentum. In this direction present paper discussed step by step procedures in creating an institutional digital repository using DSpace including collections. This paper helps in planning to develop an IDR. It also helps the beginners in understanding the steps to be followed for uploading different file formats to create an institutional digital repository (IDR) to maintain a collection with uniformity. DSpace has developed a model that allows users to use the system submit and use content, and administrators can organize and configure the system. To be more useful to different types of users, the software provides a configurable submission and workflow process that can be fit to any organization's information needs. Institutional digital repositories (IDR) are tools to support, disseminate, and showcase the scholarly communications and intellectual life of an institution. A successful deposit requires planning and a defined focus, as well as an attractive name and design. To achieve success, the IDR must serve faculty on faculty's terms; the librarian's role is to collaborate with faculty and ensure that the services of the IDR meet faculty needs.

Keyword: *Institutional Digital Repository; Dspace; Repository Creation; Digital Preservation; Open Source; Open Source Software; Digital Library Software; University Digital Archive.*

INTRODUCTION

Institutional Digital Repository (IDR) is a managed system for long-term digital objects. Also, Institutional repositories are a type of digital repository that is designated by an institution for the preservation of digital objects produced under its aegis.

A Digital Repository (DR) is a mechanism for managing and storing digital content. Repositories can be subjected based or institutional in their focus.

Putting content into an institutional repository enables staff and institutions to maintain and preserve it, and therefore, derive maximum value from it.

Digital repository consists of a set of interrelated electronic documents, stored in files or a database, usually classified in categories and other criteria, that stores knowledge useful to an institution or an enterprise. Digital repositories stores and manage data, metadata and provide users to access them.

An Institutional Digital Repository (IDR) might also include other digital assets generated by academics, such as datasets, administrative documents, course notes, learning objects, or conference proceedings. The institution sometimes mandates deposit of material in an institutional repository.

THE PURPOSE OF INSTITUTIONAL DIGITAL REPOSITORY

The University of higher education all over India is experiencing the necessity of maintaining their teaching, research, and resources more efficiently and openly. By the creating the research and scientific output easily available, they will support the development of new relationships between the academicians and both national and international research centers. This will facilitate:

- An economic stimulation and institutional development.
- The development of a pedagogical environment rich in information, with a focus on the student.

The institutions of higher education will have to assume that the learning improvement is the key to the success of the Information Society.

DSpace

The DSpace is a joint project of the MIT Libraries and HP Labs. It is a digital asset management system that allows institutions, such as libraries to collect, archive, index, and disseminate the scholarly and intellectual efforts of a community. Written with a combination of technologies by MIT, it is primarily used to capture bibliographic information describing articles, papers, theses, and dissertations. DSpace is adaptable to different community needs. Interoperability between systems is built-in, and it

adheres to international standards for metadata format. Being an open source technology platform, DSpace can be customized to extend its capabilities. Some of its characteristics as shown in DSpace documentation areas:

- a) It is a service model for open access and digital archiving for permanent access.
- b) Provides a platform to frame an Institutional Repository and the collections are searchable and retrievable by the Web.
- c) Helps to make available institution-based scholarly material in digital formats. The collections will be open and interoperable.



Fig 1: DSpace Digital Repository Model

OBJECTIVES OF THE STUDY

1. The primary paper goal is to create a model repository of digital resources including institutional resources like unpublished /grey literature such as theses, working papers or technical reports without violation of copyright act.;
2. Develop an institutional digital repository for the University, using dspace;
3. Identify services that will be made available via dspace;
4. Formulate general policies and guidelines for submitting digital objects to Dspace;
5. Customize dspace according to the needs of clients and the four identified focus areas; and
6. To provide storage for the electronic resources.

THE SCOPE OF THE STUDY

The model will be developed for Dr. C V Raman University. The Project will be based on Dspace (Digital Library Management Software) Common as

suitable software solutions. Other requirements: Ubuntu-16.04: Operating system, Apache Maven, Apache Ant, PostgreSQL (Relational Database), Apache Tomcat, JDK and Dspace 6.

Methodology

The primary procedure will be to install, configure and customize a pilot repository with essential functions.

Download DSpace 6 (Digital library Management software) from Dspace site

Installation of DSpace software on Ubuntu 16.04 version operating system including Open Source solutions compatible with international protocols

Configuration & customization of DSpace software

Creation of an institutional digital repository

LIMITATION

The present study limited to the creation of a digital repository of University only.

The significance of the Study

IDRs can gather and provide access to a wide range of gray literature resources, i.e., material not in a journal article format, such as theses, data sets, presentations, archive documents, and images. Institutional digital repositories (IDRs) are increasingly deployed in academic institutions to manage a variety of digital content including educational, research, and archival materials. The benefits of IDRs have been touted by many authors and include increased knowledge, control over the digital assets of the university and preservation benefits such as stewardship, efficiencies, showcasing an institution and broader distribution as compelling reasons for establishing an IDR.

LITERATURE STUDY

The Project has made extensive literature on the topic under present study. There are some papers on different aspects of the institutional repositories, such as evaluation, case study, implementation, comparison, etc. However, the purpose of the present research article is to focus on the notion of an institutional repository and find development activity only. To bring rigor into argumentation, the present study is exclusively concentrated on institutional repository related research articles and the articles listing, describing and critically analyzing institutional repositories. Following are some of the reviews, which are delineated as follows:

Branschofsky, M.; Lubas, R.; Smith, M. & Williams, S. (2001) As the DSpace digital repository system develops; various metadata needs have emerged to accommodate the different uses being made of the system.

Deka, D. (2006) this paper explores the importance of Institutional Repository (IR) and the role of the Open Source Software (OSS) in building the Institutional Repository of any institution.

Barwick, J. (2007) this paper provides a summary of our experiences of setting up an institutional repository.

Armbruster, C. & Romary, L. (2010) in this regard, four types of publication repository may be distinguished, namely the subject-based repository, research repository, national repository system, and institutional repository.

Jain, P.; Bentley, G. & Oladiran, M. T. (2010) this paper discusses the benefits and obstacles of setting up an IR, and librarians' and authors' roles in the successful management of an IR.

Dhanabalan, A. & Ponnudurai, R. (2012) this paper is the result of an effort to develop a model to create IR (Institutional Repository) by Using Dspace.

Biradar, B. S. & Banateppanavar, K. (2012) the paper provides evidence on how the Kuvempu University Institutional Repository was built from scratch and how different collections with numerous forms and formats can be accommodated using DSpace software.

Tramboo, S. & Shafi, S. M. (2012) this paper presents a study of three open sources digital library management software used to assimilate and disseminate information to a world audience.

Maisal, A. (2012) this paper discusses the creation of an Institutional repository through Dspace.

Madsen, D. L. & Oleen, J. K. (2013) The resultant need to define staff responsibilities and develop resources to manage the workflows has led to the innovations described here, which may prove useful to the greater library community as other IRs mature.

Biradar, B. S. & Banateppanavar, K. (2013) the primary purpose of this paper is to provide practical guidelines for setting up an institutional repository through DSpace open source software.

Lynch (2003) a set of services that a university offers to the members of its community for the management and dissemination of digital materials created by the institutions and its community members. It is most essentially an organizational commitment to the stewardship of these digital materials, including long-

term preservation where appropriate, as well as organization and access or distribution.

Ravikumar, M. N. & Ramanan, T. (2014) this paper scrutinizes those features corresponding to the needs of and challenges faced by the Library of Eastern University, Sri Lanka (EUSL), which is in its initial stage of launching digitized collections representing both its academic works and local publications.

Meyer, D. (2014) this literature review looks at institutional repositories and digital repositories.

Prabhavathi, D. (2015) The Dspace is developed jointly by HP Labs and MIT libraries. This article describes the Dspace system, types of Dspace content and discusses the use of Dspace for an institutional repository.

Das, D. & Chatterjee, P. (2015) this paper focuses on the requirements, functions, and use of digital preservation in an institutional repository context.

Skupa, J. (2016) The Digital Library's range of services is gradually growing and this paper deals specifically with repository services, the process for publishing theses, and support for open access.

Momin, S. S. & Gaonkar, R. C. (2016) this paper presents the results of an effort to develop and design an IR of Anjuman-I-Islam's Kalsekar Technical Campus (AIKTC), New Panvel, and India.

Operating System (Ubuntu 16.04) Installation

Ubuntu is an operating system with Linux kernel based on Debian and distributed as free and open source software. It's one of the most popular operating systems for Desktop and Server.

- Ubuntu ISO image had downloaded from <http://releases.ubuntu.com/16.04/>
- The ISO image was, burnt to CD/DVD according to file size.

Get started:

1. Insert the Ubuntu CD/DVD or bootable USB in the Computer and boot up as continue press the bootable key (like- f9, f12) according to computer version or company. At first, need to set up the BIOS for boot on the computer;

2. When the show Ubuntu System with Installation Wizard then click the Install icon on the desktop and after choose the language and click "Install Ubuntu" button;
3. If an internet connection, then checks "Downloads update while installing" and "install this third-party software.;"
4. Erase all data on your device and install only Ubuntu system on it. This makes only one partition on your disk for Ubuntu 16.04;
5. Follow the wizard to setup location and time zone, keyboard, user account, etc. and finally, start installing;
6. Choose Time zone and press Continue (In the meantime setup will continue in the background, to set for Indian Standard Time click on India). Click on Continue;
7. Now choose the keyboard layout, leave as it is and press Continue;
8. Type name, computer name, username (for login) and password. By default, it will take "Ubuntu" as username and "Ubuntu" as a password. Click on Continue;
9. Once is installed, click "Restart" button;
10. Completed the Ubuntu 16.04 installation.

DSPACE 6 installation on Ubuntu 16.04 Version
Operating System

Software Requirements for DSPACE Installation

1. PostgreSQL Database Software,
2. Apache Ant,
3. Apache Maven,
4. Apache Tomcat Web Server,
5. OpenJDK and
6. DSPACE Digital Library Software.

