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RETELL

Research Teaching Learning Letters
(An inter-disciplinary Research Journal)

Vol. 16, April 2016



St. Joseph's College (Autonomous)

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Tamil Nadu, India

Tel: 0431-2700320 / 4226436 / 4226376, Fax: 0431-2701501

e-Mail: college@gmail.sjctni.edu / www.sjctni.edu

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From the Editorial Team

There are two cardinal principles that a good editorial is about: an opinion making and about balancing. If it is based on evidence, so much the better; yet it analyses evidence rather than produces it. What it analyses can be the basis of the production of new evidence. Meanwhile we intend to inform the young scholars that RETELL has travelled quite a distance – from one of an in-house reading to an ISSN numbered multidisciplinary journal.

Continuing on the editorial point of the Dec 2015 issue, the emerging success with Open access (OA) inevitably is the new model it portrays for scholarly publishing as against the conventional subscription-based system (SBS). Among the drawbacks of the SBS is the conflicts of interest created on payment for publication which could have a negative impact on the perceived neutrality of peer review, since there would be a financial incentive for journals to publish more articles.

Both the access and the reuse of research data are unrestricted under OA. This is an issue of great value. For under the SBS publishers own the rights to the articles in their journals; anyone who wants to read the articles must pay to access them; and anyone who wants to use the articles in any way must obtain permission from the publisher with an additional fee. OA literature on the other hand is digital, online, free of charge, and free of most copyrights and licensing restrictions. Yet, OA is compatible with peer review, copyright, revenue, print, preservation, prestige, quality, career-advancement, indexing, and a host of other features and supportive services associated with conventional scholarly literature. OA postulates accelerated discovery, public enrichment and improved education - teachers and their students have access to the latest research findings throughout the world. However, OA may not be the last word on new modes of access to published results; but scholars' benefits of research are derived principally from access to research results and their eventual dissemination.

**Melchias G
Editor-in-Chief**

Epistle

I take pride in releasing the April 2016 edition of RETELL and it brings joy to us and the scholars. I am proud of the young scholars who have contributed articles to this issue. Among a host of other things publication is an art of telling the world the arrival of the scholar on the world stage of research. We encourage them to cultivate the habit of writing; and writing scholarly is a notch higher than doing research. The college on its part has come forward to publish their articles free of charge. At this juncture, I must also thank the research advisors, who motivated and embellished the articles of their scholars. St. Joseph's can proudly boast that it has very good team of researchers in almost all the disciplines.

I gratefully recollect the team work put in by Dr G. Melchias, Dean - School of Biological Sciences for his dedicated service in bringing out this journal. Along with a team of committed Editorial Board, he managed to bring out this issue within four months of the previous issue. I thank him for his hard labour.

With all good wishes to the scholars and authors

**Rev. Dr. F. Andrew SJ
Principal**

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A Comparative Study on the Effects of Ethanolic and Aqueous Extracts of *Psidium guajava* Fruits in Hyperlipidemic Rats

T. Antony Diwakar Chandran

Assistant Professor, Dept of Biochemistry, St. Joseph's College, Tiruchirappalli

Introduction

Hyperlipidemia is a clinical condition characterized by the elevated levels of lipid parameters and is one of the major risk factors for coronary heart diseases. Elevated level of total cholesterol (TC), low density lipoproteins cholesterol (LDL-C) and triglycerides (TG) in blood are recognised as major risk factors for coronary heart diseases. Other complications related to hyperlipidemia are atherosclerosis, hypertension and obesity (NECP 2002).

Globally, a third of ischaemic heart disease is attributable to high cholesterol levels. According to World Health Statistics 2011, overall raised cholesterol levels have been estimated to cause 2.6 million deaths (4.5% of total) and 29.7 million disability adjusted life years (DALYS), or 2.0% of total DALYS (Roth *et al.*, 2011).

Elevated lipid levels result from increased absorption through the gut or through enhanced endogenous synthesis. Hence, hyper-lipidemia can be reduced by two possible ways, viz., by blocking endogenous synthesis or by decreasing absorption. Both these factors can be evaluated in normal animals without artificial diets using Triton WR 1339 (Moss *et al.*, 1971).

Currently available hypolipidemic drugs include statins and fibrates. The former corrects the altered blood lipid profile by inhibiting the biosynthesis of cholesterol and the latter acts by enhancing the clearance of TG rich lipoproteins (Mahley *et al.*, 2006). However, consumption of these synthetic drugs have been associated with side effects such as hyperuricemia, diarrhea, nausea, myositis, gastric irritation, flushing, dry skin and abnormal liver function (Kumar *et al.*, 2008). Hence, there is an increased demand for newer herbal drugs with an ability to reduce or regulate serum TC and TG concentrations. As herbal medicines are less damaging than synthetic drugs they have better patient tolerance even on long term use (Kaliora *et al.*, 2006).

The present study is aimed at evaluating the potential of ethanolic and aqueous extracts of *Psidium guajava* (PG) fruits, which are cheaper, in reducing the lipid parameters.

Materials and Methods

Collection of plant material

The *Psidium guajava* (guava) fruits were collected from Trichy local market. The fruits were dried at room temperature and then reduced to coarse powder.

This powder (50 g) was extracted with ethanol (300 ml) in soxhlet apparatus at 80°C. Aqueous solution of dried extracts was also prepared in the same manner and used for pharmacological testing.

Preparation of 2% cholesterol diet

2 g of cholesterol (extra pure, Scharlau Spain) and 500 mg of Cholic acid (min 98%, Sigma Aldrich) was thoroughly mixed and mashed with 97.5 g of rat pellet diet. The mixture was made into a pellet form (Rabiea Bilal *et al.*, 2011) used as feed for the experimental animals.

Experimental animals

Male albino rats (Wistar strain) weighing between 110-150 gm were maintained at 25 to 30°C and kept in well ventilated animal house under natural photoperiodic condition in large polypropylene cages and were fed standard rats chow and water *ad libitum*. After complete acclimatization to the lab condition, a total of 30 healthy albino rats were selected and, randomly divided into five groups. Each group had six animals.

Experimental design

The Group I animals served as control and had free access to food and water for 21 days. The animals in Group II served as experimental and were provided with cholesterol rich diet and water for 21 days. The animals in group III were treated with Lovastatin at a dose of 20 mg/kg body weight and coadministered with the cholesterol rich diet and water for 21 days.

The animals in group IV were treated with ethanolic extract of *Psidium guajava* fruits 200 mg/kg body weight daily, along with the cholesterol diet and water for 21 days. Group V animals were treated with aqueous extract of *Psidium guajava* fruits (200 mg/kg body weight) daily along with the high cholesterol diet (HCD) and water for 21 days. After the experimental period was over, the rats were sacrificed by cervical decapitation.

The blood samples were collected aseptically and stored in a sterile container. Serum samples were prepared and utilized for biochemical estimations. The tissues were removed surgically and subjected to histological studies using standard procedures.

The biochemical parameters studied were:

1. Estimation of serum cholesterol (Zak *et al.*, 1954)
2. Estimation of serum HDL cholesterol (Burnstein *et al.*, 1970)
3. Estimation of LDL cholesterol (calculation)
4. Estimation of triglycerides (Butler *et al.*, 1961)
5. Estimation of phospholipids (Fisk and Subbarow *et al.*, 1925)

Statistical analysis

The data obtained from the biochemical estimations were subjected to student's t test. Test values of $p < 0.05$ were considered as statistically significant. Data were presented as mean \pm standard deviation.

Results and Discussion

Table-1: Serum Cholesterol Level

Groups	Serum Cholesterol (mg/dl)
Group-I (Normal Control)	44.635 \pm 4.058
Group- II (Hyperlipidemic Control)	113.33 \pm 6.360
Group-III (Lovastatin standard +HCD)	79.995 \pm 4.047
Group-IV (PG ethanol extract + HCD)	44.635 \pm 1.937
Group-V (PG aqueous extract +HCD)	68.42 \pm 6.720

(Values are expressed as Mean \pm SD)

Group I vs Group II:*Significant at $p < 0.05$

Group I vs Group IV:* Non Significant at $p < 0.05$

Table 1 represents the levels of serum cholesterol in different experimental animal groups. A significant increase in ($p < 0.05$) serum cholesterol level was observed in animals fed with high cholesterol diet, when compared to normal group. In Group IV animals, treatment with a *Psidium guajava* ethanol extract balanced the serum cholesterol level and as a result a decrease in serum cholesterol was observed. Group III animals treated with standard drug (Lovastatin) also shows a level that is closer to the normal cholesterol level. Group V animals also show normal serum cholesterol level, when compared to that of group II.

From the results, it is known that the difference between the levels of cholesterol in normal and ethanolic extract treated animals is not statistically significant. So the ethanolic extract of *Psidium guajava* is powerful in maintaining the blood cholesterol level.

The level of cholesterol in group V animals is lower than that of animals in hyperlipidemic control group. So, ethanolic extract is more powerful in bring the elevated level of cholesterol than the aqueous extract.

Increase in cholesterol level in serum because of high fat intake has already been registered in literature. Lowering high cholesterol levels significantly reduce the risk of heart attacks, strokes, and death. Normally hepatocyte initiate synthesis of triglycerides and cholesterol during states of increase free fatty acid flux to the liver (e.g. after the fatty meal or in the situation of increased lipolysis) but due to anti-hyperlipidemic drug, there may be inability of hepatocytes to increase cholesterol synthesis and decrease hepatocyte

cholesterol concentration by increase the catabolic conversation of cholesterol to bile acids in liver. High cholesterol diet increased serum cholesterol and LDL-C level significant. A rise in LDL may cause deposition of cholesterol in arteries and aorta and hence it is a direct risk factor for coronary heart disease (Dipa *et al.*, 2010).

Table-2: Serum Triglycerides Level

Groups	Serum Triglycerides (mg/dl)
Group-I (Normal Control)	58.75±2.331
Group- II (Hyperlipidemic Control)	78.75±1.831
Group-III (Lovastatin standard +HCD)	61±1.830
Group-IV (PG ethanol extract + HCD)	60±2.951
Group-V (PG aqueous extract +HCD)	59.75±2.692

(Values are expressed as Mean ±SD)

Group I vs Group II : *Significant at $p < 0.05$

Group I vs Group IV, V : * Non Significant at $p < 0.05$

Table 2, represents the levels of serum triglycerides in different experimental animal groups. A significantly increase in serum triglycerides was observed in the animals of hyperlipidemic control group ($p < 0.05$), when compared to normal group. In the animals of Group IV ,treatment with *Psidium guajava* ethanol extract reduced serum triglyceride level ,when compared to that of group II. In the animals of Group III treated with standard drug, the level of triglycerides is maintained near normal. Animals of group V have triglyceride levels closer to normal (the difference is statistically not significant; $p = 0.5$) because of the effects of aqueous extract of *Psidium guajava*.

The level of triglycerides is brought back to near normal by the action of extracts of *Psidium guajava* at a dose of 200mg/kg body weight per day. Similar effects of plants have been found in literature. In an analysis aimed at evaluating the antihyperlipidemic activity, it was found that the ethanolic extract of *Rhinacanthus nasutus* reduced elevated levels of triglycerides in hyperlipidemic rat models (Brahma *et al* , 2013).

Table 3 represents the levels of serum LDL in different experimental animal groups. A significant increase in serum LDL was observed in animals of hyperlipidemic group, when compared to normal group ($p < 0.05$). In animals of Group IV, treatment with a *Psidium guajava* ethanol extract reduced serum LDL level. As a result, significant decrease in serum LDL was registered in group IV, when compared to that of group II. This reduction could be due to the action of the phytochemicals present in the ethanolic extract of *Psidium guava* fruits.

Table-3: Serum Low Density Lipoproteins (LDL) Level

Groups	Serum LDL Level (mg/dl)
Group-I (Normal Control)	49.817±2.787
Group- II (Hyperlipidemic Control)	76.26±2.745
Group-III (Lovastatin standard +HCD)	50.21±6.354
Group-IV (PG ethanol extract + HCD)	47.31±2.951
Group-V (PG aqueous extract +HCD)	48.345±2.692

(Values are expressed as Mean ±SD)

Group I vs Group II : *Significant at $p < 0.05$

Group I vs Group IV, V : * Non Significant at $p < 0.05$

In the animals of Group III treated with standard drug (Lovastatin), the level of LDL is maintained closer to normal and the difference is statistically not significant. The reduction in the level of LDL in Lovastatin treated animals is due to the inhibition of HMG CoA reductase involved in cholesterol biosynthesis (Istvan *et al.*, 2001).

Reduction in the elevated levels of LDL in experimental animals like mice and rats have been registered already in the literature. Pooja *et al.* (2009) when carried out an investigation to determine the antihyperlipidemic potential of *Hibiscus sabtariffa*, it was found to reduce the level of LDL in hyperlipidemic rats. The observation of this present study also follows the same.

Table-4: Serum High Density Lipoproteins (LDL) Level

Groups	Serum HDL Level (mg/dl)
Group-I (Normal Control)	85.52±3.787
Group- II (Hyperlipidemic Control)	67.1±4.745
Group-III (Lovastatin standard +HCD)	78±6.354
Group-IV (PG ethanol extract + HCD)	84.2±2.951
Group-V (PG aqueous extract +HCD)	80.23±2.692

(Values are expressed as Mean ±SD)

Group I vs Group II : *Significant at $p < 0.05$

Group I vs Group IV: * Non Significant at $p < 0.05$

Table-4 represents the levels of serum HDL-cholesterol levels in different groups. A significant decrease in serum HDL-cholesterol was observed in Group II (induction) when compared to level in the animals of group I. A significant increase in serum HDL-cholesterol was observed in the rats of

group IV treated with the ethanolic extract of *Psidium guajava* when compared to that of group II. The rats in group V have significantly increased the level of HDL when compared to levels in the rats of group II.

The HDL cholesterol is the transport form of cholesterol from peripheral tissues to liver where they are excreted as bile acids. The ethanolic and aqueous extracts of *Psidium guajava* could promote the level of HDL through the activity of the phytochemicals present in them.

There are many fruits with curative properties towards reducing obesity. In effort to analyse the antihyperlipidemic activity of *Helicteres isora* fruit extract in Diabetes mellitus, Boopathy *et al.* (2010) induced hyperglycemia in rats by infusing streptozotocin. Later the team found that the extract was capable of increasing the HDL cholesterol level. The findings of the present study also coincides with the result of the above.