Step-1:

Login as root user:

Setting the network connection by proxy

Open terminal (Open Applications > Accessories > Terminal / press Ctrl+Alt+T)

library@localhost# sudo su (hit enter)

Enter Password

Step-2:

Create Dspace user:

```
#adduser dspace
#password dspace (enter a password for the new user
dspace)
#adduser dspace sudo (for sudo permission)
```

Step-3:

Login Dspace user:

Setting the network connection by proxy

Open terminal (Open Applications > Accessories > Terminal / press Ctrl+Alt+T)

```
library@localhost# sudo su (hit enter)
```

Enter Password

Step-4:

Run the following command:

- Update the Ubuntu :
dspace@dspace-HP-650-Notebook-PC:~\$ sudo su
[sudo] password for dspace:
root@dspace-HP-650-Notebook-PC:/home/dspace#
apt-get update

Step-5:

Download IDR in .tar.gz file:

- Download IDR in .tar.gz file from Central Library IIT Kharagpur
http://www.library.iitkgp.ernet.in/sites/events/workshop/ndl/ndlWKP/ndl_tut/
- Copy the IDR.tar.gz file in the dspace users home directory, then untar the file.

Step-6:

Installation of PostgreSQL software:

Open the terminal window and give the commands as shown below

```
dspace@dspace-HP-650-Notebook-PC:~$sudo su
[Sudo] password for dspace:
root@dspace-HP-650-Notebook-PC:/home/dspace#
cd IDR
root@dspace-HP-650-Notebook-
PC:/home/dspace/IDR#./pgsql64.sh
```

Please keep on clicking on next button. Don't change the default settings. When the wizard asks for a password, please give dspace123

After the completion of installation, type # exit command in the terminal it should show \$ prompt again.

```
root@dspace-HP-650-Notebook-
PC:/home/dspace/IDR#exit
root@dspace-HP-650-Notebook-
PC:/home/dspace/IDR$
```

Now create user and database

Execute PGADMIN III - > double click on pgsql server -> provide the password as dspace123

Right mouse click on Roles -> create new role -> role name: dspace and pass word as dspace123

Right mouse click on databases -> create new database -> database name: dspace and owner as dspace

Enable pgcrypto Extension

Right click on mouse on dspace under the database -> select new created database "dspace" right click on it -> Select New Object -> Select New extension then select "pgcrypto" from Name dropdown.

After the completion of installation, type # exit command in the terminal it should show \$ prompt again.

Step-7:

Now set the environmental variables for JAVA_HOME, ANT_HOME, and M2_HOME as well as set the proxy address. Execute the commands shown below. Go back to the terminal and type

```
root@dspace-HP-650-Notebook-
PC:/home/dspace/IDR$./env64.sh
root@dspace-HP-650-Notebook-
PC:/home/dspace/IDR$./copy64.sh
root@dspace-HP-650-Notebook-
PC:/home/dspace/IDR$source env64.sh
root@dspace-HP-650-Notebook-
PC:/home/dspace/IDR$./test.sh
```

Step-8:

Installation of DSpace Software. Execute the commands in terminal as shown below

```
root@dspace-HP-650-Notebook-
```

PC:/home/dspace/IDR\$./install.sh

It should show the following Output on the terminal screen

Build Success

...

Build Success

...

Create Administrator

Email:

First Name:

Last Name:

Password:

This password is not visible and re-types when asked next again

Tomcat Started

root@dspace-HP-650-Notebook-

PC:/home/dspace/IDR\$exit

Step-9:

Dspace has two interfaces (xmlui and jspui)

To see the Interface, open the browser and type the following in address bar.

<http://localhost:8080/xmlui> or <http://localhost:8080/jspui>

XMLUI Interface: <http://localhost:8080/xmlui> Dspace Interface



JSPUI Interface: <http://localhost:8080/jspui> Dspace Interface



Configurations and Customization of Dspace (Digital Library Software)

User Interface Modification of Xmlui Interface

1. Theme Change

Go to Home/IDR/dspace_inst/conf/xmlui.xconf

Find tag Comment/Uncomment Tags to select Theme

<themes>

```

<!-- Example configuration -->

<!-- <theme name="Test Theme 1"
handle="123456789/1" path="theme1/" /> -->

<!-- <theme name="Test Theme 2"
regex="community-list" path="theme2/" /> -->

<!-- Mirage theme, @mire contributed theme,
default since DSpace 3.0 -->

<theme name="Atmire Mirage Theme" regex=".*"
path="Mirage/" />

<!-- Reference theme, the default Manakin XMLUI
layout up to DSpace 1.8 -->

<!-- <theme name="Default Reference Theme"
regex=".*" path="Reference/" /> -->

<!-- Classic theme, inspired by the JSP UI -->

<!-- <theme name="Classic" regex=".*"
path="Classic/" /> -->

<!-- The Kubrick theme -->

<!-- <theme name="Kubrick" regex=".*"
path="Kubrick/" /> -->

<!--

For information on configuring the mobile theme,
see:

dspace-
xmlui/src/main/webapp/themes/mobile/readme.txt

-->

</themes>

```

2. Change the Banner of header

Go to
Home/IDR/dspace_inst/webapps/xmlui/themes/Mirage/lib/css/style.css

```
#ds-header-wrapper {
background: url ('../../image/banner1.png') no repeat center;
color: blue;
min-width: 750px;
min-height: 50px;
```

3. Change the Header message

Go to Home /IDR /dspace_inst/ webapps/xmlui/i18n/messages.xml

Make Necessary Changes in the following line:

```
<message key="xmlui.dri2xhtml.structural.head-subtitle">
Institutional Digital Repository<br/>Name of University</message>
```

4. Change the Dspace News Aspect messages

Go to Home/IDR/dspace_inst/config/news-xmlui.xml

Make Necessary Changes in the following line/s

```
<head>Institutional Digital Repository of Name of University</head>
```

```
<p>DSpace is a digital service that collects, preserves, and distributes digital material. Repositories are important tools for preserving an organization's legacy; they facilitate digital preservation and scholarly communication. </p>
```

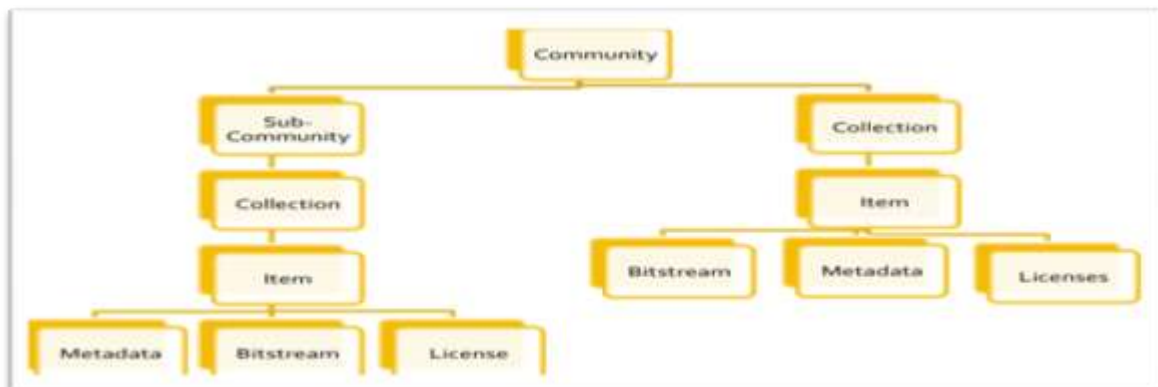


Figure2: Data model of community and collection

Creation of Collection

Click on top-level community > Click on Create Collection > Type on collection name > Click on Create > Click on Return



Item Submission in Institutional Digital Repository

Login the institutional digital repository by admin user id and password > click on top-level community > click on collection > click on the new item submission > fill up the metadata in step by step



Created the Institutional Digital Repository

After completed the item submission then created an institutional digital repository



SUGGESTIONS AND RECOMMENDATIONS

From the above installation of dspace repository some measures can be suggested for the improvement of library services:

- ❖ DSpace repository software serves a specific need as a digital archives system;
- ❖ Focused on the long-term storage;
- ❖ Access and preservation of digital content;
- ❖ Arranged the digitize documents in department or faculty wise;
- ❖ Completely customizable to fit user needs;
- ❖ Manage and preserve all format of digital content (PDF, Word, JPEG, MPEG, TIFF files)
- ❖ Customizable search;
- ❖ Unicode Facility;
- ❖ Focus on the Institutional Digital Repository use case;
- ❖ Be lean, agile, and flexible;
- ❖ Be easy and simple to install and operate etc.

CONCLUSION

The Digital Library Management Software's (DLMS) present an easy to use, customizable architecture to create online Institutional Digital Repositories. With these institutions/organizations can disseminate their research work, manuscripts, or any other digital media for preservations and world over dissemination of digital items. The software's discussed above provides different services. It is difficult to propose one specific DLMS system as the most suitable for all cases. The study can be used as a reference guide by any organization or institute to decide which one will be ideal for creating and showcasing their digital collection. The choice usually depends on type/format of material, distribution of material, software platform and time frame etc for setting up an Institutional Digital Repository. [7], [8].

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Use of Library Resources at Economically Backward Area: An Enumerative Case Study of Government Women's College, Bhawanipatna, Odisha, India

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Abstract:

The present study was carried out in Government Women's College, Bhawanipatna, Dist-Kalahandi, Odisha. This is the only government women's college in Kalahandi district to cater to the needs of women students of Kalahandi and neighbor districts. It offers Under Graduate programmes in eight subjects in the Arts discipline. The study mainly relied on primary data. Scheduled questionnaires were administered to the respondents to collect the desired data. Interview with the Librarian and library staff were also done to substantiate the study. The study found inadequacy of useful learning materials in the library in terms quantity, quality, and variety. The study does not find the college library as a quality resource centre for students. This report analysed the causes of underutilisation of the library by students. After critical analysis, this report proposes some remedies for making the library a potential source of knowledge.