Table-5: Serum Phospholipids Level

Groups	Serum Phospholipids Level (mg/dl)
Group-I (Normal Control)	97.33±3.787
Group- II (Hyperlipidemic Control)	118.1±8.946
Group-III (Lovastatin standard +HCD)	92.96±5.354
Group-IV (PG ethanol extract + HCD)	95.25±2.951
Group-V (PG aqueous extract +HCD)	94.6±2.692

(Values are expressed as Mean ±SD)

Group I vs Group II : Significant at $p < 0.05$

Group II vs Group III, V: Non Significant at $p < 0.05$

Group II vs Group IV: Significant at $p < 0.05$

In lipid profile, the serum phospholipids were significantly increased ($p < 0.05$) in animals belonging to Group II when compare to Group I, III, IV and V (Table-2). The concentration of phospholipids increased during the hypercholesterolemia in the animals fed with high cholesterol diet (HDC). Decrease in the phospholipids level in Group IV (HCD+ethanolic extract of *Psidium guajava*) and V (HCD+aqueous extract of *Psidium guajava*) its shows that the extract of *Psidium guajava* is capable of reducing level of phospholipids.

Group-II animals receiving cholesterol showed a significant increase in phospholipids levels when compared to that of the normal group (G-I). Rats treated with standard drug (G-III) had significantly lowered phospholipids level when compared to the cholesterol treated group (G-II).

The reduction in the levels of phospholipids in the animals of group IV could be due to the action of the phytochemicals presents in the ethanolic extract of *Psidium guajava*. The reduction in the levels of phospholipids , by treatment with plant extracts have been documented in the literature.

Lowering high cholesterol levels significantly reduce the risk of heart attacks, strokes, and death. Normally hepatocyte initiate synthesis of triglycerides and cholesterol during states of increase free fatty acid flux to the liver (e.g. after the fatty meal or in the situation of increased lipolysis) but due to anti-hyperlipidemic drug, there may be inability of hepatocytes to increase cholesterol synthesis and decrease hepatocyte cholesterol concentration by increase in the catabolic conversation of cholesterol to bile acids in liver. High cholesterol diet increased serum cholesterol and LDL-C level significant. A rise in LDL may cause deposition of cholesterol in arteries and aorta and hence it is a direct risk factor for coronary heart disease. A significant decrease in serum phospholipids was observed in animals treated with *Terminalia chebula* extract at 200 mg/kg dose (G-V) (Dipa *et al.*, 2010).

From the above analysis, it is also obvious that the efficacy of both the extracts in reducing the elevated levels of lipid parameters is nearly the same.

Histopathology

In the histopathological study, high cholesterol diet fed rats shows fatty Cytoplasmic vaculated cellsascompared to normal control. Treatment with 200 mg extract of *Psidium gaaajva* shows less fatty cytoplasmic vacuoles as compared to high cholesterol diet fed rats. In histopathological study, we found that treatment with *Psidium guajava* significantly decreases the plaque size in aorta and significantly decrease fatty cytoplasmic vacuaoaded cells in Liver parenchyma and liver cell necrosis is prevented.

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Synthesis, Characterization and Biological Activity of Metal Complexes of 2-Picolinic Acid

S. Prema¹ and A. Pasupathy²

¹Asst. Prof., Department of Chemistry, Urumu Dhanalakshmi College, Trichy

²Head, Asso. Prof., Department of Chemistry, Urumu Dhanalakshmi College, Trichy

1. Introduction

Picolinic acid is a derivative of pyridine with a carboxylic acid substituent at the 2-position. It acts as a bidentate chelating agent with elements such as Chromium, Zinc, Manganese, Copper, Iron and Molybdenum in the human body. Many of the complexes are neutral and, thus lipophilic. The Zinc dipicolinate dietary supplements became popular as they were shown to be an effective means of introducing Zinc into the body. It is a catabolite of the amino acid tryptophan through the Kynurenine pathway. It is a precursor to the enzyme NAD⁺ in addition; it is suggested to assist in the absorption of Zinc (II) ions and other divalent or trivalent ions through the small intestine.

Picolinic acid act as a bidentate ligand in which the metal complex is formed by coordination between the pyridine nitrogen and the carbonyl oxygen on the adjacent carboxylic acid group. Thus, at physiological pH, picolinic acid is fully dissociated and forms very stable complexes with biologically essential metals such as Copper, Iron and Zinc^[1]. Van Campen, D and House, W.A first demonstrated and revealed that Zinc absorption is influenced by endogenous picolinic acid^[2]. It is identified in a pancreatic extract and in human milk^[3]. It should be a useful agent in understanding cell growth control and possible different mechanism of transformation^[4]. Picolinic acid and its metal complexes have been subjected to intense research activity recently due to their broad spectrum of physiological activity as well as for the design of new metallopharmaceuticals. A literature survey of the reported crystal structures of picolinic acid with diverse metal ions indicates picolinic acid exhibits bidentate through nitrogen and oxygen atom of carboxylate anion. N, O- chelating bonding mode and H-bonding between the carboxylate moiety and water molecules are predominant. The crystal structure, chemical properties and biological activities of picolinic acid and some of its metal complexes have been reported^[5-8]. Metal complexes of biologically active ligands are a target for the development of new drugs. An antimicrobial activity of some metal complexes of the mixed ligands 1,10- phenanthroline and 2,2'-bipyridine, hexamethylene tetramine and 4,4'- bipyridine was reported^[9]. Spectral and Thermal analysis of copper (II) complex of 6-hydroxypicolinic acid and 3-picoline, metal chelates of 1-nitroso-2-naphthol and 8-hydroxyquinoline with picolinic acid were reported^[10,11] and electro-chemical behaviour of bispicolinate copper(II)

complex also reported^[12]. In this paper, we reported the synthesis, characterization and its anti-microbial activity against some resistant fungal and bacterial strain.

2. Experimental Techniques

The FTIR spectra were recorded as KBr pellets using Fourier transform infrared spectrometer Shimadzu 24 FTIR 8400S. Electronic spectra of the prepared complexes were taken in the region (300-1100) nm for 10^{-3} M solution in ethanol and methanol at 25°C using Shimadzu UV-160.A-Ultraviolet-visible spectrometer with 1.000 ± 0.001 cm matched quartz cell. The electrical conductivity of the complexes were recorded at the room temperature for 10^{-3} M solution of the samples in acetonitrile using deep vision digital conductivity meter. The melting points are recorded by using Stuart melting point apparatus. The magnetic susceptibility measurements were measured by Gouy's method. ESR spectra were recorded on a JOEL ESR spectrometer at liquid nitrogen temperature operating at X-band frequency (9.1GHz). Electrochemical behavior of the metal complex was investigated with CV instrument Device VSP(SN 0147) electrochemical analyzing. $[\text{Bu}_4\text{N}]\text{ClO}_4$ as the supporting electrolyte. The three electrode system consists of glassy carbon electrode, $\text{Ag}/\text{AgCl}/\text{KCl}$ (Sat'd) (0.197V) as the reference electrode and a Platinum wire as the auxiliary electrode was used. All the Voltammetric experiments were made at room temperature.

Anti-Microbial Test

Anti-microbial activities of the ligand and its complexes have been carried out against three types of pathogenic fungal and four types of pathogenic bacteria, two types of bacteria was gram positive which is *Staphylococcus aureus* and *Bacillus anthrax* and another two types of bacteria was gram negative which is *Klebsiella pneumoniae* and *E.coli* using nutrient agar medium by disc diffusion method. The test solutions were prepared in DMSO and soaked in filter paper having 5 mm diameter and 1mm thickness. These discs were placed on the already seeded plates and incubated at 37°C for 24 hours. The diameter (mm) of the inhibition zone around each disc was measured after 24 hours.

3. Results and Discussion

3.1 Synthesis

Metal complexes of picolinic acid were prepared by the refluxion of metal salts and picolinic acid in ethanol taking 1:3 molar ratio for 6 hours. The solutions were concentrated and cooled, to crystallize out the complexes. The complexes were washed with ether to remove the excess ligand. The prepared complexes were characterized by conductance, magnetic behaviour, IR, EPR, Electronic spectral studies and antimicrobial activity.

3.2 Conductance Studies

Molar conductance studies helped in assigning the composition of the prepared complexes.

Table 1. Physical properties, conductance and magnetic studies of metal complexes

Complex	Conductance values $\text{Ohm}^{-1}\text{cm}^2\text{mol}^{-1}$	Type of Electrolyte	μ_{eff}	Melting Point $^{\circ}\text{C}$	Colour of the Complex
$[\text{MnL}_2\text{Cl}_2]$	40.091	1:0	6.05	180	White
$[\text{CoL}_3]^{2+}[\text{CoCl}_4]^{2-}$	104.92	1:1	4.5	280	Green
$[\text{NiL}_2\text{Cl}_2]$	33.26	1:0	2.85	285	Pale Blue
$[\text{CuL}_2\text{Cl}_2]$	40.091	1:0	1.85	230	Dark Blue
$[\text{ZnL}_2\text{Cl}_2]$	19.62	1:0	-	197	White

L=Picolinic acid

By the conductance studies, we found out the complexes belong to 1:0 electrolyte in which anions are inside the coordination. The cobalt complex exhibit 1:1 electrolyte. The magnetic moments, μ_{eff} of the complexes are given in the table 1. The magnetic moment of the metal ion is within the expected value.

3.3 IR Spectroscopy

By the conductance studies, we found out the complexes belong to 1:0 electrolyte in which anions are inside the coordination. The cobalt complex exhibit 1:1 electrolyte. The magnetic moments, μ_{eff} of the complexes are given in the Table 1. The magnetic moment of the metal ion is within the expected value.

The comparison of IR spectra of the ligand and its complexes confirmed the coordination of the ligand atoms with the metal ion. The presence of chloride ion, OH stretch of the spectra of the complex, absence of symmetric and asymmetric stretch of the carboxylate ion confirmed that the carboxylic acid group of the picolinic acid is not ionized and the shift of the C=O group stretch to lower frequency in the spectra of complexes suggests that the acid group is not ionized and the carbonyl oxygen of the acid group is coordinated to the metal ion. Moreover the C=N stretch of the pyridine ring is also shifted to lower frequency suggests that the picolinic acid acts as a bidentate ligand from which carbonyl oxygen of the acid group and nitrogen of the pyridine ring are coordinated to the metal ion. The FTIR spectra of the metal complexes are summarized in the Table 2.

Table 2. FTIR spectra of metal complexes

Compound	ν_{O-H} stretching cm^{-1}	$\nu_{C=O}$ acid cm^{-1}	$\nu_{C=N}$ cm^{-1}	$\nu_{C=C}$ cm^{-1}	ν_{C-H} stretching cm^{-1}	ν_{O-H} deformation cm^{-1}	ν_{M-O} cm^{-1}	ν_{M-N} cm^{-1}
Ligand	3396	1742	1675	1599	3099	941	-	-
[Mn(PA) ₂ Cl ₂]	3447	1702	1658	1601	3081	953	550	458
[Co(PA) ₃] ²⁺ [CoCl ₄] ²⁻	3442	1713	1658	1604	3113	965	515	451
[Ni(PA) ₂ Cl ₂]	3487	1721	1641	1599	3115	990	516	461
[Cu(PA) ₂ Cl ₂]	3426	1710	1643	1603	3072	982	527	458
[Zn(PA) ₂ Cl ₂]	3454	1715	1644	1592	3091	950	565	468

The sharp band found at 1742 cm^{-1} is assigned to C=O stretch of carboxylic acid in the spectra of ligand^[13], which is shifted to lower frequency 1718 cm^{-1} suggesting that the carbonyl oxygen of the carboxylic acid group is coordinated to the metal ion^[14]. In the spectrum of ligand, the stretch found out as 1675 cm^{-1} is assigned to C=N stretch of pyridine ring which is shifted to 1640 cm^{-1} in the spectra of complexes, suggesting that the nitrogen of the pyridine ring also coordinated to the metal ion. The OH stretch of the acid group is found at 3396 cm^{-1} is shifted to higher frequency in the spectra of complexes which indicates that the acid group is not ionized. The stretches of the ligand especially the C=C stretch at 1600 cm^{-1} , 1520 cm^{-1} are not much affected in the spectra of the complexes. The new band in the spectra of complexes found at the range of $550\text{--}511\text{ cm}^{-1}$ are assigned to the metal-oxygen bonding and bands at the range of $468\text{--}451\text{ cm}^{-1}$ due to metal-nitrogen bonding in the corresponding complexes which are absent in the spectra of the ligand. Thus the comparison of IR spectra of the ligand and complexes confirmed the mode of coordination and the ligand is a bidentate ligand.

3.4 Electronic Spectra of Metal Complexes

Here the nickel complex exhibit a band at $23,365\text{ cm}^{-1}$ (428 nm) assigned to $^3A_2g \rightarrow ^3T_1g(P)$ transition of octahedral geometry of the complexes.

The electronic spectra of Co(II) chloride complex displays bands at $19,581\text{ cm}^{-1}$ (510 nm) and $14,806\text{ cm}^{-1}$ (675 nm). The first band is assigned to $^4T_1g(F) \rightarrow ^4T_1g(P)$ transition of octahedral geometry and the other band is assigned to $^4A_2(F) \rightarrow ^4T_1(F)$ transition of tetrahedral geometry. This suggests that this complex is a mixture of octahedral and tetrahedral geometries with the

composition of the type $[\text{Co}(\text{BBA})_3]^{2+}[\text{CoCl}_4]^{2-}$ which is supported by the conductance data.

The complex shows an absorption band in 600-900 nm regions (They are blue or green in colour). The octahedral complex shows a unique band due to ${}^2\text{E}_g \rightarrow {}^2\text{T}_{2g}$ transition. The copper complex showed a broad band at $15,479\text{ cm}^{-1}$ (646 nm) due to Jahn-Teller distortion and has a distorted octahedral geometry.

3.5 EPR spectral studies

The X- band EPR spectrum of the Cu(II) complex was recorded in DMSO at liquid nitrogen temperature shows five peaks on the parallel component due to the interaction of unpaired electron of Cu(II) ion with Cu having nuclear spin $I = 3/2$ for the complex ($g_{\parallel} > g_{\perp}$) suggesting that the system is axial. The trend in the g value ($g_{\parallel} > g_{\perp} > 2.0023$) and the value of exchange interaction term ($G > 4$) suggested that the unpaired electron of Cu(II) ion is present in $d_{x^2-y^2}$ orbital.

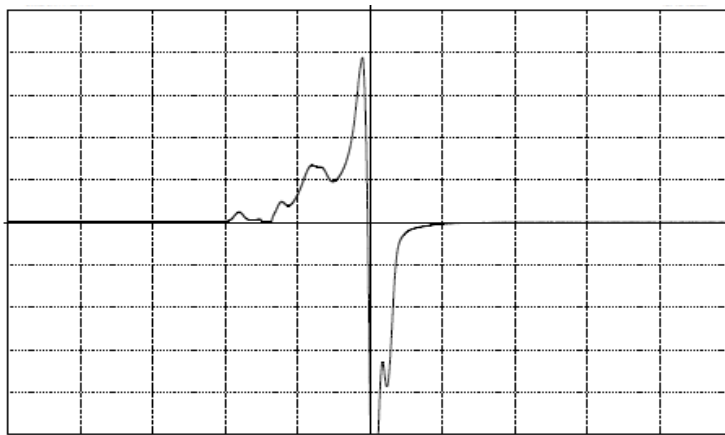


Fig 1. EPR spectrum of $[\text{Cu}(\text{PA})_2\text{Cl}_2]$ complex in DMSO solution

Table 3. EPR parameter of Cu(II) complex

Complex	Medium and Temperature	g_{\parallel}	g_{\perp}	G
$[\text{Cu}(\text{PA})_2\text{Cl}_2]$	Solution state LNT	2.32	2.05	6.4

However, chloride molecule is present in the coordination sphere suggested that Cu(II) complex possesses distorted octahedral geometry.

3.6 Thermal Analysis

TGA and DTA curves of Mn(II) complex showed that it is stable upto 180°C. The first stage of degradation occurs at 237.9 °C with the removal of chloride ligand at about 14.1% (calc 14.3%). The second stage is from 237.9- 313.8°C with the mass loss of about 39% (calc 37.6) corresponds to the gradual decrease in the mass of the ligand accompanied by an endothermic peak at 305.4°C on DTA shows that the complex melts. From 493.1°C of TGA curve represents the decomposition of another ligand and an exothermic peak with 521.9°C on DTA which corresponds to the decomposition of the ligand. The mass of the final residue corresponding to stable MnO is 18% (calc 19%).

The TGA and DTA of Co(II) complex at 153.5°C on TGA curve indicates the release of one chlorine atom with 7.09% (cal 5.6%). The second stage of degradation from 153.5°C – 303.8°C indicates the decomposition of trichloro cobalt anion with 26.33% (cal 26.27%) ,accompanied by an endothermic peak with 296°C on DTA curve where the the complex melts before decomposition. The third stage of decomposition on TGA, gradually decreases from 303.8 - 621°C with 48.25% (calc 51%) mass loss of the ligand and an exothermic peak with 477.9°C on the DTA which may be attributed to the decomposition of the ligand. The mass of the final residue corresponds to stable cobalt trioxide with 15.92% (calc 17%).

The TGA and DTA of Ni(II) complex is stable upto 263.8°C. The first stage of degradation was observed at 263.8°C with loss of one chlorine at 8.75% (cal 9.4%). The second and third stage of degradation at 264-466.6°C with 64.85% (cal 65.5%) shows the gradual decomposition of two picolinic acid ligand. The mass of the final residue to 10% (cal 19.8%) does not corresponds to any stiochiometry of the end product, as the residue obtained is not close to that expected for metal oxide. The residue CO₂ with 11.85% (cal 11.7%) is expected.

3.7 Cyclic Voltammetry studies

The redox property of the Mn(II) complex was studied in the potential range of -2V to +2V. The Mn(II) complex is electroactive with respect to the metal center and exhibited two redox process, where each reduction is associated with a single electron transfer at the room temperature. The two well defined quasi-reversible one electron cyclic process were observed at $E_{pc} = -0.7878V$ with the corresponding oxidation peak at $E_{pa} = -0.5833V$ at a scan rate of about 50mV/sec and at $E_{pc} = 0.875V$ with the corresponding oxidation peak at $E_{pa} = 1.213V$. The ΔE_p value for the first redox couple is 0.2045V, which is less than the second redox couple of about 0.335V.

The Cyclic voltammogram of cobalt complex which has been studied in the methanol solution under nitrogen atmosphere is also electroactive with respect to the metal center with the scan rate of about 50mv/s. The Co(II) complex

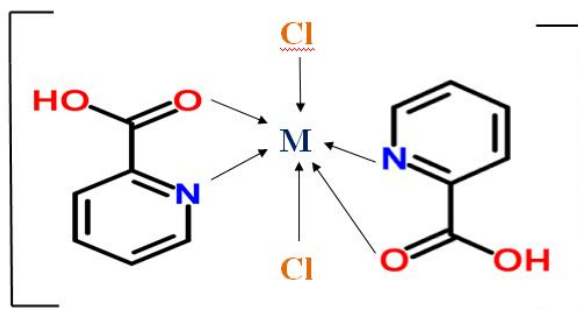
exhibits one electron quasi-reversible transfer process with an oxidation peaks at -0.9114V and -0.5059V, also having a corresponding reduction peak at -1.051V. The peak separation ΔE_p is 0.139V. The voltammogram of copper complex displays an oxidation peak at $E_{pa} = -0.618$ V with an associated reduction peak at $E_{pc} = -0.9117$ V and at $E_{pa} = 1.214$ V with the corresponding reduction peak at $E_{pc} = -0.492$ V, at a scan rate of about 50mV/sec. The ΔE_p value for the first redox couple is 0.293V, which is less than the second redox couple of about 1.706V. The E_p value is higher for the complex due to the difference between the original complex and the reduced complex.

The cyclic voltammogram of Zinc complex displays an oxidation peaks at $E_{pa} = -0.5303$ V and 1.389V with an associated reduction peak at $E_{pc} = -0.83055$ V at a scan rate of about 50mV/sec. The peak separation is at 0.3002V.

Table 4. CV study of metal complexes

Complex	E_{pa} (V)	E_{pc} (V)	$E_{1/2}$ (V)	ΔE_p (V)	E_{pa} (V)	E_{pc} (V)	$E_{1/2}$ (V)	ΔE_p (V)
Ligand	1.310	-0.690	0.31	2.008	-	-	-	-
[Mn(PA) ₂ Cl ₂]	-0.583	-0.787	-0.685	0.204	1.2133	0.8750	0.425	0.335
[Co(PA) ₃] ²⁺ [CoCl ₄] ²⁻	-0.911	-1.05	-0.983	0.139	-0.505	-	-	-
[Ni(PA) ₂ Cl ₂]	-0.633	-	-	-	1.250	-	-	-
[Cu(PA) ₂ Cl ₂]	-0.618	-0.911	-0.764	0.293	1.214	-0.492	0.361	1.706
[Zn(PA) ₂ Cl ₂]	-0.530	-0.830	-0.680	0.3002	1.389	-	-	-

Structure of the Metal Complex



M = Mn, NiCu, Zn

Fig 2. Structure of [M(PA)₂ Cl₂] complexes

The structure of picolinic acid complexes of divalent metals are assigned on the basis of their electronic spectra, their magnetic moment and their analytical data. All the complexes except cobalt(II) complex exhibit octahedral geometry.

The chloride complex of cobalt (II) is a 1:1 electrolytes $[\text{Co}(\text{PA})_3]^{2+}[\text{CoCl}_4]^{2-}$ with octahedral cation and a tetrahedral anion which is well supported by the electronic spectra and conductance data.

Structure of the Cobalt Complex

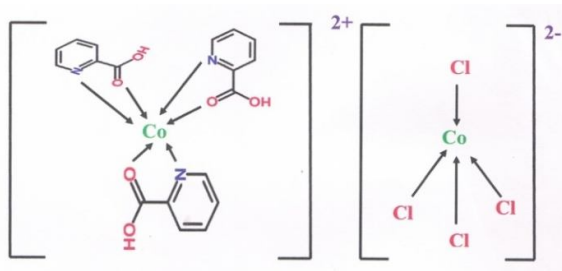


Fig 3. Structure of $[\text{Co}(\text{PA})_3]^{2+}[\text{CoCl}_4]^{2-}$ complex

3.8 Antimicrobial Activity

Table 5. Antifungal activity of metal complexes

Name of Organism	Ligand	$[\text{Co}(\text{PA})_3]^{2+}[\text{CoCl}_4]^{2-}$	$[\text{Ni}(\text{PA})_2 \text{Cl}_2]$	$[\text{Cu}(\text{PA})_2 \text{Cl}_2]$
<i>Aspergillus niger</i>	11	15	15	13
<i>Aspergillus flavus</i>	9	10	15	13
<i>Aspergillus terreus</i>	9	11	19	3

Table 6. Antibacterial activity of metal complexes

Name of Organism	Ligand	$[\text{Co}(\text{PA})_3]^{2+}[\text{CoCl}_4]^{2-}$	$[\text{Ni}(\text{PA})_2 \text{Cl}_2]$	$[\text{Cu}(\text{PA})_2 \text{Cl}_2]$
<i>Klebsiella pneumonia</i>	13	-	17	-
<i>Escherichia coli</i>	14	-	32	-
<i>Bacillus anthrax</i>	-	-	20	-
<i>Staphylococcus aureus</i>	-	-	12	-

In the present study, the antifungal activity of the synthesized metal complexes have been investigated against the three fungal pathogens by disc-diffusion method and the results are summarized in the above Table 5. It is clear that, the inhibition by the comparative study of free ligand and its complexes, the inhibition of growth of fungi due to the metal complex increases. The increase in activity with the concentration is due to the effect of metal ions on the metabolic function of the cell. The action of compounds may involve the formation of hydrogen bonds with the active centre of the cell constituents, resulting in the interference with the normal function of the cell. The antibacterial activity of the ligand shows moderate activity. But its Ni(II) chloride complex exhibited higher activity against four bacterial microorganism. The Co(II) and Cu(II) complexes have less activity against all microorganisms.

4. Conclusion

Picolinic Acid acts as a bidentate ligand in which the mode of coordination is confirmed by the negative shift of carbonyl and C=N stretching frequency in the spectra of complexes. The mode of coordination is confirmed by the negative shift in C=O stretching frequency of carboxylic acid group in the spectra of the complexes. The electronic spectra confirmed the geometry of the complexes. The magnetic moment of the metal ion is within the expected value. Conductance studies show that the complexes are in non-electrolyte except cobalt complex. The ESR spectra of Cu(II) complex confirmed the distorted octahedral with two axial bond elongated. The TGA and DTA studies revealed that the complexes are thermally stable. The electrochemical properties of the metal complexes were investigated in DMF solution by CV revealed the quasi reversible one electron/ two electron transfer redox process. The ligand and some of the complexes were found to be active against fungal and bacterial strains.

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Synthesis and Characterization of Schiff Base Metal Complexes Derived from 3-Ethoxysalicylaldehyde and 2-Amino-4-Chlorobenzoic Acid

K. Jansi Rani and S. R. Bheeter

PG & Research Department of Chemistry, St. Joseph's College (Autonomous), Trichy

Introduction

Schiff base ligands are considered as “privileged ligands” because they are easily prepared by condensation between aldehydes and amines. These ligands are able to co-ordinate with many different metal ions. The chemistry of transition metal complexes with Schiff bases has played a vital role in the development of co-ordination chemistry as a whole¹⁻².

A number of authors studied different aspects of physical characterizations, spectroscopic and potentiometric investigation of several M(II) complexes including Mn, Fe, Zn, Cu, Co and Ni with Schiff base derived from 2-amino-benzoic acid and salicylaldehyde⁴⁻⁷.

Maihub *et.al* synthesized Fe(III) and Os(III) complexes with Schiff base derived from unsubstituted salicylaldehyde and 2-aminobenzoic acid and characterized them by various methods like IR, NMR, UV etc. Morad *et.al* synthesized Ni(II) complex with salicylaldehyde and 2-aminobenzoic acid and characterized it by various methods and also studied its antibacterial activity.

These results motivated us to prepare the complexes and characterize then making the present paper that deals the preparation of Schiff base ligand and its metal complexes characterize by the elemental analysis, magnetic susceptibility, molar conductivity measurements, electronic spectra, infrared, ¹HNMR, ¹³CNMR spectrum to determine the mode of co-ordination and geometry.

Material and methods

All chemicals like 3-ethoxysalicylaldehyde, 2-amino-4-chlorobenzoic acid, metal chloride salts and solvents used were reagent grade (Alfa aesar/Avra/spectrum) products and were used as such without further purifications. The percentage composition of C, H, N of complexes were measured Flash EA 112 series. Infrared spectra were measured using KBr pellets with Perkin Elmer RX1, Spectrophotometer in conventional range of 4000-400 cm⁻¹. The electronic absorption spectra of the complexes were recorded using a Perkin Elmer Lambda 35 Spectrophotometer in the range of 350 nm-800 nm. Magnetic susceptibility measurements on powder samples were carried out by Gouy method. The diamagnetic correction were made by Pascal's constant and Hg[Co(SCN)₄] was used as calibrant. The molar conductance measurements were carried out in DMSO (10⁻³ M) using Digisun Electronic digital conductivity meter DI-909 Having dip-type cell calibrated with KCl. The

^1H NMR and ^{13}C NMR spectra were recorded on Mercury Plus 300 MHz NMR spectrometer by employing TMS on internal standard.

Synthesis of Schiff base (EAP)

The Schiff base was prepared by condensation of 3-ethoxysalicylaldehyde (0.01 mol) with 2-amino-4-chlorobenzoic acid (0.01 mol) and the mixture was refluxed for 2-3hrs. The resulting solution was kept under 0°C . The product was obtained and collected by filtration washed several times with ethanol and recrystallized from hot ethanol and dried in a vacuum desiccator. The melting point of the ligand was found to be 157°C . The color is red.

Preparation of the complexes

The complexes of Co(II), Ni(II), Cu(II), Zn(II) were prepared by refluxing respective metal chloride in ethanolic solution of ligand (1:1). The resulting mixture was refluxed for 2-4 hr at $70\text{--}80^\circ\text{C}$. On cooling colored solid product was collected by filtration and then washed several times with diethylether until the washing become colorless. The product was dried in air and stored in desiccators over anhydrous CaCl_2 under vacuum.

Results and discussion

The reactions of appropriate metal (II) chloride with the Schiff base ligand derived from 3-ethoxysalicylaldehyde and 2-amino-4-chlorobenzoic acid, acting as a tridentate ligand in methanol solution gave transition metal complexes. The formulations were in accordance with data of elemental analysis and physico-chemical measurements. The molar conductance of metal complexes are measured using 10^{-3} M DMSO solvent, the obtained values (Table 1) suggests the presence of a non-electrolyte in nature.