INTRODUCTION

An academic library frames its collection development policy to meet the requirements of the students and staff for all their academic pursuits. Academic libraries are an integral part of any education system. It is considered as the nerve centre of the organisation without which the existence of an educational institution cannot be thought of.

The financial assistance available at the disposal of academic libraries varies from organization to

organization. No academic library can have the unlimited finance to procure all the information resources of the world. However, with sound financial assistance, some are in a better position in acquiring valuable information resources. In Odisha, libraries of government autonomous colleges receive financial assistance from the State Government as well as from the University Grants Commission. Hence, they are not that much bounded by financial limitations to enrich their libraries with valuable information resources. Over the years, these libraries have developed a good collection of books and other learning resources. For the case study, the investigator selected Government Autonomous College, Bhawanipatna of the Kalahandi district and attempted to find out whether the library of the college is effective in meeting the information requirements of its users.

LITERATURE REVIEW

Library and information services have undergone a sea change as a result of the increasing application of Information Communication Technologies (ICTs) on

the one hand and rapid change in the information seeking behavior of the users on the other. The traditional concept of library as a storehouse of printed documents has already changed with the influx of electronic information resources.¹

Libraries in the 21-century will be increasingly user-centered information centres. There will be a need to enhance not only user services but also the housekeeping jobs such as circulation control, serial control, and acquisition by using appropriate technologies. In order to manage the projected trends in the library, properly, librarians must have some qualities which will help them manage future Libraries effectively.²

A correlation exists between the amount of use of libraries and digital resources. It is indicated that high school students possess a rather traditional view of the importance of the different services and facilities offered by libraries.³

It is necessary to have a joint effort of library professionals and software development experts to find out solutions to meet the users expectations effectively. Cataloguing of all the e-resources available in the library be made immediately.⁴

Significant increase happens in the usage of the library by students who received an orientation.⁵

There are no significant differences between rural and urban students for the use of computer and internet. The only significant differences found among both groups were for their reactions during unsuccessful searches.⁶

Most of the users are aware of e-journals and using them for building and updating their knowledge. Users are collecting relevant material for their study and research purposes. The main aim of consulting these journals is for retrieving information regarding research, publishing research papers and manuscripts,

assignments, presentations, seminars, and largely to update their own knowledge.⁷

Marketing of products in industries is very much essential to increase sale and consequently to gain the profit. However, in academic libraries like in universities and colleges, promotion and marketing of library and information sector is required to make the user aware of the services provided by the library.⁸

e-Resources have been gaining popularity gradually in academic libraries; this trend is in tune with the gaining of the popularity of web-based intellectual resources in other sectors. There is a need of library consortium for sharing resources and subscription fee.⁹

Socioeconomic indicators such as hours spent in employment each week, living situation, and family are not uniformly predictive of students' use of academic libraries.¹⁰

Youngsters make the maximum use of Internet. The internet usage by the faculty members, students and research scholars of Madurai Kamaraj University is more by Male than female category.¹¹

Familiarity with sources and use of good search skills had a significant effect on users' use intention at the individual user level.¹²

Several factors have a direct bearing on the way in which collections are developed and managed in the academic libraries. These factors include goals of collection development and management policies and procedures, user needs, collection development budgets, collection evaluation to determine the strength and weaknesses of various subjects in the collections, selection of reading materials, formats in which materials are selected, the issues of access versus ownership, cooperative collection development, resource sharing programs and legal issues in collection development and management.¹³

A study was conducted in Government Autonomous College, Bhawanipatna wherein it was revealed that extensive as well as intensive awareness needs to be created among the students regarding library hour as well as about the information sources available in the library. It also revealed that students are dissatisfied with many aspects of the college library. The study found inadequacy of useful learning materials in the library in terms quantity, quality, and variety. The study does not find the college library as a resource centre for students. This report analysed the causes of underutilisation of the library by students. After critical analysis, this report proposes some remedies for making the library a potential source of knowledge.¹⁴

OBJECTIVES OF THE STUDY

- To assess library as a resource centre for students' knowledge.
- To estimate the frequency of use of the library by students.
- To gather information on various uses of the library by students.
- To analyse the causes of underutilization of library by students, if any.
- To suggest possible remedies for making the library a potential source of knowledge.

METHODOLOGY

The present study has been carried out in Government Women's Degree College, Bhawanipatna. This is only women's degree college is Kalahandi district. It offers Under Graduate programmes in eight subjects in the discipline of Arts. The primary data have been extensively used in the present study. Different published and unpublished sources of information have been collected for secondary data to substantiate the study.

ANALYSIS

Table-1 : Use of Library

Use of Library by Students	Percentage (%)
Use Library	90.00%
Don't use Library	10.00%
Total	100.00%

Source: Primary Survey

Table-1 depicts the respondents' use of the college library. The data shows that overall maximum (90%) students use college library

Table-2 : Frequency of visit to College Library

Frequency of visit	Percentage (%)
Fortnightly	50.00%
Once in a month	40.00%
Once in four months	10.00%
Occasionally	0.00%
Don't use Library	0.00%
Total	100.00%

Source: Primary survey

Table-2 analyses the respondents' frequency of visit to the college library. The table shows that 50% students visit college library once in a month followed by 40% fortnightly.

Table-3 : Awareness on schedule of book issue

Frequency of issue of books	Percentage (%)
Fortnightly	50.00%
Once in a month	40.00%
As and when required	0.00%
Don't know	10.00%
Don't use Library	0.00%
Total	100.00%

Source: Primary survey

Table-3 presents statistics on the knowledge of students about the duration of the issue of books by the college library. 50% students say books can be issued from the library fortnightly, 40% students say the frequency is once in a month and 10% students does not know about the frequency. Variations were detected in the responses given by students regarding

the dates of issue of books by the college Library. From official sources, it is learned that the library allows the students to issue books fortnightly. Hence, it is observed that students lack information regarding Library hours.

Table-4 : Suitability of Library Hour

Suitability	Percentage (%)
Suitable	25.00%
Not suitable	75.00%
Total	100.00%

Source: Primary survey

Table-4 shows information related to the suitability of library hour to students. Library timing is suitable only to average 25% students. It is found that library hour is not suitable to most of the students.

Table-5 : Purpose of visit to Library

Purpose of visit	Percentage (%)
For study and research	0.00%
To borrow books	100.00%
To locate information	0.00%
To borrow books and for study and research	0.00%
Don't Visit Library	0.00%
Total	100.00%

Source: Primary survey

Table-5 explains the purpose of visiting library by students. From the data presented in the table, it is found that all students visit the library for borrowing books only. No student visit the library for study and research.

Table-6 : Sources of gathering study materials

Source	Percentage(%)
Textbooks only	30.00%
Reference books only	10.00%
Both Text & Reference books	60.00%
Textbooks, Reference Books, and Thesis/	0.00%

Dissertations	
Textbooks, Reference books, Journals	0.00%
Textbooks, Reference books, Thesis/ Dissertations, Journals	0.00%
Total	100.00%

Source: Primary survey

Table-6 shows statistics on the sources that are used by students for gathering required materials for various academic pursuits. The above analysis shows that students use four types of sources for their academic pursuits. Some students consult only single source to get required information whereas others use more than one. More than half i.e. 60% students use both textbooks and reference books for their studies.

Table-7 : Students' Knowledge on Library Resources

Library Resource	Percentage (%)
Text Books	45.00%
Reference Books	20.00%
Both Text Books and Reference books	35.00%
No idea	0.00%
Total	100.00%

Source: Primary survey

Table-7 depicts the students' awareness regarding different types of information resources available in the Library. Awareness of availability of Textbooks among students, in general, is quite high but not satisfactory.

Table-8 : Objective of Library Use

Single Objective	
Objective	Percentage (%)
Only for class examination	90.00%
Only for General Awareness	0.00%
Only for participation in seminars	0.00%
TOTAL	80.00%
Multiple Objectives	

General awareness and for class examination	0.00%
General awareness, for class examination and for participation in seminars	10.00%
Total	20.00%
Grand Total	100.00%

Source: Primary survey

The above table presents detail information on various reasons for using the library by students. Some students use the library for multiple reasons whereas some others use the library for a particular purpose only. Students use the library for a variety of purposes. However, 90% students use the library only to prepare for the class examination. Rest 10% female students use the gathered material for more than one purpose.

Table-9 : Need fulfillment of students from College Library.

Magnitude of need fulfillment	Percentage (%)
Mostly	25.00%
Partially	75.00%
Never	0.00%
Total	100.00%

Source: Primary survey

Table-9 analyses the success rate of students in fulfilling their need from the college library. The data shows that only very less percentage(25%) of students succeed in getting complete required material from the Library. No students have reported that they never get required material from the library. It is concluded that there are scopes of improvement in the collection development policy of the library to fulfill the total information requirements of the students.

Table-10 : Adequacy of library collection

Adequacy	Percentage (%)
Adequate	0.00%

Inadequate	100.00%
Don't know	0.00%
TOTAL	100.00%

Source: Primary survey

Table-10 analyses the adequacy of library collection according to the point of view of students. All students opined that library collection is inadequate.

Table-11 : Students' Satisfaction on available information sources

Satisfaction level	Percentage (%)
Fair	60.00%
Satisfactory	0.00%
Unsatisfactory	40.00%
Don't Know	0.00%
Total	100.00%

Source: Primary survey

Table-11 makes an analysis on the satisfaction level of students on a variety of information sources available in the college library. Maximum (60%) students say information sources available in the college library is unsatisfactory.

Table-12 : Students' Satisfaction on library services

Satisfaction level	Percentage (%)
Fair	20.00%
Satisfactory	20.00%
Unsatisfactory	60.00%
Do not know	0.00%
Total	100.00%

Source: Primary survey

Table-12 analyses the students' satisfaction level on library services. It is found that more than half students (60%) are not satisfied with the services of the college library. Only 20% students are satisfied

with services of the college library. For 20% students, the services of the library are only fair.