Table 1: Analytical data and physical data of the ligand and its complexes

Compound	Molecular formula	Mol. Wt	Color	Melting point	Elemental analysis Calculated/(Observed)			Ω cm^{-1}
					C	H	N	
Ligand	$\text{C}_{16}\text{H}_{14}\text{ClNO}_4$	319	Red	157	60.18 (59.20)	4.41 (4.30)	4.38 (4.32)	-
EAB.CoCl ₂	$\text{C}_{16}\text{H}_{15}\text{Cl}_3\text{CoNO}_4$	467	Light brown	> 300	41.19 (41.08)	3.24 (3.18)	3.00 (2.95)	32
EAB.NiCl ₂	$\text{C}_{16}\text{H}_{15}\text{Cl}_3\text{NiNO}_4$	466	Light green	> 300	41.12 (40.98)	3.24 (3.18)	3.00 (2.82)	24
EAB.CuCl ₂	$\text{C}_{16}\text{H}_{15}\text{Cl}_3\text{CuNO}_4$	471	Olive green	278	40.78 (40.54)	3.21 (3.08)	2.97 (2.85)	38
EAB.ZnCl ₂	$\text{C}_{16}\text{H}_{15}\text{Cl}_3\text{ZnNO}_4$	473	Light yellow	234	40.62 (40.54)	3.20 (3.05)	2.96 (2.78)	42

Infrared spectra of the Schiff base and its complexes

The infrared spectra provide valuable information regarding the nature of the functional group attached to the metal atom. In order to study the bonding mode of Schiff base to the metal complexes, IR spectrum of the free ligand was compared with the spectra of the complexes. The main infrared bands and their assignments are listed in (Table 2).

- The Infrared band assignment of all metal complexes exhibit broad band in the 3400 to 3350 cm^{-1} indicating the presence of co-ordinated water molecule⁹.
- The spectrum of free Schiff base ligand show strong absorption at 1625 cm^{-1} assigned for the $\gamma_{\text{(C=N)}}$ of azomethine group. In the spectra of analyzed complexes the absorption band have been shifted to lower region by 27-45 cm^{-1} which confirms the co-ordination of azomethine group through N-atom¹⁰.
- The band at 1694 cm^{-1} attributed to $\gamma_{\text{(C=O)}}$ vibration also shifted to lower frequency, which indicates the involvement of oxygen atom from C=O group in bonding with metal ion¹¹.
- New bands were observed between 800-400 cm^{-1} region in complexes which were absent in the spectrum of ligand. The bands between 600-680 cm^{-1} were assigned to stretching frequencies of $\gamma_{\text{(M-O)}}$, the band between 475-580 cm^{-1} has been assigned to the stretching frequencies $\gamma_{\text{(M-N)}}$ respectively¹².
- The $\gamma_{\text{(C-O)}}$ (phenolic) stretching frequency of ligand is seen at 1376 cm^{-1} which gets shifted to a lower frequency region in the complexes in the range of 1372-1326 cm^{-1} and this is indicative of bonding through phenolic oxygen.
- The presence of -OH of this acid group in the spectra of the complexes, absence symmetric and asymmetric stretch of carboxylate ion and presence of anion (Chloride) in the complex suggest that the acid group is not ionized and the shift $\gamma_{\text{(C=O)}}$ stretch to lower frequency in the spectrum of the complexes suggest that the carbonyl oxygen of COOH group in co-ordinated to metal ion.

Table 2: Infrared spectra of the Schiff base and its complexes

Compound	γ_{OH}	$\gamma_{\text{C=N}}$	$\gamma_{\text{C=O}}$	$\gamma_{\text{C-O}}$	$\gamma_{\text{M-N}}$	$\gamma_{\text{M-O}}$
Ligand (EAB)	3382	1625	1694	1376	-	-
EAB.CoCl ₂	3302	1589	1606	1365	656	432
EAB.NiCl ₂	3301	1591	1624	1358	671	434
EAB.CuCl ₂	3343	1596	1634	1354	566	416
EAB.ZnCl ₂	3295	1584	1656	1348	661	427

Electronic spectra

- The spectrum of Co(II) complex showed absorptions $22,222\text{ cm}^{-1}$ assigned to and ${}^4\text{T}_{1g}(\text{F}) \rightarrow {}^4\text{T}_{1g}(\text{P})$ transitions respectively. The cobalt (II) complex shows a magnetic moment of 4.52 BM at room temperature. This high value suggests that the magnetic moment and co-ordination number six for the central cobalt(II) ion and octahedral geometry¹³.
- The electronic spectra of the Nickel(II) complex exhibit absorption bands at $21,834\text{ cm}^{-1}$ assigned to ${}^3\text{A}_{2g} \rightarrow {}^4\text{T}_{1g}(\text{P})$ transitions respectively in an octahedral geometry^{14,15}. The value of magnetic moment 3.1 BM may be taken as additional evidence for its octahedral structure.
- The electronic spectra of Copper(II) complex exhibit absorption band at $22,123\text{ cm}^{-1}$ mainly due to ${}^2\text{E}_g \rightarrow {}^2\text{T}_{2g}$ transition suggesting octahedral geometry 1.74 BM suggestive octahedral nature of the complex¹⁶.
- The Zinc(II) complex shows no d-d band as is expected for a d^{10} system and was found to be diamagnetic in nature. On the basis of analytical, conductance and spectral data Zinc(II) complex was assigned on octahedral geometry.

Table 3: Electronic data of Schiff base and its complexes

Compound	UV-Visible bands (cm^{-1})	μ_{eff} (BM)
Ligand (EAB)	-	-
Co(II) complex	22,222	4.52
Ni(II) complex	21,834	3.10
Cu(II) complex	22,123	1.74
Zn(II) complex	-	-

${}^1\text{H}$ NMR and ${}^{13}\text{C}$ NMR spectra

The ${}^1\text{H}$ NMR spectrum of the ligand in DMSO shows the following signals given in Table 5. The sharp singlet at 7.7 ppm attributed to azomethine proton confirms the formation of the ligand^{17,18}.

Another singlet corresponding to one proton is observed in 14.8 ppm is due to phenolic proton. The ${}^{13}\text{C}$ NMR spectrum of the ligand is recorded in CDCl_3 . It shows the following signals given in the Table 4. Azomethine carbon is observed at 151.11 ppm and phenolic carbon is observed at 190.48 ppm. Peak in the region 110-147 ppm were due to aromatic carbon.

Zn and ${}^1\text{H}$ NMR spectrum

The peak of azomethine proton in ligand is shifted to downfield signal at 7.2 ppm, confirms co-ordination of nitrogen atom to Zn(II) ion. The COOH and OH proton also shifted to downfield which confirms co-ordination.

Table 4: ^{13}C NMR of the Schiff base ligand

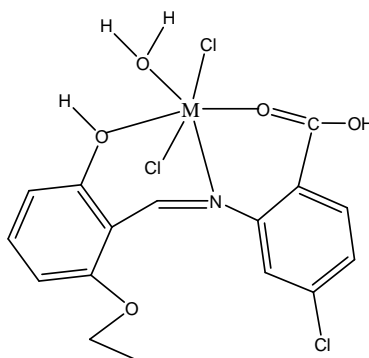
δ ppm	Functional group assigned
110-147	Aromatic carbons
151	Azomethine carbon
194	Carboxylic carbon
13.56	Methyl carbon
63.51	Methylene carbon

Table 5: ^1H NMR of the Schiff base and its Zn(II) complexes

Compound	$-\text{CH}=\text{N}$ (δ ppm)	Aromatic protons (δ ppm)	$-\text{OH}$ (δ ppm)	COOH (δ ppm)	CH_3 (δ ppm)
Ligand	7.7	6.6-7	14.8	10.4	1.5
Zn-complex	7.2	6.6-7	14.0	10.0	1.5

Conclusion

The EAB ligand and its metal complexes of Co(II), Ni(II), Cu(II), Zn(II) were synthesized and characterized. The structural data established on the basis of elemental analysis (C, H, N), infrared, ultra-violet, ^1H NMR, ^{13}C NMR, magnetic susceptibility of complexes were recorded and discussed.

**Structure of metal complexes**

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Migration Conceptual Framework: Why do people move to work in another place of country

Arockia Rajasekar¹ and S. Arumugam²

¹Assistant Professor, Department of Commerce, St. Joseph's College, Trichy

²PhD Research Scholar, Department of Commerce, St. Joseph's College, Trichy

Introduction

We live in a world shaped by human migration. Every day, people make a decision to leave their hometown - or even their own country - and move elsewhere to work, study, retire, or reunite with their families. Migration has changed the demographic composition of towns, cities, and nations. Consider that in 1960 there were only 30 countries in the world that had at least a half million international migrants each. By 2005, the number of such countries doubled, bringing the total number of foreign-born residents globally to 191 million people. Millions of others, known as internal migrants, migrated from one place to another within a single country. Although people migrate for many reasons, this module will focus primarily on one particular type of migration known as labor migration. In this Conceptual Framework, you will learn some of the concepts and theories that geographers use to examine patterns of labor migration at different geographical scales, preparing you to analyze how migration works and how different types of migration flows have changed over time.

Migration at Different Scales

To begin, let's introduce some terminology that will be useful for analyzing patterns of migration. Two concepts, emigration and immigration, are complementary processes that describe the movements of people over geographic space between two different countries or regions in any part of the world. It is important to remember that people emigrate from a particular country and immigrate to another country. Both emigration and immigration can refer to many different types of migrants. If you read books or visit websites related to migration you will probably find different methods of classifying migrants for economic and political reasons. For the purpose of this module, we will focus our discussion primarily on how these terms relate to labor migrations. It is useful to differentiate migrants on the basis of the (intended) length of their stay, as follows.

A. Long-term Migration

Examples of people in this category include:

- 1) Labor migrants. (These can be either high-skilled or low-skilled workers who seek permanent

- 2) Professional, business or investor migrants. (e.g., Individuals in specific professions, or those who invest or establish businesses in a receiving country)
- 3) Forced migrants. (e.g., Political or religious refugees and asylum seekers)

B. Temporary Migration

Examples of people in this category include:

- 1) Labor migrants (e.g. Seasonal migrants, laborers on temporary working visas, or commuter migrants)
- 2) Professional and business migrants (e.g., Diplomats and other business migrants, religious migrants)
- 3) Student and scholar migrants (e.g., Degree-seeking students, short-term students, and exchange scholars)

Note that this classification scheme can be related either to international or internal flows of migrants. In this module, we focus on two scales. International flow means the movement of migrants from one country to another within a continent or to more distant countries. Internal flows refer to migration between areas or regions inside a single country.

Although refugees and other types of forced migrants have a different legal status compared to "normal" migrants, many of them eventually join the labor markets of the receiving countries. We therefore include them in our discussion of labor migration.

Migration Flows in the Globalized World

One of the important spatial flows shaping the global economy today is the migration of people at local, regional, territorial, and continental scales. Migration today is a strong expression of spatial flows, which gives not only life and energy to the dynamic global economy, but also to changes in demography, societies, and cultures.

The attraction of more economically developed places for migrants has always provided the incentives for some people to move. When people move to new places looking for a job or better economic conditions, they are considered to be labor migrants. Throughout history, labor migration has been an important type of flow, but it has acquired greater importance today because of the new dynamism of the global economy. Countries, transnational corporations, and international organizations have shaped a complex web of attractions that people follow. However, there are also regions and places from which people emigrate through multiple processes. Sometimes people migrate because of a lack of employment opportunities locally, a low quality of life or poor environmental conditions, or if they fear for their own personal security. Social and political convulsions, perhaps with cultural or religious overtones, are other factors that can cause people to move from one place to another place.

A globalizing world brings greater interaction among countries, regions, and institutions. Increasing and intensified labor migration is an important component of the globalization process, as some people migrate from city to city or emigrate from their home country to work in another country. However, labor migration also plants a seed for increasing inequalities between places and countries. The old expression of spatial movement of people has been transformed into new forms of migration flows, which bring opportunities and advantages but also risks and disadvantages

Theories of Migration

When investigating migration flows, researchers have discovered that the predisposition of young people to migrate could be consistently higher than other age groups when the area of origin is rural. This type of migration, from rural settlements to urban locations, is almost always permanent. It is frequently preceded by several rural-to-rural movements as a process of progressive adaptation to more complex social environments. Both stage and stepwise migration characterize the rural flows among several small towns (Muniz, 1981). Flows from urban to rural areas also exist; one example of this kind is known as "back-to-the-land movement" (Jacob, 1996, 1997; Halfacree, 2007), where urbanites decide to leave their congested places to reside in rural areas where they can have better quality of life. Such migration flows are found generally in more developed countries, while rural-to-urban flows are much more typical in less developed countries.

The question of how far migrants can travel has been the focus of the classical migration studies since Ravenstein's Law of Migration, which recognized the relevance of distance as a factor of migration (Ravenstein 1885). One of the basic works on migration and distance investigates population movements from one city to another. George Zipf (1946) tried to explain urban-to-urban migration by the principle of least effort. According to Zipf's theory, the number of migrants from one city to another is a function of the distance separating the cities, since the effort and cost required to cover greater distances would increase with the distance traveled. Traditionally, geographers recognize that the "friction of distance" acts on human movements, meaning that the frequency of these movements decreases with increasing distance. This relationship is known as distance-decay or inverse-distance relationships.

Push and Pull Factors

Analyzing labor migration also requires us to consider factors other than distance. We need to also think about the geographical context of both the places where people leave and the places where people go.

Geographers summarize the motivations for migration by considering how the relationship between two points (origin and destination) are affected by push factors and pull factors. Push factors exist at the point of origin and act to trigger emigration; these include the lack of economic opportunities, religious

or political persecution, hazardous environmental conditions, and so on. Pull factors exist at the destination and include the availability of jobs, religious or political freedom, and the perception of a relatively benign environment. Pushes and pulls are complementary - that is, migration can only occur if the reason to emigrate (the push) is remedied by the corresponding pull at an attainable destination. In the context of labor migration, push factors are often characterized by the lack of job opportunities in sending areas or countries, and pull factors are the economic opportunities presented in receiving areas or countries.

The flow of migrants between two places may not totally develop if intervening obstacles exist between them. The number of migrants is directly proportional to the number of opportunities at a given place and inversely proportional to the number of intervening obstacles. (One may also think of intervening obstacles as intervening opportunities; that is, the presence of other places between an origin and destination point to which one could migrate.) Therefore, the volume of migration from one place to another is associated not only with the distance between places and number of people in the two places, but also with the number of opportunities or obstacles between each place. This is especially true in labor migration.