Table-13 : Information on Students' Internet Use

Use of Internet by students	Percentage (%)
Don't Use Internet	15.00%
Use Internet	85.00%
Total	100.00%

Source: Primary survey

Table-13 shows statistics on the use of Internet by students. It is found that maximum students (85%) use the Internet.

Table-14 : Purpose of Use of Internet by students

Purpose of using the Internet	Percentage (%)
For curriculum use	60.00%
For Leisurely activities	20.00%
General awareness	20.00%
Current Affairs	0.00%
Job Searching	0.00%
Don't Use	0.00%

Source: Primary survey

Table-14 shows that students use the Internet for four purposes such as a) For curriculum use, b) For leisurely activities, c) For current affairs, d) for general awareness and for job searching. 60% students use Internet for curriculum use. 20% students use the Internet for leisurely activities and rest use General awareness.

[Table-16: General Opinion of Students on Library Related Problems

Problems	Percentage (%)
Insufficient number of books	80.00%
Insufficient Library services	20.00%
Unsuitable Library hour	0.00%
Lack of latest edition books	20.00%
Non-availability of books of multiple authors	0.00%
Non-availability of specific	40.00%

Problems	Percentage (%)
books of choice	
Provision of exorbitant late fine	0.00%
Existing close access system	20.00%
Non-availability of recent catalogue	20.00%
Non-availability of photocopying facility	0.00%

Source: Primary Survey

Table-16 presents the statistics on the general opinion of students on problems relate to the library. Students face many library related problems. It is observed that the insufficient number of books is the major problems of most of the students. Overall 80% of students have reported that library books are insufficient for them. Other notable problems with the college library include a) Unsuitable Library hour, b) Lack of latest edition books and b) Insufficient Library services. It is also found that 50.00% male students have problems regarding non-availability of books of multiple authors.

MAJOR FINDINGS

- Maximum students use the college library.
- The frequency of visit to the library by students, in general, is not very good.
- Lack of knowledge about the provisions of Library is found to be the main reason for the sparse use of the library by students.
- The code of library designed by the college like fixing of library hour, schedule of issue and return of books, the number of books to be issued, etc, is found to be a deterrent factor as library never allows students to avail library facility as per will.
- All students visit the library for the purpose of borrowing books only. The present study doesn't find library as a resource centre for students.
- To locate necessary information for

academic pursuits students are found to adopt two types of sources like Textbooks and Reference Books.

- Students use college library for purposes like to study and research, to borrow books, to locate information and for general awareness. 80% female students use the library only to prepare for the class examination. Rest 20% female students use the gathered material for more than one purpose.
- Very less percentage of students succeed in getting complete required material from the Library. In the whole study, the researcher does not find any library user availing no books from the library.
- The collection development policy of the college library has failed in delivering optimum services to its clientele. Most of the students are unsatisfied about the information sources available in the library.
- For maximum students the library collection is inadequate.
- A maximum number of students are not satisfied with the services of the college library.
- Maximum students use the Internet.
- The study finds students using the Internet for mainly three purposes like curriculum use, leisurely activities and for general awareness. Maximum students use Internet for curriculum use.
- Lack of latest edited books and insufficient library services, the study finds insufficiency of books as the major problem for the majority of students.

SUGGESTIONS

- Extensive as well as intensive awareness needs to be created among the students regarding library hour as well as about the

information resources available in the library.

- As the types of information resources available in the library is very limited so it must be increased.
- A smart reading room with computer and Internet facility must be made available.
- The library must set up an institutional repository to store the intellectual content of the parent organisation. The library may collect Ph.D. thesis and research articles of the faculty members for reference of the students. Students' project reports, dissertations, seminar papers, research thesis, etc should also be included in the repository which will be immensely helpful for the students.
- The automation software of the library is outdated. Hence, renowned automation software may be adopted by the Library. To save the finance as well as for getting better online support, widely used open source software 'Koha' may be opted.
- Reprography facility in the college library may be provided.
- Cleanliness inside and outside the library must be maintained keeping in mind to provide a suitable atmosphere for reading and searching.
- There should be organisation of library book exhibition
- There must be the provision of Digital library in the college.
- To develop a regular reading habit, the library must subscribe newspapers, magazines, and journals in large number and should try to promote their use among students.
- The collection development policy of the

college library must be framed democratically by involving different stakeholders like students, teachers, librarian, publishers, and authors besides taking inputs from reputed libraries.

- The college library should conduct periodic studies to evaluate the services in order to measure user satisfaction for further modifications and improvement.

CONCLUSION

Educated women can play a very important role in the development of our country. Hence, government is taking many initiatives to provide education to all women of our country. Establishment of Women's colleges are part of these initiatives. These women's colleges are provided with Library facilities to meet the demands of its students in their academic pursuits. In an economically backward area where many students are below poverty line, the role of Library is more important. However, a blind increase in the size of library catalogue cannot fulfill the noble objectives of the library. Realization of expected outcome of library presupposes the prevalence of an amicable environment where collection, distribution, assimilation and acquisition of information are interwoven in such a manner that rational and efficient utilization of library resources becomes more or less a culture than a rule.

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Paddy Procurement System Adopted by Chhattisgarh Government

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Abstract:-

This paddy discusses paddy procurement system adopted by C.G. Govt. Paddy Procurement process involves purchase of paddy, payment to farmers, storage of paddy and its conversion to rice by milling. This has resulted in a secure and normalized mode of direct income to farmers giving a big boost to the agricultural community. The procured rice along with other commodities is distributed under Public Distribution System (PDS). Agriculture is the first manufacturing industry of our Nation and it represents the best of all of us. It is still the main Industry of our country. It is important that it remains so for it sustains all. At a time when the whole World is facing a food shortage agriculture has found new respect and importance. Agriculture was the main industry of the past is of the present and will remain in the future. The Government is a direct player in the agricultural market. The Chhattisgarh Government procures over 40 Lakh Metric tonnes of paddy every year on Minimum Support Price (MSP) from more than 8.5 Lakh farmers over a period of about three and a half months. Paddy Procurement is done in 1333 PACS and LAMPS that function as procurement centers in remote areas of the State.

Keywords – MSP, MARKFED, Agriculture, Paddy Procurement, policy

INTRODUCTION

Agricultural is the largest and most important sector of the Indian economy. Agricultural development has been considered to be an indicator of the quality of life at the grassroots level making it what may be called people sector. In regards to the importance of agriculture in a broader socio-economic sense all the three basic objectives of economic development of the country, namely, output growth, price stability and poverty alleviation are best served by growth, of

agriculture sector. If public investment and market infrastructure in agriculture continue to be inadequate, there could be a serious problem of competitiveness and adequate supply response. No doubt, India is a large producer of several agricultural products. In terms of quantity of production India is the top producer in the world in milk and second largest in wheat and rice. We should therefore be concerned about improving quality while maintaining the lead in quantity. In a modern economy, it is inconceivable that the role of middlemen can be eliminated. Agriculture is the largest and most important sector of the Indian economy. Agriculture is an unorganized profession. Its success and failure depends to a large extent on climatic factors. Further it is not always possible to distinguish between productive and unproductive loans of the farmers. Because of these factors banks did not show much interest in advancing loans to agricultural and allies' activities for a long time and farmers were forced to depend on money lenders and mahajans. Agriculture development has been an essential part of strategy of economic development since 1951. The government has pursued special income creation and employment creation scheme to improve the economic condition of landless labourers and marginal farmers.

OBJECTIVES OF THE STUDY

- To Study the Role of Paddy Procurement to uplift the Farmers economic conditions by purchasing produce at M.S.P. (Minimum Support Price).
- To examine the socio economic impact of paddy procurement at M.S.P. on farmers.
- To Study the Process of paddy Procurement System.
- To Study the organizational setup for the paddy procurement.
- To Study the efficiency system of the farmers.
- To study Paddy Procurement system from farmers with instant cheque delivery to them.

REVIEW OF LITERATURE

First attempt at organizing regulated Markets was undertaken in Berar (1897) despite success in this experiment the government did not show much interest in regulating markets. Royal Commission on Agriculture (1928) pointed out that there were no common yardstick to measure the quality of produce the weights and measures were unstandardized and the private market operators exploited the farmers. Mehta Committee (1937) the setting up of the Reserve Bank of India (RBI) in 1934 was major development in the thrust for agricultural credit. The Reserve Bank of India act 1934 itself required the RBI to set up an agricultural credit development. As cooperatives were to be channels for rural development with the establishment of popularly elected governments in 1935, programmes were drawn up in which rural indebtedness received priority the Mehta Committee appointed in 1937 specifically recommended reorganization of Cooperative Credit Societies as multi – purpose cooperatives. Gadgil Committee (1944) in 1944, the Gadgil committee recommended compulsory adjustment of deposits in setting up of agricultural credit corporation, where ever cooperative agencies were not strong enough. Cooperative Planning Committee (1945) has recommended the

multipurpose society should serve as a center for general economic improvement. Apart from financing crop production it should act as an agent for sale of produce to the nearest Cooperative Marketing Organization supply farmers with their production needs. The First Agricultural Labour Enquiry Committee of 1950-51 regarded those people as agricultural workers who were engaged in raising crops on payment of wages. The Rural Credit Survey Committee (1954) eloquently expressed this view in the oft-quoted statement “Co-operation has failed, but co-operation must succeed. The second Agricultural Labour Enquiry Committee of 1956-57 took a broad view of agricultural activities to include those workers also who were engaged in allied activities like animal husbandry, dairy, poultry, piggery etc. Committee on Cooperative Credit headed by V.L. Mehta (1960) was appointed in September 1959 and submitted its report in May 1960. Arrangements for linking credit with Marketing should be strengthened. Cooperative Marketing Societies should be permitted to make outright purchase from the Producers. M.L. Dantwala Committee (1964) Government of India appointed a M.L. Dantwala Committee on cooperative marketing to review the pattern of organization of cooperative marketing and give recommendations for ensuring sound and speedy development of agricultural marketing on cooperative basis. Minimum Support Prices (1966) were announced by the Government of India for the first time in 1966-67 for wheat in the wake of the Green Revolution and extended harvest, to save the farmers from depleting profits. Since then the MSP regime has been expanded to many crops. Minimum support price is the price at which government purchases crops from the farmers whatever may be the price for the crops. The MSP is announced by the Government of India for 25 crops currently at the beginning of each season viz. Rabi & Kharif. Advisory Committee on Flow of Credit