Figure-1 summarizes Lee's (1966) push-pull theory in graphic form. It shows possible migration between a place of origin and a place of destination, with positive and negative signs signify pull and push factors, respectively. Flows take place between two places, but there are intervening obstacles to these spatial movements. Although these obstacles are represented by "mountain" shapes, keep in mind that the obstacles need not be limited to physical barriers. Restrictive immigration laws, for example, can present a formidable barrier to prospective migrants. Note that both the origin and destination have pushes and pulls, reflecting the reality that any migrant must consider both the positives of staying and the negatives of moving, as well as their converses. The logic of the push-pull theory is that if the plusses (pulls) at the destination outweigh the plusses of staying at the origin, as shown below, then migration is likely to occur.

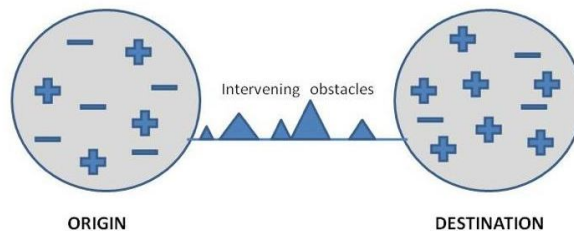


Figure 1. Lee's Push-Pull Theory (Source: Based on Lee, 1966)

Long-Distance Migration

There is also a temporal dimension to a migrant's perception of distance. Today, people tend to travel greater distances than in the past. This change has come about as a result of several factors, such as improved transportation modes and communication systems.

Distance perception by people is one of the issues which have been discussed in several studies (Haggett 1965; Lowrey 1970; Briggs 1973; Lewis 1982). One of the earliest studies on distance perception stated that purely physical distance does not adequately explain interaction intensity between places, and therefore should be replaced by a new concept related to functional distance (Hagerstrand 1957). Distance tolerance is perhaps a more realistic concept than distance perception, because it accounts for not only available infrastructure and conditions to move, but also an individual's interest in moving.

As noted earlier, classic studies on migration stated that most migration occurs over a short distance. The number of migrants arriving in a given location was thought to decrease as the distance required for travel to that location increased. However, most recent studies talk about long-distance movements to global cities and the "friction" of distance has been reduced to a minimum in those cases. Long-distance migration does not diffuse uniformly throughout the whole urban hierarchical system when migration develops globally. There is a stage migration that still goes on in the lower urban hierarchy. Migrants still tend to move from one small city to a larger one, being replaced by other migrants who follow those early migrants. However, there is an increasing number of migrants who move from small cities to large global cities, avoiding a great variety of intermediate urban sites.

Migrant Selectivity

The hypothesis presented by Todaro (1969) and Harris and Todaro (1970) related to rural-to-urban migration is an important model for migration analysis when people move from rural towns to urban sites. They hypothesize that individuals migrate to urban sectors with the objective of obtaining employment in the formal sector and that informal sector employment is a transitional phase during which migrants are looking for a more formal job. Their seminal work based on a model of interregional migration is characterized by a certain degree of selectivity (Harris and Todaro 1970). The Todaro model suggests that younger migrants increase the time period for expected income. Also, migrants with a higher level of education have a higher probability of obtaining formal employment. Married migrants are expected to have lower level of migration rates, because of the higher costs related to relocation of the whole family (Mincer 1978). Migration is essentially selective. Despite some exceptions, for example forced migration or movements to colonization projects, the vast majority of migration contain an element of migrant selectivity (also known as differentiation). In general, selectivity occurs because there are distinct

differences between the interests of the individuals who belong to various social groups. The most commonly examined personal differences are related to age, gender, level of education, socio-professional status, marital status, and housing situation (owner or renter of property). Consequently, such attitudinal differences are manifested in behavioral differences with respect to staying in or leaving the community (White and Woods 1980). Younger people, for example, are more likely to migrate than older persons. Figure 2 illustrates an important aspect of migrant selectivity, known as "chain migration" (Cox 1972). This refers to the subsequent migration of families and relatives, following the initial move by the first migrants from a community. As the graphic illustrates, as family or friends migrate, a network of information flows back to the point of origin, reducing the obstacles to migration for later migrants.

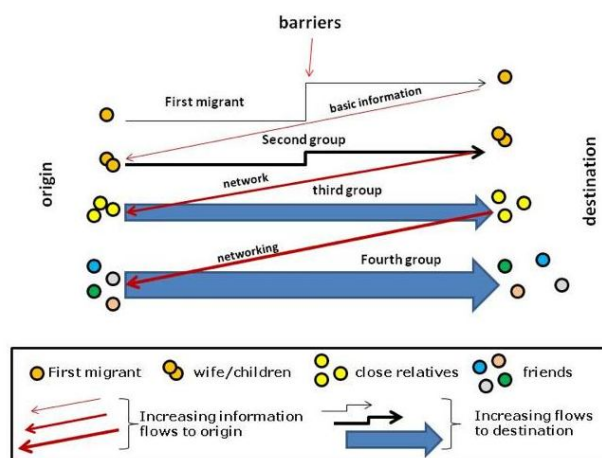


Figure 2. Chain Migration and Network Development

Source: Adapted from Muñiz (2006)

The movement of people is also a result of the degree of connectivity within a given system. Connections and subsequent interactions among centers imply specific complementarities. In other words, migration is more likely between two places that have existing connections between them than between places that are disconnected. Potential migrants are likely to value different attributes of places, to have different information available to them, and therefore to react in different manners. Today, information is widely available and updated through complex networks of professionals and organizations. New worldwide migrants rely on these complex networks, which are dynamic in essence, converting these networks into very sophisticated networking systems. Highly specialized professionals and workers are fed with information and move within these networks to satisfy transnational corporation demands in order to fulfill their activities in different regions of the world.

Critiques and New Directions

The classic theory of push-pull migration has been criticized as being "rationalist" for focusing only on individual choice based on economic rationales (e.g., where the cost of staying at the origin is less than the benefit of migrating). Contemporary scholarship on migration also examines societal opportunity structures and obstacles (a "structuralist" approach), gender differences, and the roles of intermediaries (such as agencies and organizations that help migrants) to the household or family as decision-making units (Brettell and Hollifield 2008). New theories on migration, especially pertaining to space-time relationships, have been developed and/or used by geographers. Of importance to this module is the transnationalism theory developed by anthropologists but used heavily among geographers and other social scientists (Hardwick 2008).

Transnationalism theory posits that contemporary immigrants maintain transnational connections to their countries of origin and beyond. These transnational connections are seen to have multiple dimensions and reflect complex migrant experiences in term of both "from the above" and "from below" perspectives. The former can be seen to apply to the "global trekking" behaviors of transnational corporate executives, and the latter more in terms of transnational activities among regular migrants, which are characterized by cross-border travel, communication, financial, and other linkages as a result of contemporary technological breakthroughs in communication and transportation (Beaverstock 2005; Clark 2005; Kelly and Lusi 2006; Snel *et al.* 2006; Sassen 2007; Yeoh *et al.* 2003). Conceptual analyses and empirical studies on the economic aspects of transnationalism have focused on transnational corporations, globetrotting transnational elites, and global family businesses, as well as cross-border economic activities such as remittances. Contemporary globalization trends further enable such transnational connections, as transnational corporations play increasingly important roles in the world economy and migration flows.

Conclusion

In summary, boundaries between nation-states are undermined as the globalization of labor increasingly connects countries of varying levels of economic development. Migrants also move because they are looking for better educational opportunities for themselves and their offspring. Still others are forced migrants because of political unrest, war, polluted environments, or natural disasters in their places of origin, yet they nevertheless have an impact on the labor market. The geographic patterns formed by these migration flows have changed over time with the advent of new communication technologies and faster transportation systems around the world.

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An Impact Assessment Study of Individual Asset Creation and Income Generation under MGNREGA with Special Reference to Tiruchirappalli District - Pilot Study

G. John¹ and Georgia L. Thinakaran²

¹Associate Professor, Department of Commerce, St. Joseph's College, Tiruchirappalli

²Assistant Professor, Department of Commerce, St. Joseph's College, Tiruchirappalli

Over view of the act

According to the Eleventh Five Year Plan (2007-12), the number of Indians living on less than \$1 a day, called Below Poverty Line (BPL), was 300 million which decreased from 36 per cent (1993-94) to 28 percent (2004-05) and the rural working class dependent on agriculture was unemployed for nearly three months per year. In order to overcome this problem in addition to with the remaining problems like illiteracy, hungry people, mal-nourished children, anemic pregnant women, farmer suicides, starvation deaths, migration resulting from inadequate employment, poverty, and the failure of subsistence production during droughts, the Government of India (GOI) enacted the National Rural Employment Guarantee Act (NREGA) in 2005. It is the biggest poverty alleviation programme in the world which was started with an initial outlay of Rs. 11,300 crore in year 2006-07. This Act is now called as Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA)

History of MNREGA

The following table clearly explains the chronological order of the Act.

Table 1

Year	Implementation
August 2005	NREGA legalized
Feb 2, 2006	Came into force in 200 districts, first introduced in Anantapur district in the state of Andhra Pradesh
Apr 2007	130 more districts included
Apr 2008	Universalization of the scheme
Oct 2008	Wage transaction through banks/post offices
Oct 2009	Name changed to MGNREGA
16 Feb 2009	MoU with the postal dept.

NREGA has come after almost 56 years of experience of other rural employment programmes, which include both Centrally Sponsored Schemes

and those launched by State Govt. These comprise the National Rural Employment Programme (NREP) 1980-89; Rural Landless Employment Guarantee Programme (RLEGP) 1983-89; Jawahar RojgarYojana (JRY) 1989-1990; Employment Assurance Scheme (EAS)1993-99; Jawahar Gram Samridhi Yojana (JGSY) 1999-2002; Sampoorna Grameen RojgarYojana (SGRY) from 2001; National Food For Work Programme (NFFWP) from 2004 were national rural employment schemes. Among these, the SGRY and NFFWP have been merged with NREGA in 2005.

Goals of MGNREGA

The major goal of this scheme is to protect the rural poor from vulnerabilities by providing them demand based employment. It prevents risk associated with agricultural investment and forced migration of rural poor. It brings prosperity in rural economy via increased consumption demand. Apart from this it also concentrates on the following:

- Enhancement of livelihood security in rural areas by guaranteeing 100 days of wage employment in a financial year to every registered household
- Creating productive assets
- Protect the environment
- Reducing migration
- Special attention to social equality
- Empowering rural women and the poor through the provision of a right-based law
- Providing social safety to the vulnerable groups with help of employment, when other alternative are inadequate.

Objectives of the study

The main objectives of the present study are:

1. To assess the efficacy of household assets creation and investment under MGNREGA in strengthening sustainable livelihood.
2. To assess the impact of MGNREGA on income generation those reflect/replicate on household expenditure pattern and savings.
3. To assess the bottleneck issues, and recommendations given by the stakeholders (end) to improve the operational aspects of MGNREGA.

Review of Related literature

The study “MNREGA Opportunities and Challenges” conducted by CSE (2008) New Delhi found that MNREGA intervention has not been able to generate the kind of employment demand as expected. Irrational wage calculation formula has made productive assets creation less lucrative to local communities. The MNREGA transformed a labour surplus economy to a labour using economy.

Centre for Food and Agribusiness Management (2009) pointed out the perception of respondents by mean score on indicators and reveals that the highest impact of NREGS has been on the prevailing wage rate in the Gramapanchayat. The mean score on other indicators such as reduction of incidence of poverty in the village, checking distress migration from village, Development and strengthening of rural infrastructure, overall development of village and sociopolitical mobilization among deprived sections of society i.e. SC/ ST/ OBC shows that the overall impact of NREGS on development of GP has not been very impressive.

Reetika Khara (2010) states that in the present system, where payments are made on the basis of measurements rather than attendance alone, the junior engineer (J.E.) exercises a lot of power. Attendance has to be reconciled with measurement before payments are processed. Though the law requires it, in many States Muster Rolls are not maintained at the worksite.

The article by Hiral Dave (2010) reveals large scale duplication of job cards in Kotda village of Kutiyana block of Porbandar district of Gujarat. The number of job cards issued, there is at least three times of the total number of voters.

This study by Harisha *et al.* (2011) has evaluated the impact of MGNREGA on income generation and labour supply in agriculture in one of the districts in central dry zone of Karnataka. Results have shown that the number of days worked in a year with the implementation of MGNREGA programme has significantly increased to 201 days, reflecting 16 per cent increase. Regression analysis has revealed that gender, education and family size of the workers are the significant factors influencing the worker's employment under the Program. The increase in income is to the tune of 9.04 per cent due to additional employment generated from MNERGA.

A study done by Ahuja *et al.* (2011) in Haryana reveals that the farmers owning large size of landholdings and more number of livestock are not much interested in participating in MGNREGA works as they are busy in their own activities. The farmers who have small land and livestock resources are more inclined to work in MGNREGA and their participation is also more. Thus, MGNREGA is providing livelihood security to the resource-poor rural people.

A study by International Labour Organization (2012) in Bihar highlights that though the Act stipulates certain worksite facilities, none of the worksites visited had basic provisions like space for taking rest, or a first aid kit available. In a few of the worksites even drinking water was not stored and readily available. People were found to be working in harsh conditions, continuously and in ergonomically non-acceptable positions. One of the workers at a worksite, when quizzed on safety issue said, it's all unskilled work Sir and NREGA is for poor people

K.Singaravelu was of the opinion that highest priority is given to the water conservation work which accounts for 52% of the total works executed under

NREGS. During the financial year 2011-2012 the total employment provided to the households were 3.32 crore and total person days were 96.23 crore.

Statement of the Problem

From the past reviews the researcher found that most of the studies were on performance analysis, community asset creation and women empowerment under this scheme. Very few people have concentrated on social audit and political aspects of NREGS. No researcher gave importance to individual asset creation and their income - expenditure pattern. This induces the researcher to concentrate on the current research problem. The study mainly focuses on the answer to the following question:

1. Whether the scheme improves the expenditure pattern of the respondents?
2. Whether the scheme uplifts the beneficiaries' life through investment?

Research Methodology

Research design

With the help of this research, the researcher wants to explore the facts and figures related to respondent's income - expenditure pattern and asset created by them. Therefore this research is exploratory in nature.

Universe of Study

The study was carried out in state of Tamilnadu. However, the study area was confined to Pullambadi Block in Tiruchirappalli district. Using purposive sampling method the study area was selected. The Pullambadi Block consists of 33 Panchayat which includes 21770 registered households that contains 34742 registered jobholders.

The below tables gives the full information related to the study area from the government record.

Table 2: Information related to Job cards and number of workers

(Figures in parenthesis workers in numbers)

Total No. of GPs	33
Total No. of Job Cards	21770
Total No. of Workers	34742
i) SC worker % as of total Workers	21.05 (7318)
ii) ST worker % as of total Workers	0.03 (11)
iii) Non SC&ST worker % as of total Workers	78.9 (27413)
iv) Men worker % as of total Workers	37.4 (12989)
v) Women worker % as of total Workers	62.6 (21753)

Table 3: depict the working progress of the study area in the last four FY

Progress	FY 2015-2016	FY 2014-2015	FY 2013-2014	FY 2012-2013
Total Households Worked	16,982	17,169	17,032	18,029
Total Individuals Worked	20,789	21,540	22,028	27,429
% of Men Worked	19.79	21.5	23.6	34.13
% of Women Worked	80.21	78.5	76.4	65.87
% of SC Worked	20.55	20.95	21.6	22.36
% of ST Worked	0.02	0.01	0.01	0
% of Disabled Persons Worked	0.74	0.76	0.84	0.78

Table 4: Wage disbursements in the study area in the last four FY

Progress	FY 2015-2016	FY 2014-2015	FY 2013-2014	FY 2012-2013
Average Wage rate per day per person (Rs.)	119.17	116.7	98.21	102.09
Average Cost Per Day Per Person (in Rs.)	143.83	137.19	103	1
Wages (Rs. in Lakhs)	1,232.76	1,028.86	1,114.01	1,239.3
Material and skilled Wages (Rs. in Lakhs)	231.46	162.75	20.12	15.63
Total Adm Expenditure (Rs. in Lakhs.)	4.26	44.55	36.5	22.29
Total Exp (Rs. in Lakhs.)	1,468.48	1,236.17	1,170.63	1,277.22

Source for Tables 2-4: www.nrega.com Designed & Developed by NIC-DRD Informatics centre, krishi Bhawan, New Delhi

Table 5: Data related to the current year work progress

Particulars	Values in Numbers
Total households demanded & allotted work	17,227
Total persons demanded work	22,021
Total persons allotted work	22,019
Total persons worked	21,540
Total households reached 100 day limit	1,065
Total bank accounts	26,967

Source: Panchayat record maintained by Pullambadi union office.

Sampling Procedure

For the selection of beneficiary respondents two stages were followed. In the first stage purposive sampling method was adopted for the selection of the study area. In the second stage, for selecting the sample respondents, random sampling method was adopted.

Sample Size

Even though the population varies from each and every Panchayat the researcher selected two samples from each Panchayat uniformly totally 66 jobholders.

Data Collection

Data was collected both from primary and secondary sources. Primary data was collected from all the end stakeholders of MGNREGA. Well structured Questionnaire was used for collecting data from the beneficiaries. Informal interviews also taken from selected households. In addition with this, a casual walk into the MGNREGA worksites were conducted in order to understand the factual position of the scheme at their footsteps. The secondary data was collected from official records, policy documents, published reports of similar projects, journals and Ph.D. thesis, journals and online sources.

Tools for data analysis

Both qualitative and quantitative data was analyzed in the light of framed objectives. Quantitative data was tabulated and statistically analyzed. Qualitative data was interpreted based on the information collected from the field. The researcher adopted the chi-square test of goodness-of-fit to test the hypotheses formulated.

Findings from the data Analysis

Related to investment:

Table 6: Whether they invest any amount on financial and non -financial assets with the help of MGNREGA's income.

Options	No of Respondents		Percentage of Respondents	
	Male	Female	Male	Female
Yes	16	22	24	33
No	17	11	26	17
Total	33	33	100	

Source: primary data

The above table clearly states that only 57 percent of the respondents invested in financial and non -financial assets with the help of MGNREGA's income. Among the financial asset shares, treasury bills and Kishan Vikaspathra were

totally neglected by the respondents. Under the financial asset, Selvamagal Thittam was given highest priority by the respondents when compared with other options.

Table 7: preferences given by the respondents related to Investment options

Investment	No of Respondents	
	Male	Female
Financial asset		
a. Shares	0	0
b. Gold bonds	2	4
c. Treasury bills	0	0
d.Kishan vikaspathra	0	0
e.Selvamagal pathra	2	5
Non-financial assets - A. Farm assets		
a. Poultry	2	7
b. Calf	0	0
c. Buffalo	0	0
d.Cow	2	0
e. Sheep	0	4
f. Goat	1	0
g. Tiller	1	0
h.Tractor	0	0
i.Weeding machine	2	0
Non-financial assets - B. Non-farm assets		
a. Investment in housing land	0	1
b. Investment in house leasing	0	0
c. Investment in business	3	1
d. Investment in cultivated land	1	0
Total	16	22

Source: primary data

Among non-financial assets, 19 respondents have invested in various farm assets like poultry, cow, sheep, goat, tiller and weeding machine. They felt that the earnings from MGNREGA are not enough to invest in remaining options of farm assets. Only six respondents have invested in nonfarm assets of non-financial assets like investment in housing land, house leasing, business and cultivated land.

Table 8: Forms of savings

Options	No: of respondents	Percentage of respondents
Post office	5	7.50
Bank	18	27.27
Chit	9	13.61
Purchasing ornaments	11	16.67
Insurance policies	15	22.72
Lending money to others for interest	8	12.12
Total	66	100.00

Source: Primary data

It has been noted that as high as 27.27 percent of the respondents make their savings in banks. The reason for high percentage is wages are paid through banks while very least percent of 7.5 saved in post office, 13.61 percent deal in Chit. From the table it is clear that the rural people are very cautious in insurance, the preference given by them is 22.72 percentages. 12.12 percentages of the respondents are engaged in money lending business like a black money lenders.

Table 9: Whether able to purchase household durable assets

Options	No: of respondents	Percentage of respondents
Able to purchase	5	7.5
Not able to purchase	61	92.5
Total	66	100.0

Source: Primary data

Ninety three percentage of respondents opined that the income from MGNREGA has not helped them in any way to purchase any household durable assets. Only 7.5 percentage of the respondents agreed that they have purchased some durables with help of earning from this scheme. Some of the respondents told that the durables were purchased with their main income only and this earning helped them as an additional source. Thus, MGNREGS income has nil or negligible impact on Purchasing of durable assets.

The Table-10 clearly shows that MGNREGA income has given the freedom to spend or meet on day to day requirements. The indicators are ranked by SA - Strongly Agree; A - Agree; ND - Neither agree nor disagree; D - Disagree; SD - Strongly Disagree; NA- Not answered. Nearly 55 of the respondents agreed that this scheme has helped them to only to fulfill their biological need and recreation. The next rank has given by them related to purchase of Alcohol, tobacco and Betel nut which indicates that the village people are very addict to

these habits. The respondents totally denied that the income from this source does not help them to renovate the house and meeting agriculture expenses. All the whole respondents said that the income from this source did not help them fully to meet their expenses.

Table 10: Spending patter on day to day requirements

Kind of expenditure	SA	A	ND	D	SD	NA	Total
Food and consumption items	45	10	10	1	-	-	66
Clothing	20	12	2	24	8	-	66
Electricity bill	12	25	8	2	19	-	66
Alcohol & tobacco & Betel nut	48	12	-	-	-	6	66
Phone bill	6	10	05	15	-	30	66
Cooking fuel	6	7	4	24	25		66
Recreation	45	10	5	6	-	-	66
Transport	12	10	4	18	22	-	66
Social/religious function /festival	15	24	2	6	19	-	66
Agriculture related expenses	0	0	1	18	32	15	66
Renovation of the house	0	2	1	18	45	-	66
Expenses for livestock	11	4	4	12	30	5	66

Source: Primary data

Hypothesis Testing

H₀: There is no significant relationship between gender and selection of investment options.i.e gender and investment options are independent

Table 11

Options	Male	Female
Financial asset	4	9
Non-financial assets	12	13
Total	16	22

Source: Field Survey

Table 12: Computation of observed and expected frequencies for investment options

O _i	E _i	(O _i - E _i) ²	(O _i - E _i) ² / E _i
4	5.47	2.1609	0.395
12	10.52	2.1609	0.208
9	7.52	2.1609	0.286
13	14.47	2.1609	0.149
Total			1.035

Notes:

- i) The observed frequencies (O_i) are from the responses of the respondents regarding criteria of investment options.
- ii) While the expected frequencies (E_i) are obtained using the formula below:

$$E_i = \frac{\text{Row total for the row of that cell} \times \text{Column total for the column of that cell}}{\text{Grand Total}}$$

Chi-square depends on:

- i) Degree of freedom (d.f) = (R-1) (C-1)
where, R= 2: C=2. Therefore, d.f= (2-1) (2-1) = 1 x 1 = 1
- ii) At 5% level of significance: $\alpha = 0.05$ (a one tail-test) Thus, = 3.84

The value of the chi-square above is obtained from the chi-square distribution table using 5% level of significance and 1 degree of freedom.

Interpretation

The null hypothesis (H_0) is accepted, since chi-square calculated value (1.035) is less than chi-square tabulated value (3.84) at 5% level of significance. Therefore, it could be concluded that gender and investment options are independent.

Conclusion

From the above analysis it is concluded that the performance of MGNREGA in Pullambadi is not at all satisfactory. The scheme could not ensure the 100 days job guarantee to the majority of the job card holders. Only 1065 households reached 100 day limit. It is too bad for success of the program. It is observed that the scheme does not provide any avenue/platform for investment or savings. Their standard of living has not improved due to MGNREGA. Therefore the overall impact is very low. Certain initiatives and changes should be taken to remove these barriers. Even though the scheme promised 100 days of employment to rural people the scheme does not receive 100 marks from the beneficiaries. Therefore the government has to revamp the scheme and their operations.

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**A Critical Study of the Theme Contemporary Fascination
with Rural Life and the Temporariness of Human Lives in
Margaret Atwood's Poem This is a Photograph of Me**

J. Guhan

M.Phil. English, St. Joseph's College (Autonomous), Tiruchirappalli

Who took this photograph?

Margaret Atwood explains an old photograph. this photograph is an old and blurred one; her position in the photograph is small and not even in the center of the photograph. She drowned into the water. This photograph was taken on the day after she drowned. if the poet is dead then who took this photograph? why this photograph should be taken?, why the photographer could not notice the presence of the poet? This research paper tries to find answers to these questions.

Nature and human beings

This poem *This of me is a photograph of me* opens with the line "It was taken some time ago."... this line explains the status of the photograph. She admits that this photo was taken some time ago. So it is an old one."... blurred lines and grey flecks" this is the evidence that this photograph is not a clear one. Photograph is a symbol of identity; it is a record of the past experience. The poet compares the old photo with the mother earth. Mother earth is a classic one. It is always fresh because of the nature. It is polluted and contaminated now. Nature is more powerful and always eternal. Whatever technologies human beings have that cannot be equal to the power of nature.

The second stanza the line starts with "... then, as you scan..." probably ordinary look cannot observe the presence of the poet in the photograph. When the viewer looks deeply into the photo then only she is visible. The poet uses the word scan. When someone scans the photo she could be identified. The line continues "... you see in the left-hand corner..." this sounds like marginalize a particular being. Because the poet explains all the naturalistic elements in the major part of the photograph, but she explains her presence is like a small creature neglected in the photo. Her small presence is compared with the human beings. Even the poet says "...that is like a branch: part of a tree..." again she compares her presence with a branch. The poet insists that human creature is also a part of nature. They are not powerful as nature.

Temporariness of human life

When human beings are compared with nature, nature is like a gigantic tree, human beings are a small branch of it. The poet uses two trees name. They are Balsam and Spruce. Balsam tree is a base for certain fragments and medical preparations. It has pink and purple flowers. They are cultivated for making

fragrance and medical products. Human beings are compared with branches of Balsam trees, which mean they are so helpful to others. Then she explains the objects in the photograph. There is a small frame house. Frame house is a symbol of temporariness of human creation. All the creation of human beings will expire. But nature is eternal like the hills in the photograph. Nature is an everlasting power and never ending force. The very next line she says, "... In the background there is a lake, and beyond that, some low hills." In Canada, there are 561 lakes approximately. She talks about the lakes and the hills of Canada which are seen in the photograph. So the reader could understand the environment of Canada. Then she explains the time when the photograph was taken. It was taken the day after the poet drowned. As it is said, photographs are the evidence of our past. This photograph was taken on the day after the poet drowned into the water which means nobody cared the life of the poet in or nobody watched it. She drowned. The poet's actual message is, we human beings are drowned into the modern world, and modern people think that they are so mighty. That is not real, Atwood says, "I am in the lake, in the center of the picture, just under the surface." "I" refers to the entire human beings; "lake" refers to the nature. So human beings are the center of our nature. According to the Holy Bible, the chapter Genesis says, "...so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals, and over all the creatures that move along the ground." Atwood's reminds this statement from her line "I am in the lake, in the center of the picture," So human beings are the central beings of the world, "just under the surface" means just under the care of the nature.

The next stanza explains the uncertainty of human life. Atwood says it is a difficult process to explain the importance of the existence of human beings; she uses the words "how large or small I am". Human can destroy the nature and also repair the nature. Finally she says when the viewers look long enough; they will be able to see her in the picture. So the point is, nature is a prominent force, it is a stable and constant power. Human beings are just like tourists, their participation is very small, and not at all a constant one. Human technologies are nothing in front of the nature, they just come and go but nature is here forever and ever. The poem *This is a photograph of me* is explaining the fickle existence of human life, just small and temporary. Nature is always a life giver; its power is unfathomic.

Conclusion

finally the answer for these questions are, Margaret Atwood itself has taken the photograph, everyday she is admired by the beauty of Canada, she is admired by the power nature. When she drowns into the beauty of Canada she has taken this photograph. The line "The photograph was taken the day after I drowned..." explains the reason for that. In order to define the beauty and the power of nature Atwood has taken this snap. she wants to give this message to

the world that is her primary aim. When she lost herself into the beauty of the nature, she could not realize her presence. This is the beauty of this poem.