(2004) to Agriculture and Related Activities form the Banking System under the Chairmanship of V.S. Vyas. Government had constituted national commission on farmers in 2004 under the chairmanship of Dr. M.S. Swaminathan. The terms of reference of the commission included, inter alia role methods of enhancing productivity, profitability and sustainability of the major farming system in different agro-climatic regions of the country. E Governance initiatives under NEGP in Chhattisgarh 4th Oct. (2010) Mumbai Geographical coverage's of paddy procurement 1577 procurement centers, over 200 office & warehouse locations in 7 organisation. Directorate of food, MARKFED (MARKETING FEDERATION), CGSCSC (CHHATTISGARH STATE CIVIL Supplies Corporation) DCCBs (District Central Cooperative Bank) FCI (Food Corporation of India) CGSWC (Chhattisgarh State warehouse corporation), PACs (Primary Agriculture Cooperatives society) & LAMPS (Large Agricultural marketing primary society. Siksha Tyagi in his report (2011) "Innovative Management of public distribution system in Chhattisgarh" A BJP good governance cell publication 2011 paddy procurement has been computerized from end to end. The entire chain of procurement, starting from registration of farmers, procurement centre, online registration of rice mills, till the rice comes from mills to SCS issue centre, is online and in public domain.

METHODOLOGY

To collect the information about Paddy Procurement System adopted by Chhattisgarh Govt. All the four districts, Bilaspur, Raipur, Raigarh and Ambikapur each district is considered as an individual quota and a sample (125 respondents) is drawn from each quota which represents the rural population of entire districts. Therefore study based on 500 sample respondents of Bilaspur, Raipur, Raigarh, Ambikapur districts covering of the district and based on the ease of convenience of the researcher. For this study, both

primary and secondary data was collected. Primary data was collected through pre-designed and self-administered questionnaire which is initially drafted in 'Hindi' for better understanding of question by the respondents. Extensive field work was done to collect the primary data from respondents through field survey. Data were collected by face to face contact with the farmers. Questions were asked pertaining to the survey to collect the desired information. Along with the survey, Secondary data was collected from the various resources such as research papers published in the various journals related to the field of study, articles from Magazines and Websites. Books related to research methodology and Indian agricultural economy were also referred for this study.

PROFILE OF CHHATTISGARH

Chhattisgarh (Chhattisgarh, translation: Thirty-Six Forts) is one of the 29 states of India, located in the centre-east of the country. It is the tenth-largest state in India, with an area of 135, 198 .5 km² (52,200.4 sq mi). With a population of 25.5 million, Chhattisgarh is the 17th-most populated state in the country. A resource-rich state, it is a source of electricity and steel for the country, accounting for 15% of the total steel produced. Chhattisgarh is one of the fastest-developing states in India. The Economy of this state benefits from its Bhilai Steel Plant, S. E. C. Railway Zone, BALCO Aluminum plant, S.E. Coal limited & National Thermal Power Corporation Ltd. To add to it all Chhattisgarh is a minerals rich states. The service sector boasts of Real state, Consultancies and Insurance. This state is also enriched with natural beauty and pleasant atmosphere. It is surrounded with dense forests, hilly mountains, streams, waterfalls, natural caves, parks etc. Bastar also called Kashmir of Chhattisgarh attracts many foreign tourists.

The state was formed on 1 November 2000 by partitioning 10 Chhattisgarhi and 6 Gondi speaking

southeastern districts of Madhya Pradesh. The capital city is Raipur. Chhattisgarh borders the states of Madhya Pradesh in the northwest, Maharashtra in the southwest, Telangana in the south, Odisha in the southeast, Jharkhand in the northeast and Uttar Pradesh in the north. Currently the state comprises 27 districts. The present state of Chhattisgarh was carved out of Madhya Pradesh on 1 November 2000. The demand for a separate state was first raised in the 1920s. Similar demands kept cropping up at regular intervals; however, a well-organised movement was never launched. Several all-party platforms were formed and they usually resolved around petitions, public meetings, seminars, rallies and strikes. A demand for separate Chhattisgarh was raised in 1924 by the Raipur Congress unit and also discussed in the Annual Session of the Indian Congress at Tripuri. The President of India gave his consent to the Madhya Pradesh Reorganisation Act 2000 on 25 August 2000. The Government of India subsequently set 1 November 2000, as the day the state of Madhya Pradesh would be divided into Chhattisgarh and Madhya Pradesh.

PADDY PROCUREMENT SYSTEM

Corruption in purchase system is wide spread because the huge amount involved and the presence of a large number of PACS makes it difficult to monitor the working of the scheme and leaves scope for leakages. Diversion of funds occurs at all levels – during procurement, movement of commodities between government warehouses, storages, transport to FPSs poor supervision of PACS and the lack of a strong accountability mechanism have spurred a number of middleman who siphon off funds meant for the poor. There is also no clarity as to which families should be included in the BPL list and which should be excluded. This sometimes leads to inappropriate inclusions of families for food subsidies and exclusion of deserving families. In order to address these issues, the state Chhattisgarh rolled out

its end-to-end information technology solution. Farmers are forced to sell their produce at lower rates. As soon as the produce is transferred to the hands of middle-men from farmers, scarcity is created by storing the produce for later use and thus rates rise high.

MINIMUM SUPPORT PRICE

Minimum support prices are determined by the FOOD CORPORATION OF INDIA (FCI) in association with other government agencies to ensure that medium and low income farmers get remunerative price for their produce namely rice, wheat and coarse grains. The minimum supports prices are perceived by the farmers as guarantee prices from the government. These prices are announced at the commencement of the season to prevent movement below the fixed level over time.

AGRICUTURAL POLICY OF THE INDIAN GOVERNMENT DURING THE FIVE YEARS PLANS CONSTSTED OF THE FOLLOWING IMPORTANT MEASURES.

1. Technological measures
2. Food security system
3. Input subsidies to agriculture
4. Rural employment programmes
5. Programmes involving people participation in planning
6. Infrastructural facilities
7. Land reforms

POLICY AND SCHEME RELATED TO FARMERS

1. Asset reforms
2. Water use efficiency
3. National agricultural bio security system
4. Minimum support price (MSP)
5. Food security

6. Credit and insurance

FINDINGS OF THE STUDY

On the basis of analysis and interpretation of secondary and primary data it was found that.

- Paddy procurement started 01/11/2007.
- Chhattisgarh MARKFED Raipur (Registration No. 216 dated 31/10/2000) came into existence simultaneously with the creation of new Chhattisgarh state on 1st Nov. 2000.
- Chhattisgarh MARKFED has an extensive network of branches in the state one head office, 16 District Marketing Office memberships, 463 Cooperative Marketing Societies.
- District offices are located at almost all the district headquarters.
- Paddy procurement system assures price support timely payment and bonus to the local farmers.
- Paddy procurement from farmers with instant cheque delivery to farmers.
- Paddy will be purchased from Monday to Friday.
- Paddy procurement systems have a good organisation structure.

CONCLUSION

Paddy procurement system is a national level programme launched in all the states aiming to facilitate the procurement of farmer's produce. The process of paddy procurement involves purchase of paddy, Payment to farmer's storage of paddy and its conversion to rice by milling. Though there are some limitations the study indicates that the introduction of the programme of paddy procurement had a clear positive impact on the socio economic of paddy procurement at minimum support price on farmers and efficiency system of the farmers. The money would be transferred online in the bank account of farmers selling their paddy on support price. The paddy procurement position required infrastructure like gunny moisture meters, weighing scales etc. Well in time. Over all the paddy procurement system

of the policy is good and found effective. At last it was concluded that paddy procurement system adopted by Chhattisgarh state is the working implemented properly. It is been paid online district to the bank account of the farmers. Hence it is suggested to improve the whole system while improved and farmers are getting fair price produce which further create positive impact in the state.

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औद्योगिक विकास में आई.डी.बी.आई. बैंक की भूमिका कोरबा जिले के संदर्भ में

नन्दनी सोनी

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सारांश :

1. उद्योग का अर्थ :- जहां पर किसी वस्तु का निर्माण किया जाता है वह उद्योग कहलाता है । उपलब्ध प्राकृतिक संसाधनों से उपयोगी वस्तुएँ बनाने का कार्य उद्योग में किया जाना है ।
2. बैंक से आशय :- बैंक एक संस्था है जो आम जनता से धन जमा करती है और जरूरतमंदों को ऋण देती है । प्रत्येक वाणिज्यिक बैंक अपनी कुल जमा राशि का एक निश्चित प्रतिशत राशि आर.बी.आई. के पास देती है यह 3 प्रतिशत से 20 प्रतिशत के मध्य कुछे भी हो सकती है ।

उद्योगों को बैंक की जरूरत क्यों :-

वित्तीय सहायता के लिए उद्योगों को बैंक की जरूरत होती है बैंक उद्योगों को वित्तीय सहायता प्रदान करके उन्हें मजबूत बनाता है तथा औद्योगिक रुग्णता को दूर करता है, औद्योगिक विकास से देश की आर्थिक स्थिति को मजबूती मिलती है । उद्योगों के विकास से आशय किसी उद्योग की कमजोरी दूर करके उसे कार्य करने लायक दृढ़ता या शक्ति प्रदान करना ही उद्योगों का विकास है। औद्योगिक विकास से ही देश का आर्थिक विकास संभव होता है उद्योगों के विकास के लिए सरकार द्वारा औद्योगिक नीतियां भी बनाई जाती है ।

भूमिका

औद्योगिक विकास के लिए आई.डी.बी.आई. भारतीय औद्योगिक विकास बैंक भारत की सर्वोच्च संस्था है। इसकी स्थापना जुलाई 1964 में की गई वर्ष 1976 में इस का स्वामित्व भारत सरकार के हाथ में है इसका कार्य उद्यमी की वित्तीय सहायता प्रदान करना तथा उद्योग के विकास में लगी संस्थाओं को वित्तीय सहायता प्रदान करना तथा उद्योग के विकास में लगी संस्थाओं को बढ़ावा देना है। आई.डी.बी.आई. बैंक एम.एस.एम.ई. और कई औद्योगिक योजनाओं के संचालन द्वारा लाखों भारतीयों के जीवन को छूती है।

उद्योगों के विकास से आशय :-

किसी उद्योग की कमजोरी दूर करके उसे कार्य करने लायक दृढ़ता या शक्ति प्रदान करना ही उद्योगों का विकास कहलाता है और औद्योगिक विकास से ही देश का अधिक विकास संभव होता है । उद्योगों के विकास के लिए सरकार द्वारा औद्योगिक नीतियां भी बनाई जाती है । सरकार के द्वारा प्रत्येक वर्ष उद्योगों के विकास के लिए भारी मात्रा में रूपये खर्च किए जाते हैं। उद्योगों के विकास से आशय है कि उद्योगों में जब बड़ी-बड़ी मशीनें और संयंत्र दुरुस्त रूप से कार्य करते हैं और उत्पादन में निरंतर वृद्धि होती है वृद्धि की निरंतरता बनी रहती है तो वह उद्योगों का विकास कहलाता है कि उद्योग विकसित हुए हैं।

आज भारत में उद्योगों की कमी नहीं है बड़े-बड़े उद्योगपति हैं जिनका उद्योग सफलता से चल रहा है उद्योगों के विकास से देश प्रगति पर है आर्थिक वातावरण का उद्योग के विकास में महत्वपूर्ण योगदान होता है आर्थिक वातावरण का मुख्य तत्व किसी भी व्यक्ति की उन्नति करने की इच्छा और उत्पादन के लिए नवीनतम आधुनिक तरीकों को विकसित करने की तत्परता है ।

कोरबा में आई.डी.बी.आई. बैंक की शाखाएं :-

कोरबा में आई.डी.बी.आई. बैंक की एक ही शाखा है।

आई.डी.बी.आई. बैंक, टी.पी. नगर, कोरबा ।

आई.डी.बी.आई. बैंक की ऋण योजनाएं निम्नलिखित हैं :-

1. शिक्षा ऋण
2. आवास ऋण

3. व्यक्तिगत ऋण
4. संपत्ति पर ऋण
5. प्रतिभूतियों पर ऋण
6. उद्योगों के लिए ऋण
7. गोल्ड लोन

अध्ययन का उद्देश्य

1. आई.डी.बी.आई. बैंक द्वारा उद्योगों की ऋण उपलब्ध कराया जाता है जिससे उद्यमों का विकास संभव होता है।
2. आई.डी.बी.आई. बैंक उद्योगों के विकास में सहायता देकर रोजगार का सृजन करता है।
3. औद्योगिक रूग्णता का दूर करके कोरबा के उद्योगों को विकसित करने में सहायता प्रदान करता है।
4. आई.डी.बी.आई. बैंक कोरबा के उद्योगों की आर्थिक अस्थिरता को दूर करता है एवं उन्हें आर्थिक सुदृढ़ता प्रदान करता है जिससे वे उन्नति करते हैं।

अध्ययन की परिकल्पना

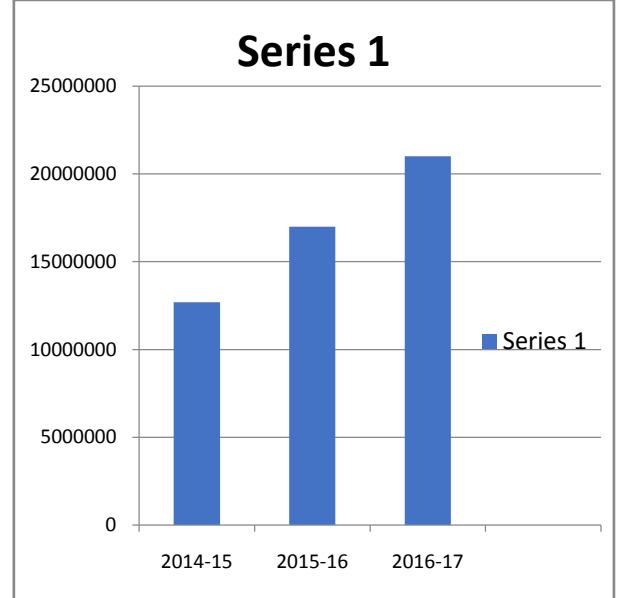
1. आई.डी.बी.आई. बैंक कई वर्षों से संचालित है जिसके द्वारा कोरबा के निर्माण एवं सेवा उद्योग को सहायता दिया जाता है इसके द्वारा भविष्य में कई योजनाओं पर कार्य किया जाना संभव है। आई.डी.बी.आई. बैंक के द्वारा उद्योगों के लिए जो वित्तीय योजनाएं है उसे कोरबा के उद्योगों का निकट भविष्य में ऊपर बढ़ाने की उम्मीद की जा सकती है।
2. आई.डी.बी.आई. बैंक द्वारा रियायती दर पर उद्योगों को ऋण उपलब्ध कराया जाता है।
3. आई.डी.बी.आई. बैंक द्वारा बड़े उद्यमों व छोटे दोनों उद्योगों को प्राथमिकता दी जाती है।
4. आई.डी.बी.आई. बैंक अपनी संचित पूंजी का उपयोग उद्योगों को सहायता प्रदान करने में करता है।
5. आई.डी.बी.आई. बैंक की योजनाओं का लाभ कोरबा के उद्योगों तक पहुंचा है।

सारणी क्र.1

विभिन्न वर्षों का आई.डी.बी.आई बैंक द्वारा उद्योगों को दिया गया ऋण –

	2014-15	2015-16	2016-2017
निर्माणी उद्योग	12,00,000	27,00,000	40,00,000
व्यवसायी उद्योग	70,00,000	85,00,000	1,05,00,000
सेवा उद्योग	45,00,000	58,00,000	65,00,000
कुल	1,27,00,000	1,70,00,000	2,10,00,000

रेखाचित्र क्र. 1



निष्कर्ष

अतः उक्त विश्लेषण से यह सिद्ध होता है कि कोरबा जिले में आई.डी.बी.आई. बैंक की शाखा में विभिन्न वर्षों में निर्माणी उद्योग, व्यवसायी उद्योग, सेवा उद्योग में प्रतिवर्ष ऋण की रकम में वृद्धि हो रही है। आई.डी.बी.आई. बैंक बैंक के द्वारा उद्योगों को ऋण प्रदान करके बैंक उनके विकास में अपना योगदान दे रही है। अतः कहा जा सकता है कि, आई.डी.बी.आई. बैंक के द्वारा उद्योगों की समस्या को दूर करने का अत्यधिक प्रयत्न किया जा रहा है एवं उद्योगों को विकास की ओर अग्रसर कर रहा है।

आज बहुत से उद्योग वित्त की अपर्याप्तता के कारण विकसित नहीं हो पा रहे हैं। उद्योगों के विकास के लिए सरकार ने विकास बैंक की स्थापना की है। उद्योगों के विकास के लिए औद्योगिक विकास बैंक सरकार द्वारा चलाई जाती है। प्रस्तुत शोध में आई.डी.बी.आई. बैंक भारतीय औद्योगिक विकास बैंक के द्वारा उद्योगों के विकास में किस सीमा तक अपनी भूमिका निभाई है। आई.डी.बी.आई. बैंक उद्योगों के विकास के लिए जो भूमिका निभाता है उसे बनाने का उद्देश्य यह है कि –

भारत सरकार के 01 आंकड़े के मुताबिक छोटे उद्योगों से जुड़े लोगों में से 80 प्रतिशत से अधिक लोगों की पहुंच बैंक तक नहीं है तो वैसे लोग अपने उद्योगों को आगे बढ़ाने के लिए बैंक से ऋण या सहायता नहीं लेते या फिर उन्हें बैंक आसानी से लोन नहीं देती है उन्हें बैंक ट्रांजेक्शन के बारे में अवगत कराना मुख्य उद्देश्य है।

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सूक्ष्म, लघु एवं मध्यम औद्योगिक इकाई के वित्त पोषण में सिंडिकेट बैंक की भूमिका का अध्ययन (कोरबा जिले के संदर्भ में)

अनुराधा सोनी

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सारांश :

सूक्ष्म लघु एवं मध्यम उद्योग MSME अर्थात् माइक्रो स्मॉल एंड मीडियम इंटरप्राइजेस को भारत सरकार ने इसलिए बनाया है कि इससे छोटे व्यापारी, लघु व्यापारी एवं मध्यम व्यापारी को मदद कर पाए। भारत सरकार ने 16 जून 2006 को इसकी स्थापना की। इसका उद्देश्य आपके व्यापार को मदद करता होता है क्योंकि हमारे देश की अर्थव्यवस्था में लगभग 12.5 मिलियन MSMEs है। कुल जनसंख्या में से 30 मिलियन लोगों को रोजगार प्रदान करते हैं। भारतीय अर्थव्यवस्था में लगभग 50 प्रतिशत उत्पादन हमें MSMEs से प्राप्त होता है और यदि विदेश व्यापार की बात करें तो 45 प्रतिशत से अधिक अंशदान एक्सपोर्ट में MSMEs का है। भारत सरकार के MSMEs को दो अलग-अलग भागों में वर्गीकृत किया है।

1. निर्माण उद्योग (Manufacturing Sector)
2. सेवा उद्योग (Service Sector)

अलग-अलग भागों में इसका वर्गीकरण किया गया है, व्यापारी अपने व्यापार या उद्योग में कितनी पूंजी लगाए है। उसके आधार पर सूक्ष्म लघु एवं मध्यम उद्योग को बांटा जाएगा। उद्योगों को अलग-अलग उप उद्योगों में वर्गीकृत किया गया है जैसे –