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Anti-American Glimpses in Atwood's Dystopian Novel The Handmaid's Tale

Kochurani T Jose

M.Phil. English, St. Joseph's College (Autonomous), Tiruchirappalli

Introduction

Disliking, judging, teasing and even hating America form a central part of the Canadian identity. Many Canadians believe that America, Americans and American things are generally bad so need to be opposed. Canadian politics often present America as a nation that is basically ruined beyond repair, and thus a country that Canada should be very careful to avoid copying. Canadian politicians usually describe ideas they don't like as being "American-style." A good way to become a best-selling author in Canada is to write a book that centres on some theme of Canadian weakness in the face of U.S. aggression. A running trope in Canadian pop culture is to present a Canadian character as witty, worldly, sophisticated and modern and the American as dumb, boorish and sheltered. The root cause of the anti-Americanism in Canada is a complicated topic which many Canadians have written about at length. Generally, the most commonly held belief is that by vilifying America, Canadians are able to create a collective identity for themselves. Some interpret Canada's history as being one long struggle against "U.S. domination" and view United States as the single greatest threat to Canadian sovereignty, and a country that is always on the brink of conquering Canada militarily, culturally, politically and economically. Canadian history books usually make much of episodes and instances where Americans were seen to be plotting the "annexation of Canada". Another reason is immigration. Many immigrants settle in Canada just because they don't want to immigrate to the United States due to some base dislike of American culture, politics or society. It should also be noted, however, that during the Vietnam War (1964-1973) and to a lesser extent during the second Bush presidency (2001-2009), a large number of Americans immigrated to Canada because they themselves disliked some element of their home country. Environmental Pollution is also an important reason. Canada's most important legacy is its wide range of uncultivated natural environment. According to Hammill, the term 'wilderness' - "although primarily associated with forested areas of eastern and western Canada, it can also take on the broader sense of 'the wild', or uncultivated land, and refer to frozen Arctic landscapes or even to the prairies of central Canada (64)." A number of environmental issues this land now faces to some extent fall on the shoulders of their neighbours that is United States. 50-75% of the pollution in southern Canada comes from the United States. The Great Lakes are shared between the United States and Canada, it is important for the two countries to work together to keep the lakes clean. During the Cold War, the United States often tested

cruise missiles in the Canadian prairies. Adverse effects of maternal and foetal exposure to the effluent and emissions of the nearby chemical plants cause abnormal birth rates. Canada cannot solve these problems alone.

Anti-Americanism in the Handmaid's Tale

Though many writers are influenced by this anti-Americanism, among them the name of Margaret Atwood is eminent. Neeru and Anshul observe, "The Americanization of Canada as a result of its colonial outlook has been great concern to nationalist like Atwood for whom imperialism in any form is offensive" (155). According to them because of its great democratic ideals and rigid social machinery she considers America as a tragic country. As a prolific, controversial and innovative writer and critic, she has emerged as one of the most distinguished contemporary figures in Canadian literature. She won the Booker Prize for *The Blind Assassin* in 2000, and become an international literary celebrity who had collected numerous honorary degrees and awards. Her works had been translated into more than thirty languages and her writings are part of academic syllabus in many schools and universities now. Howells describes Atwood's voice as remarkably distinctive-witty, self-ironic, politically and morally engaged from the beginning. Her major thematic preoccupations include questions of Canadian identity and Canada's international relations especially with US and Europe, human rights issues, environmental concerns etc. Some of her novels like the Caribbean novel *Bodily Harm* (1981) and *The Handmaid's Tale* (1985) were set in United States. According to Sinha: Atwood's fiction is one of the most deep rooted critiques of the Canadian society in relation to the values represented by the Canadian dream. As the Canadians pride themselves in their superiority in human values and adherence to old world civilization values, had refused to go with US at the time of American war of Independence and had escaped the efforts of second sin, of materialism and cutthroat rivalry which characterised the American dream. Margaret Atwood's concern was to free the Canadian psyche from English and American imperialism and to liberate women from their perception of themselves as victims of masculine privilege. (88-89)

Atwood wrote *The Handmaid's Tale* in West Berlin and Alabama in the mid-1980s, and published in 1986. It is a near -future anti-utopian or "dystopian" fiction with undercurrents of horror which won both the Arthur C Clarke Award for science fiction and the Governor General's Award. She wrote it shortly after the elections of Ronald Reagan in the United States and Margaret Thatcher in Great Britain, during a period of conservative revival in the West partly fuelled by a strong, well-organized movement of religious conservatives who criticized feministic "sexual revolution" of the 1960s and 1970s. In the novel's nightmare world of Gilead, a group of conservative religious extremists has taken power and turned the sexual revolution on its head. The story takes place in a city in what used to be in the United States, now called the Republic of Gilead, a totalitarian and theocratic state that has replaced the United States of America

that chiefly concentrates on human reproduction. Offred is a Handmaid in the Republic. Because of dangerously low reproduction rates, Handmaids are assigned to bear children for elite couples that have trouble conceiving. Offred serves the Commander and his wife, Serena Joy, an advocate for “traditional values.” Offred is not the narrator’s real name. Handmaid names consist of the word “of” followed by the name of the Handmaid’s Commander. Every month, she must have impersonal, wordless sex with the Commander while Serena sits behind her, holding her hands (“ceremony”). Offred’s freedom, like the freedom of all women, is completely restricted. She can leave the house only on shopping trips, the door to her room cannot be completely shut, and the Eyes, Gilead’s secret police force, watch her every public move.

In the old world, before Gilead, Offred had her mother husband Luke, a child and best friend, Moira. The architects of Gilead began their rise to power in an age when pollution and chemical spills led to declining fertility rates. Using the military, they assassinated the president and members of Congress and launched a coup, claiming that they were taking power temporarily. They cracked down women’s rights, forbidding them from holding property, jobs, reading or writing. Offred and Luke took their daughter and attempted to flee across the border into Canada, but they were caught and separated from one another, and Offred has seen neither of them since. After her capture, she was sent to the Red Centre where women indoctrinated into Gilead’s ideology in preparation for becoming Handmaids. Once assigned to the Commander’s house, Offred’s life settles into a restrictive routine. She takes shopping trips with Ofglen, another Handmaid, whom she recognised as a member of “Mayday,” -an underground organization dedicated to overthrowing Gilead- and they visit the Wall outside what used to be Harvard University, where the bodies of rebels hang. She must visit the doctor frequently to be checked for disease and other complications, and she must endure the “Ceremony”. After a Ceremony, the Commander asked Offred to come see him in his study the following night. She begins visiting him regularly. They play forbidden Scrabble and he lets her to look at old magazines.

On seeing Offred not becoming pregnant, Serena suggests that Offred have sex with Nick secretly and pass the child off as the Commander’s. The same night that Offred is to sleep with Nick, the Commander secretly takes her out to a prostitutes’ club called Jezebel’s. Offred sees Moira there and learns that most political prisoners including her mother and dangerous people are sent to ‘Colonies’. Soon after Offred returns from Jezebel’s, late at night, Serena arrives and sends her to Nick’s room. Soon they begin to sleep together frequently, without anyone’s knowledge. Shortly thereafter, Offred goes out shopping, and a new Ofglen meets her. This new woman is not part of Mayday, and she tells Offred that the old Ofglen hanged herself. Serena has found out about Offred’s trip to Jezebel’s, and threatens her of punishment. While she waits for the verdict Nick comes to save her, with two people and sends her

with them, over the Commander's futile objections. Offred's voice survives as secretly recorded on cassette tapes, to be heard 200 years later up in Denay, Nunavut in Arctic Canada when Gilead has fallen which makes her the most important historian of the Republic. The novel closes with an epilogue from 2195, after Gilead has fallen, written in the form of a lecture given by Professor Pieixoto. He explains the formation and customs of Gilead in objective, analytical language. He discusses the significance of Offred's story, which has turned up on cassette tapes in Bangor, Maine. He suggests that Nick arranged Offred's escape but that her fate after that is unknown. She could have escaped to Canada or England, or she could have been recaptured.

Atwood's fable could be seen as one of her survival manuals, or even as an exploration of Canadian-American relations. In Canada ditch the monarchy and become a republic considered as ushering in "American-style" government. It is what directly seen in the novel. In this way the novelist is really attacking the 'Americanism' and gives a warning to her own country not to follow it. Gilead is a society founded on a "return to traditional values", gender roles and on the subjugation of women by men. In *Margaret Atwood: A Jewel in Canadian Writing* Neeru and Anshul discusses how she represents Gilead (the US) as a repressive regime and the mistreated Handmaid as Canada. "*The Handmaid's Tale* also incorporates Margaret Atwood's nationalist concerns with regard to Canada's female posture vis-a-vis America's male" (154-55).

In the novel US in its expected future form describe as a hell where as Canada is the land of salvation to where the poor refugees try to escape from the torturing Republic. Gilead (Hebrew *gil'ad*) mean *hill of testimony*. There also exists another meaning *rocky region* which is more suitable to the lifeless, desert like monotonous life and city of Republic of Gilead. In Bible, Gilead was an area east of the Jordan River, well known for its spices and ointments. In that way, here true Gilead is Canada which heals the victims of Republic to survive with the hope that they can reach that Promised Land. The Gilead in the novel suits another city refers in Hosea 6:8, a "land" or "mountain," "a city of those who work iniquity; it is stained with blood." As Nischik observes in *Margaret Atwood: Works and Impact* this reflects her status of being "in the vanguard of Canadian anti-Americanism of the 1960s and 1970s" (6).

In Chapter 2, Offred describes her room as "a return to traditional values." The religious right in America uses the phrase "traditional values," so Atwood seems to link the values of this dystopian society to the values of the Protestant Christian religious right in America. The centre of Gilead's power, where Offred lives, is never explicitly identified. But when Offred and Ofglen go to town to shop, geographical clues and street names suggest that they live in what was once Cambridge, Massachusetts, and that their walk takes them near what used to be the campus of Harvard University. The choice of Cambridge for the setting of *The Handmaid's Tale* is significant, since Cambridge, its neighbouring city of Boston, and Massachusetts as a whole was centers for

America's first religious and intolerant Puritan society of the seventeenth century. The Puritans were a persecuted minority in England, but when they fled to New England, they casted themselves as the repressors rather than the repressed. They established an intolerant religious society in some ways similar to Gilead. Atwood locates her fictional intolerant society in a place founded by intolerant people. She reminds us of this history with the ancient Puritan church that Offred and Ofglen visit early in the novel, that Gilead has turned into a museum. By turning the old church into a museum, and leaving untouched portraits of Puritan forebears, the founders of Gilead suggest their admiration for the old Puritan society. Also that the desire for control over sexuality is not unique to the religious totalitarians of Gilead; it also existed in the feminist anti-pornography crusades that advance the fall of the United States. The choice of Cambridge as a setting symbolizes the direct link between the Puritans and their spiritual heirs in Gilead. Both groups dealt harshly with religious, sexual, or political deviation.

Gilead has transformed Harvard's buildings into a detention center run by the Eyes, Gilead's secret police. Bodies of executed dissidents hang from the Wall that runs around the college, and Salvaging (mass executions) take place in Harvard Yard, on the steps of the library. Harvard becomes a symbol of the inverted world that Gilead has created. A place that was founded to pursue knowledge and truth becomes a seat of oppression, torture, and the denial of every principle for which a university is supposed to stand.

A palimpsest is a document on which old writing has been scratched out, often leaving traces, and new writing put in its place; it can also be a document consisting of many layers of writing simply piled one on top of another. Offred describes the Red Center- the gymnasium -as a palimpsest, but the word actually symbolizes all of Gilead. The old world has been erased and replaced, but only partially, by a new order. Remnants of the pre-Gilead days continue to infuse the new world. The first scene of novel begins in the gymnasium. Although at this point we do not know what the gymnasium signifies, the women in the gymnasium live under the constant surveillance of the Angels and the Aunts, and they cannot interact with one another. They seem to inhabit a kind of prison. Offred compares the gym to a palimpsest. In the gym palimpsest, Offred sees multiple layers of history. Lkening the gym to a palimpsest suggests that the society Offred now inhabits has been superimposed on a previous society, and traces of the old linger beneath the new.

In *Survival* and *Surfacing* Atwood 'urges' her fellow Canadians to rehabilitate themselves in a post colonial context, resisting both their European 'mother countries' and the US by taking control of their own mother country. Atwood's *The Handmaid's Tale* also paints a picture of a world undone by pollution and infertility, reflecting 1980s fears about declining birth rates, the dangers of nuclear power, and environmental degradation. In Batra's words, "Atwood speaks against exploitation and destruction of the forests, urging the need to pay

attention to ecological principles in a way that the highly developed American technological was not doing, in order to preserve the environment for future generations; that same anxiety is expressed with increasing urgency in *The Handmaid's Tale*" (139). Sinha observes, "The novel is an attempt to imagine what kind of values might evolve if environmental pollution, rendered most of the human race sterile" (93). The heroine, Offred, is valued only for her ovaries, because she is one of the few women whose reproductive systems have survived the chemical pollution and radiation from power plants. If one handmaid fails to conceive she will be declared unwoman. Her fate is to be banished to the colonies, which symbolizes exploitation, isolation and alienation where women clean up radioactive wastes as slave laborers. These radioactive substances are results of nuclear weapons used in wars. Here also the novelist pricks the consciousness of the present nuclear power house that is the United States.

Conclusion

Some of the novel's concerns seem dated today, and its implicit condemnation of the political goals of America's religious conservatives has been criticized as unfair and overly paranoid. But it is an attempt to bring out some bitter truths having the taste of anti-Americanism depicting a nightmarish future of America as she herself says in *Bodily Harm*: "What art does, it takes what society deals out and makes it visible, right? So you can see it" (208). *The Handmaid's Tale*'s exploration of the controversial politics of reproduction and anti-Americanism seems likely to guarantee Atwood's novel a readership well into the twenty-first century.

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Elements of Black Humour in Ken Kesey's *One Flew Over The Cuckoo's Nest*

P. Nalini

M.Phil. English, St. Joseph's College (Autonomous), Tiruchirappalli

Ken Elton Kesey (1935-2001) is a famous American writer, novelist, and journalist. He is deemed as one of the remarkable writers of America, whose writings catch the sight of many critics in the United States. In the 1960s, Kesey became a counterculture hero and a guru of psychedelic drugs with Timothy Leary. Kesey has been called the Pied Piper, who changed the beat generation into the hippie movement. He also worked as an attender in a hospital's psychiatric ward. These experiences served as the basis for his 1963 novel *One Flew Over the Cuckoo's Nest*, which examined the abuses of the system against the individual. He wrote *One Flew Over the Cuckoo's Nest* is credited with helping to usher in the era of psychedelic drugs in the 1960s.

In this novel, Ken Kesey shows readers a post-war American society in point of his own view by using the imaginary mental hospital ward as the stage. He is a productive writer; among his work *One Flew Over the Cuckoo's Nest* is the biggest success which won him great fame and fortune as well as various criticism.

He is also considered to be a postmodern writer since most of his works consisted of the postmodern elements. The postmodernist dynamic tension is represented by visible symbolism presented throughout his works. The important aspects of Postmodernism literary works reflect Parody, Black humor, Pastiche, Irony, Intertextuality etc., This research paper focuses on Black humour, one of the elements of Postmodernism.