1. Food Processing Industry
2. Agriculture Industry
3. Chemical and Pharmaceuticals Industry
4. Meat Products Industry
5. Sport Goods Industry

भूमिका

सूक्ष्म लघु और मध्यम क्षेत्र में पिछले 5 दशकों में भारतीय अर्थव्यवस्था का एक बेहद जीवंत और गतिशील क्षेत्र के रूप में उभरा है। बड़े उद्योगों की तुलना में अपेक्षाकृत कम पूंजी लागत में बड़े रोजगार के अवसर उपलब्ध कराने में महत्वपूर्ण भूमिका निभाते हैं। राष्ट्रीय आय और धन की अधिक समान वितरण सुनिश्चित करने क्षेत्रीय

असंतुलन को कम करने जिससे ग्रामीण और पिछड़े क्षेत्रों में औद्योगिकीकरण में मदद करते हैं। सूक्ष्म, लघु और मध्यम उद्यम के लिए राष्ट्रीय बोर्ड सूक्ष्म लघु एवं मध्यम उद्यम विकास अधिनियम 2006, और उसके अधीन बनाए गए नियमों के तहत सरकार द्वारा स्थापित किया गया था, यह मौजूदा नीतियों और कार्यक्रमों की समीक्षा और MSMEs विकास के लिए नीतियों और कार्यक्रमों को तैयार करने में सरकार को सिफारिश से करना। MSME के संवर्धन और विकास को प्रभावित करने वाले कारकों की परख होती है।

सिंडिकेट बैंक की MSME के वित्त पोषण के लिए व्यवस्था सिंडिकेट बैंक के गाइडलाइन योजना के अनुसार सिंड उद्योग, सिंड व्यापार 2011, सिंड लघु उद्यमी क्रेडिट कार्ड, सिंड क्रेडिट व सिंड स्वरोजगार क्रेडिट कार्ड योजना के अंतर्गत सभी MSE Sector में सम्मिलित योजनाएं हैं, मौजूदा MSE उत्पादों को और अधिक तर्कसंगत बनाने के लिए और परिचालन स्तर पर प्रक्रिया को आसान बनाने के लिए अधिक संशोधन में सभी मौजूदा योजनाओं को एक ही योजना में विलय कर दिया जाता है, वर्तमान में सिंड व्यापार एवं सिंड व्यापार योजना 2011 को बंद कर दिया गया है और सिंड व्यापार योजना 2006 के अनुसार 20 लाख से अधिक खुदरा व्यापार की गतिविधियों के लिए जारी रहेगी, जो MSE के तहत वर्गीकृत नहीं है।

उद्योग एवं वित्त से आशय

उद्योग :-

किसी विशेष क्षेत्र में भारी मात्रा में सामान का निर्माण का उत्पादन वृहद रूप से सेवा प्रदान करने के मानवीय कार्य की उत्पादन कहते हैं उद्योग के कारण गुणवत्ता वाले उत्पादन सस्ते दामों में प्राप्त होते हैं जिससे लोगों का रहन-सहन के स्तर में सुधार है। उद्योगों के द्वारा लोगों को नवीन वस्तुओं की प्राप्ति होती है।

वित्त :-

पर्याप्त वित्त के अभाव में न तो किसी संस्था को प्रारंभ किया जा सकता है और ना ही उसे कुशलतपूर्वक संचालित किया जा सकता है। व्यवसाय अथवा उद्योग की प्रत्येक गतिविधि के साथ वित्त का पक्ष संलग्न होता है। यदि व्यवसाय अथवा उद्योग में वित्त का महत्व शरीर के रक्त से दिया जाए तो कोई अतिशयोक्ति ना होगी। क्योंकि जिस प्रकार शुद्ध रक्त के अभाव में शरीर का कोई भी अंग गतिशील नहीं हो सकता, ठीक उसी प्रकार यदि किसी संस्था में वित्त का अभाव है तो वह संस्था कभी भी विकसित नहीं हो सकती है। स्पष्ट है कि व्यवसाय अथवा उद्योग में वित्त अत्यंत आवश्यक है, इसलिए कहा है वित्त उद्योग का रक्त है।

अध्ययन का उद्देश्य

—उद्योग सिंडिकेट बैंक का वित्तपोषण में योगदान का अध्ययन करना।

—सूक्ष्म लघु एवं मध्यम उद्योगों के विकास हेतु सिंडिकेट बैंक के योगदान का विवेचन करना।

—MSME के सफल संचालन में सिंडिकेट बैंक की क्या भूमिका है उसका मूल्यांकन करना।

—सिंडिकेट बैंक ने की वित्त की समस्या को दूर करने में क्या प्रयत्न किए वह किस प्रकार की है।

अध्ययन की परिकल्पना

—योजनाओं का लाभ सिंडिकेट बैंक द्वारा वर्ग को हुआ।

—MSME वर्गों को सरकारी योजनाओं का लाभ उठाकर उनकी उद्योगों का विकास हुआ।

—MSME के विकास से रोजगार के प्राप्त हुए

—शासकीय योजनाओं में व्यक्तियों के जीवन स्तर में सुधार हुआ।

सूक्ष्म, लघु एवं मध्यम उद्योगों में सिंडिकेट बैंक के द्वारा

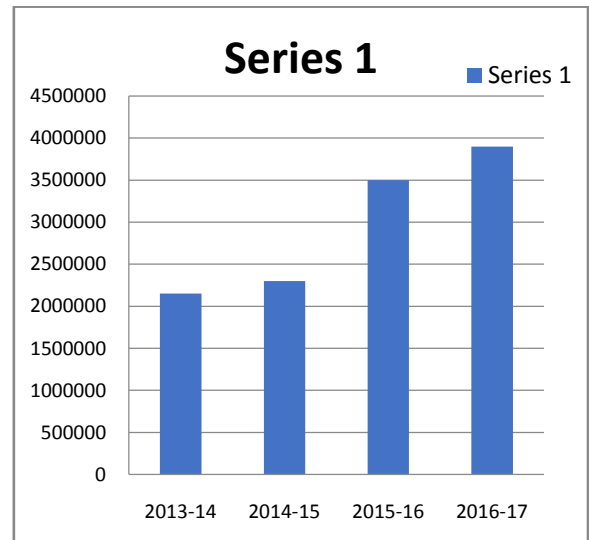
दिया गया वित्तपोषण

सारणी संख्या-1

ऋण के प्रकार वर्ष	2013 -14	2014 -15	2015 -16	2016 -17
शिशु ऋण	नहीं	नहीं	नहीं	नहीं
किशोर ऋण	21,50,000	15,00,000	5,00,000	15,00,000
तरुण ऋण	नहीं	8,00,000	30,00,000	24,00,000
कुल	21,50,000	23,00,000	35,00,000	39,00,000

इस प्रकार स्पष्ट है कि सिंडिकेट बैंक में प्रतिवर्ष की रकम में वृद्धि हो रही है इस प्रकार व्यवसायी वर्ग विभिन्न प्रकार के लाभ उठा रहे हैं एवं अपने व्यवसाय के आकार में वृद्धि कर रहे हैं।

रेखाचित्र के द्वारा भी इसे निम्न प्रकार से दर्शाया जा सकता है -



निष्कर्ष

उपयुक्त सांख्यिकी विश्लेषण से यह ज्ञात होता है कि प्रति वर्ष ऋण की रकम में वृद्धि होती जा रही है। सिंडिकेट बैंक के द्वारा सूक्ष्म, लघु एवं मध्यम उद्योगों को वित्तपोषण करके उनके उद्योगों को सुचारु रूप से चलाने

में मदद कर रहा है एवं सिंडिकेट बैंक के द्वारा उद्योगों के वित्त से संबंधित समस्या को दूर करने का प्रयास किया जा रहा है।

सन्दर्भ ग्रन्थ सूची

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रघुवंश महाकाव्य में वर्णित नृत्य—एक अध्ययन

कामता प्रसाद त्रिपाठी 'पीयूष'¹, टिकेश्वर प्रसाद जायसवाल²

¹प्रोफेसर संस्कृत विभाग, इन्दिरा कला संगीत विश्वविद्यालय खैरागढ़ (छ.ग.)

²शोधार्थी संस्कृत विभाग, डॉ. सी. वी. रामन् विश्वविद्यालय कोटा, बिलासपुर (छ.ग.)

सारांश :

संस्कृत सर्वाधिक प्राचीन भाषा है। संस्कृत सुरभारती में प्राचीन समय में अनेक कवि, महाकवि एवं ग्रंथकार हुए। जिनकी महान कला निपुणता एवं साहित्य सृजनता का परिचय उनके काव्यों में दिखाई देता है। संस्कृत भाषा संस्कृति का वाहक भी है। प्राचीन समय और वर्तमान के संस्कृति एवं कला में समानता और भिन्नता को जानने के लिए प्राक् ग्रंथों, उत्कीर्ण लेखों एवं मूर्ति आदि का भलिभाँति अध्ययन आवश्यक है। प्राचीन ललीत कलाओं में संगीत कला का विशेष स्थान था, जिसकी विशेष महत्ता आज भी है। संगीत कला गायन, वादन एवं नृत्य के रूप में प्राचीन काल से आज तक जन-जन रंजक होने के साथ-साथ आध्यात्मिक विकास का माध्यम रहा है। इस शोध लेख में प्राचीन समय के नृत्य एवं उसकी वर्तमान महत्त्व को व्यक्त करने के लिये रघुवंश महाकाव्य में उल्लिखित नृत्य के तत्त्वों का विवेचन किया गया है।

शब्द कुंज : वाङ्मय, सृजन—सोपान, प्रेक्षागृह, संगीतानन्दार्णव, संगीतानुरागी, इन्दुमती, पौष्कर, मृदंग, अग्निवर्ण।

प्रस्तावना

संस्कृत भाषा सभी भाषाओं की जननी है। विश्व के लगभग सभी भाषाओं का विकास इसी भाषा की मूल संरचना के आधार पर हुई है। यही कारण है कि सभी भाषाओं में कोई न कोई ऐसा शब्द मिल ही जाता है, जो मूलरूप से संस्कृत में निहित है।

प्राक् कालीन संस्कृति, सभ्यता, सामाजिक रीति-रिवाज, सामाजिक कला, रहन-सहन ज्योतिष एवं कर्म विधान आदि की सम्यक् जानकारी इस भाषा में रचित ग्रंथों के अध्ययन से प्राप्त होता है। काव्यों के माध्यम से तत्कालीन सामाजिक क्रियाओं के सम्पूर्ण दृश्य को देखा जा सकता है, इसीलिए साहित्य को समाज का दर्पण भी कहा गया है। संस्कृत वाङ्मय में अनेक कवि और ग्रंथकार प्रसिद्ध हुए जैसा कि बाणभट्ट, शूद्रक, रूद्रट, वामन दण्डी, भामह, कालिदास, भारवि एवं माघ आदि।

जिनकी रचनाएँ आज भी संस्कृत वाङ्मय में दैदिप्यमान हैं। उन्हीं ग्रंथों एवं काव्यों का आधार लेकर परवर्ती रचनाएँ आज पर्यन्त सृजन—सोपान पर आरूढ़ हो रही हैं।

संगीत कलाओं के अध्ययन में नृत्य का विशिष्ट स्थान है, क्योंकि गायन एवं वादन से परिपूरित आनन्द नृत्य के माध्यम से कलाकार एवं कला अनुरागियों में प्रवाहित होती हैं। अतः कवि कुलगुरु कालिदास का प्रसिद्ध महाकाव्य 'रघुवंश' में तत्कालीन नृत्यों का अवलोकन सापेक्षित है।

विषयवस्तु

महाकवि कालिदास ने नृत्य का अंकन बड़ी विचित्रता पूर्ण की है, कहीं उत्सव में तो कहीं युद्ध में कटे हुए फड़फड़ाते धड़ के लिए भी नृत्य संज्ञा अभिहित किया है। जलक्रीड़ा में रत स्त्रियों के लिए और अनेकत्र मयूरादि पक्षियों की फुदफुदाहट में नृत्य के नयनातिरेक को अंकन किया है। यथा—

“सुखश्रवा मंगलतूर्यनिस्वनाः प्रमोदनृत्यैः सह वारयोषिताम्।
न केवलं सद्मनि मागधीपतेः पथिव्यजृम्भन्त
दिवौकसामपि।।”¹

अर्थात्

सुनने में कानों को सुख प्रदान करने वाला मृदंग आदि वाद्यों की मंगल ध्वनि, आनन्दित हुए वारांगनाओं के नृत्य के साथ मगधपति की सुता सुदक्षिणा के स्वामी राजा दिलीप के घर में ही केवल प्रस्फुटित नहीं हुआ, अपितु देव मार्ग आकाश में भी उसकी मंगल ध्वनि गूँजने लगी। इस पद्य में वेश्या स्त्रियों के विशेष नाच (नृत्य) का उल्लेख हुआ है, जो राजा दिलीप के घर से लेकर

देवताओं का मार्ग आकाश तक शोभनीय हुआ। इसी प्रकार अन्य पद्यों में नृत्य का वर्णन मिलता है—

“पुरोप कण्ठोपवनाश्रयाणां कलापिनामुद्धतनृत्य हेतौ।
प्रध्मातशंखे परितो दिगन्तां स्तूर्यस्वने मूर्च्छति मंगलार्थे।।”²
नगर के समीप स्थित वन—उपवनों में रहने वाले मयूरों का अधिक नाच करने का हेतु बने हुए और मंगलार्थ तुरही एवं शंखादि वाद्यों की ध्वनि के दिगन्त तक फैलते रहने पर इन्दुमती स्वयं मार्ग पर पहुँची।

यहां इन्दुमती के स्वयंवर में पहुँचे हुए अज के स्वागत के बाद मयूरों ने जो नाच किया उसका उल्लेख प्राप्त है। मयूरों के नृत्य संबंधी उल्लेख एक अन्य पद्य में भी देखा जा सकता है—

“अध्यास्य चाम्भापृषतोक्षितानि शैलेयगन्धीनि शिलातलानि।
कलापिनां प्रावृशि पश्यनृत्यं कान्तासु गोवर्धनकन्दरासु।।”³
भावी पति अज के प्रति अनुराग बढ़ाने हेतु सखी द्वारा इन्दुमती को प्रेरित करने वाली वाणी— हे सखी इन्दुमती जल की बूंदों से छिड़काव किए गए गुफाओं वाला उस सुन्दर गोवर्धन पर्वत एवं शिलाजीत के गंध से सुवासित चट्टानों पर बैठकर इस वर्षा ऋतु में मयूरों के नृत्य को देखो।

इस पद्यांश में इन्दुमती की सखी सुनन्दा द्वारा कही गयी वार्ता में मयूरों के नृत्य का उल्लेख है। जहां कवि की प्रतिभा और संगीतानुराग देखने योग्य है। क्योंकि नृत्य भाव प्रधान होता है, आचार्य नंदिकेश्वर ने स्पष्ट कहा है—“रस भाव व्यंजनादियुक्तं नृत्यमितीर्यते।।”⁴ अर्थात् जिसमें रस, भाव और व्यंजना का प्रदर्शन हो, वह नृत्य है।

अतः मयूरों के नाच को नृत्य कहना उचित नहीं है, किन्तु नृत्त कहा जा सकता है क्योंकि नृत्त में ताल वाद्य के बजते रहने पर हाथ—पैरों का संचालन किया जाता है।⁵ किन्तु महाकवि का प्रगाढ़ संगीत प्रेम होने के कारण उन्हें नृत्य ही प्रतीत होता है।

महाकवि कालिदास ने युद्ध में काटे गए शरीर के कम्पमान धड़ों को भी खड्ग प्रहार से जिसके मस्तक छिन्न हो गए हैं, ऐसे किसी योद्धा ने विमान का मालिक अर्थात् देव बनकर अपने बाएं भाग में स्थित देव स्त्रियों से युक्त होता

हुआ युद्ध में नृत्य करते हुए (छटपटाते हुए) अपने धड़ को देखा।”⁶

यहाँ पर कालिदास ने नृत्य में अयोग्य धड़ को भी नर्तक बतलाकर अपनी सांगीतिक ज्ञान का परिचय दिया है। राजा अग्निवर्ण के विलासिता वर्णन में भी कालिदास ने नृत्य की चर्चा किया है—

“स स्वयं प्रहतपुष्करः कृती लोलमाल्यवलयो हरन्मनः।

नर्तकीरभिनयातिलंघिनीः पार्श्ववर्तिषु गुरुष्वलज्जयत्।।”⁷

यहाँ पर विलासी राजा अग्निवर्ण के संगीतज्ञान एवं वादन कौशल को अभिव्यक्त करते हुए कवि लिखते हैं कि वाद्य वादन में निपुण राजा स्वयं पौष्कर, मृदंग आदि को बजाते हुए, हिलती हुई माला एवं कंगन वाले नर्तकियों के मन को हरण करते हुए उस ‘अग्निवर्ण’ ने नृत्य का उल्लंघन करने वाली नृत्यांगनाओं को गुरुवों के समीप रहने पर लज्जित कर दिया।

यहाँ पौष्कर और पखावज वाद्य के साथ नृत्य का वर्णन किया गया है, जो वर्तमान समय में भी चलन में है। ‘राजा अग्निवर्ण की नर्तकियाँ श्वेतधारा बहने एवं शारीरिक थकान के पूरा होने तक भी नृत्य किया करती थीं।’⁸ जिससे तत्कालीन संगीत प्रेम एवं कला उत्कर्ष प्रमाणित होता है।

निष्कर्ष

भारतीय संगीत में नृत्य का स्थान प्राचीन समय से विशिष्ट रहा है। उस समय नृत्य का राजमहालों में विशेष स्थान था। संगीत तो आनंद वर्धन का स्वाभाविक माध्यम है, जिसका प्रमाणिक रूप इस महाकाव्य के अध्ययन से सिद्ध है, अतः गायन, वादन अथवा नृत्य का प्रयास राजमहल, प्रेक्षागृह अथवा विशेष आयोजन स्थल को छोड़कर साधारण स्थल जैसा कि वन, खेत, पहाड़, नदी आदि स्थलों पर भी दृष्टिगोचर होते हैं। साधारण जन भी संगीत में रुचि रखते थे और समय—समय पर संगीतानन्दार्णव में निमज्जित हो जाते थे। वर्तमान समय में भी शास्त्रीय, सुगम एवं लोक संगीत का आयोजन किया जाता है, जिसमें संगीतानुरागी मग्न हो जाते हैं। शास्त्रीय नृत्य का आयोजन विशेष प्रयोजन एवं भारतीय धरोहर को बचाये रखने के उद्देश्य से संस्कृति एवं मानव संसाधन मंत्रालय के माध्यम से किया जाता है।

भारतीय कला एवं संस्कृति की रक्षा के लिए और उसके विकासार्थ अनेक महाविद्यालय एवं विश्वविद्यालय आज भारत सहित अन्य देशों में भी प्रयत्नशील हैं। इन्दिरा कला संगीत विश्वविद्यालय खैरागढ़ (छ.ग.) का इस दिशा में विशिष्ट योगदान है। भारतीय संगीतकला एवं संस्कृति के विकास के लिए समग्र प्रयास शासन एवं सामाज्य के सफल समायोजन से ही संभव हैं।

इस प्रकार इस समीक्षात्मक अध्ययन से यह सिद्ध होता है कि कालिदास के काल में कला का विविध रूप समाजिक जीवन में विविध अवसरों पर दिख पड़ता रहा होगा। विविध कलाओं में भी संगीत की कला का विशेष उल्लेख प्राप्त होने से तत्कालीन समाज उत्सव प्रिय एवं संगीत प्रिय थे ऐसा भी कहा जा सकता है।

संदर्भ सूची

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