Black humor defines, "in literature, drama and film grotesque or morbid humor use to epress the absurdity, insensitivity, paradox, cruelty of the modern world". Black humor further explains inhumane, insanitary, insignificance, hopelessness and irrationality.

The contents of the novel are series of absurd incidents that happened in the hospital ward. Ken Kesey applies the writing technique of black humor to satirize the absurdity of the society. In Black humor, topics and events that are unusually humors or satirical manner while retaining their seriousness; the intent of black comedy, therefore, is often for the audience to experience both laughter and discomfort, sometimes simultaneously. It uses devices often associated with tragedy and is sometimes equated with tragic farce. For example, Stanley Kubrick's film *Dr. Strangelove or How I learned to stop worrying and love the Bomb* (1963) is a terrifying comic treatment of the circumstances surrounding the dropping of an atom bomb, while Jules Feiffer's

comedy *Little murders* (1965) is a delineation of the horrors of modern urban life, focusing particularly on random assassinations. The novels of such writers as Kurt Vonnegut, Ken Kesey, Thomas Pynchon, John Barth, Joseph Heller, and Phillip Roth contain elements of black humor. To justify the elements of Black humor, *One Flew over the Cuckoo's Nest* has been taken. Major elements like inhumane, insanitary, absurdity are deciphered on the character of Ken Kesey's novel.

In this novel, black humor is present in a very powerful form. Normally, insane people don't have the capacity to laugh or find the humor in something as we "normal" people do. They live tragic existences, wandering day by day in the bland, depressing world of an asylum. They have forgotten how to live because they are under the authoritative rule of the head nurse, and under the behavioral influence of drug doses and bossy orderlies. The patients have no real existence of their own, and they are essentially lifeless. As the Lord works in mysterious ways, Randall McMurphy is "sent" to heal the patients of the asylum. He shows them that to laugh is good, and laughing at yourself can sometimes be the best medicine. He is the comic healer who gives life to the otherwise hopeless patients of the asylum. McMurphy seems to have an affinity for laughter. In essence, it is an escape for him- it makes him feel good, and most importantly, it radiates to his friends, and helps heal them.

McMurphy always mocking against the Authoritative role of Nurse Ratched while the meeting prepares to start McMurphy interrupts, and asking about a dream where "It was like me I was me, in the dream, and then again kind of like I was't me-like I was somebody else that looked like me...". He doesn't like to continue that meeting under prevail of Ratched. Throughout this novel the character are picturing as machine even character name. Chief, the narrator in the book, is a damaged ex-soldier who sees the machine enemy all around him. The reader takes it as metaphor, but chief, a paranoid schizophrenic, sees it as reality. We get his first machine image as he tells of Big Nurse coming on duty, going after her underlings, the black boys. He sees her arms "section out/she blows up bigger and bigger, big as a tractor so I can smell the machinery inside"(11).

Throughout the book, the controlling imagery is machinelike. Nurse's name is even a tool, a ratchet, for fixing broken machines. Earlier in the text he tells of Big Nurse's job. She is there to fix the broken pieces of society. From this, we can gather that if one does not conform, one is forced into the cuckoo's nest.

The Chief remembers one Christmas when Santa Claus visited the ward. It's likely the intruder was just a fat old man with a red nose, but in the Chief's remembrance he represents the generous spirit of Christmas, and as he is nabbed by the aides and imprisoned, (to leave six years later "clean-shaven and skinny as a pole") we wonder: if the hospital can destroy even Christmas, how can anything good survive? Through the Chief's warped vision we see the control the Nurse maintains over the ward. She even masters time, occasionally

making it go so fast that the view out the window turns from morning to night in seconds, then slowing it to a snail's pace. She likes to speed things up to make pleasant activities pass more quickly, and slow things down for unpleasant events, like the death of a patient next to the Chief. Of course the Chief is describing a familiar phenomenon-bad times seem to pass more slowly than good-but his "untrue" description reminds us of a deeper truth.

McMurphy shows the satirizing way of humor against authority of Nurse Ratched. While asking to change the TV time to watch the World series Ratched showed her inhumane to that patients. He comes happy that he got the vote, but Ratched says the meeting is closed, still smiling, but when she walks to the Nurses's station the back of her neck "is red and swelling like she'll blow apart any second". McMurphy comes front of the TV and turns it on. Suddenly she goes to control panel and shuts off the TV but McMurphy just sits there watching like nothing happened.

She tells him to get back to work. "her voice has a tight whine like an electric saw ripping through pine". Harding joins McMurphy and tells him to go back to his duties. "I think how her voice sounds like it hit a nail, and it strikes me so funny I almost laugh". Others join them and soon they'll all sitting there, lined up in front of the screen. Bromden mentions that if someone came in and saw all of them sitting there in front of blank screen with Ratched hollering at them "they'd of thought the whole bunch was crazy as loons".

The postmodern element of black humour is strongly shown in McMurphy's choice of words to describe how the Big Nurse is emasculating the inmates in the lines, "Right at your balls. No that nurse ain't some kinda monster chicken, buddy, what she is is a ball cutter ... npeople who try to make you weak so they can get you to toe the line, to follow their rules, to live like they want you to" (60).

Conclusion

The above quote show how Black Humour is used throughout the novel to bring out its post modernism. The big Nurse uses tactics that are unknown to all of the inmates as a means of emasculating them, destroying their confidence, and effectively controlling them. McMurphy realizes this and tells the inmates what she does, which comes as disturbing news to all inmates. He uses the analogy of the Big Nurse as a "Ball cutter" in his warning to his inmates, showing the element of Black Humour; She doesn't literally cut the inmates balls off, she just reduces their self-confidence, but Murphy uses this wild analogy to try to personalize and evoke hatred towards Nurse in the inmates.

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Who Decides the Expiry Date for a Woman's Dream? A Journey into Lalithambika Antharjanam's *Fire, My Witness*

Resmy Dominic

II MA English Literature, St. Joseph's College (Autonomous), Tiruchirappalli

Introduction

"Be woman, stay woman, become woman" is an age old chorus which explains 'femininity'. 'Femininity' is a social construct. As Simone de Beauvoir puts it, "one is not born, but rather becomes, woman" (330). From birth a girl is under constraint, constraints of what to do and what not to do. As Maya Angelo rightly states woman is a "caged bird" who just sings because her "wings are clipped and her feet are tied" (12- 13). There are a number of women writers who voices the plight of women through their pen. Lalithambika Antharjanam is one among those women who is a courageous spokesperson for the oppressed women in Namboodiri community.

The Namboodiris were powerful feudal aristocrats famed for their stern adherence to tradition. "In her award-winning novel *Agnisakshi (Fire, My Witness, 1976)*, set in the early twentieth century, Lalithambika Antharjanam gives us a glimpse of this Namboodiri world as she tells the story of two women who rebel in different ways against the soul-destroying restrictions of the life laid down by their tradition" (Tharu, 487-488). Most of the women in the community are denied of higher education and hence left with no awareness of their rights. Tethikutti, who was grownup under her revolutionary freedom fighter brother, is but an exception. The novel revolves around her life. She reads, so she thinks and fights for her rights. Through her life story and the story of the characters around her Antharjanam proves that nobody can decide the expiry date of a woman's dream.

Traditional Constraint and Dissent

"From her initial family upbringing throughout her subsequent development, the social role assigned to the woman is that of serving an image, authoritative and central, of man: a woman is first and foremost a daughter/ a mother/ a wife" (118) says one of famous feminist critics Shoshana Felman in her essay "Women and Madness: the Critical Phallacy". This is the role the patriarchal society assigns to women. If anybody dares to protest against it they are silenced in the name of the so called traditions of religion and caste. "It is clear that for a woman to be healthy she must adjust to and accept the behavioural norms for her sex even though these kinds of behaviour are generally regarded as less socially desirable" (Felman, 117).

Without breaking the social prejudices and the pre-defined feminine characteristics such as sweetness, modesty, humility, etc. women can never lead

their lives according to their dream. *Agnisakshi* presents the mental trauma of women under traditional constraint through the words of Tethikutti. She laments, “My husband does not seem to know how to love anyone. He is afraid of everyone and everything- of Father, of Mother, of custom- why, he’s even afraid of God. Brother was right, if I live too long in this house, I might also lose my senses out of fear” (60). But as an *Antharjanam*, which means ‘people who live inside’, she is not expected to raise her voice in such a way. In and around her she comes across nothing but tradition and victims of this tradition. Out of her frustration she asks in a letter to her brother Oppa, “Why did you marry me off to a *Deva* after teaching me the stories of men?” (67) This is a heart breaking lament of a woman who struggles with nobody to speak or nothing to read and leads a rather dead life.

Women in Namboodiri *Illams* are bound by so many restrictions of tradition. The entire Namboodiri life was patterned to ensure the virginity of the Antharjanam. Their travel was limited to the temples or to the house of their immediate relatives, but that too had to be accompanied by a maidservant. The girl children moreover were made to feel that they occupied only second place at home and in society, and the rites and rituals were patterned after this belief to instil this feeling. The Antharjanam also had separate places for worship, and their rituals had restrictions placed on them: women were not allowed to chant, for instance, and to do other ritual performances like those of males. In addition, from her teenage, a Namboodiri girl was not allowed to leave the *Illam*; she was not allowed to visit even close relatives. She was neither allowed to see men nor allowed to be seen by them. The morning ritual bath, chanting and work in the kitchen was the only activities of the Antharjanam that were allowed. The women were an absolutely neglected group in the Namboodiri community; the men treated them as creatures whose limited needs were believed to be only dressing, bathing and sleeping. Tethikutti, a prey to such practices, was even denied of the permission to see her dying mother because of her brother’s revolutionary ideas against tradition.

Other women characters like Thankam, Cheriamma etc. are also victims of tradition. While Thankam breaks away from the bonds of tradition and practices through education and writings, Cheriamma succumbs to it and die as a mad woman. Therefore traditional constraint plays an important role in thwarting women’s emancipation.

The dissenting women are a Characteristic of the novel *Agnisakshi*. Panchali Mukherjee in one of her essays on Lalithambika states that, “According to the gender stereotypes, women are viewed as objects of pleasure or the property of men thereby leading to the dehumanization of their identities” (89). Women lose all their treasured dreams under the clutches of patriarchy. Under the strain of life starts her dehumanization. Devoid of her identity and dignity she starts to become rebellious.

The rebellion of Tethikutti and Thankam are a result of traditional constraint in Namboodiri Families. Tethikutti is the first to begin her protest against the blind rules and regulations. This is very clear from her conversations with Thankam. Her first meeting with Thankam indicates her inhibition towards reading and high convictions about life that she got from her brother. She states about her husband's over interest in divine matters, "one who is not good for worldly life will not be good for even heaven" (42). In her in-law's she finds nothing but criticism and accusations about her and her family. Because of her brother's status as a freedom fighter, her family members are considered as outcasts. She is even denied of the opportunity to go to her home to visit her mother on her death bed as they are outcasts. Here nobody, not even her husband, is there to defend her cause. So she courageously states that "if they are outcasts, I am too" (77) and walks out of her constraints. Here she has to sacrifice a lot to get her freedom and achieve her dreams. She loses her security, husband, good name etc. just to live her identity.

Thankam, the second to rebel is successful to some level in her attempt. She fights for her right to make her higher studies. She being the daughter of a low caste woman in a Namboodiri family is not even allowed to touch her father because of the strict rules of untouchability. Whenever she goes into the *Illam* she is being cursed as the low caste wife and daughter of a Namboodiri is expected to live separately. When she informs her wish to study further she is being silenced by sharp words. But she can't be just stopped by them. So she rebels until her wish gets fulfilled. This opens a door to her freedom and future dreams.

New Face of the Old Coin

Anyone in the modern world may take these arguments as out-dated as Namboodiri women are no more under such constraints. But the old coin comes with its varying facets. The value system in the modern world is a best example of it. Virginia Woolf writes about this discriminating value system in her work *A Room of One's Own*. She states that:

It is obvious that the values of women differ very often from the values which have been made by the other sex; naturally this is so. Yet it is the masculine values that prevail. Speaking crudely, football and sport are 'important'; the worship of fashion, the buying of clothes 'trivial'. And these values are inevitably transferred from life to fiction. This is an important book, the critic assumes, because it deals with war. This is an insignificant book because it deals with the feelings of women in a drawing room. A scene in a battlefield is more important than a scene in a shop- everywhere and much more subtly the difference of value persists. (Woolf, 41)

Thus modern women are also not free from different types of disparities. The values and morals of the society assign certain positions and qualities which are fit to a 'good woman'. If anyone breaks those rules and expectations they are

being criticized everywhere. Even the most modern society doesn't prefer women crossing certain limits. This shows that basically there is no change in the patriarchal mentality of the society.

Conclusion

The old binary system which undermines women should be rooted out from its very base. The title, which is taken from a recent movie, "Who Decides the Expiry Date for a Women's Dream?" indicates the emerging power of women. Nobody can keep her caged and prevent her from flapping her wings to the heights. Like men she has every right to dream about the heights of sky and the unending horizons. To reach that end, the society should frame an image of a woman who is commanding and powerful enough to rule a nation. Society should erase its mental biases of exclaiming at an emerging woman as if she is a great wonder. This mentality comes from a familiar feminine image, 'Either women is passive or she does not exists'. A state which respects women and provides her equal rights will progress to greater heights as women are the life giving source of a society. So any type of inequality that is prevalent against women should be ceased.

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The Loss of Identity in *Arrow of God*: A Postcolonial Reading

C. G. Sijo

M.Phil. English Literature, St. Joseph's College (Autonomous), Tiruchirappalli

Introduction

Postcolonial literature is one, which negotiates with, contests, and subverts Euro-American ideologies and representations. It is an attempt to critically engage with history of oppression, colonialism, racism, and injustice. Postcolonial literature is a literature of emancipation, critique and transformation (Nayar xiii). The term postcolonial signifies a transformed historical situation and the cultural transformations that have arisen in response to changed political circumstances, in the former colonial power (qtd. in Nayar 8). To make it more clear, it describes a completely new experience of political freedom, new ideologies and new agendas (Nayar 8).

Postcolonial literature has got a very peculiar nature. One may not be able to or one should not go for a 'pure' literature over there. Rather we have a unique type of literature. According to Peter Barry, postcolonial literature and the writers go through phases of adopt, adapt, and adept. The first stage, adopt, is the phase of colonial literature, where the writer tries to adopt the European form and model they stand assuming a universal validity. The second stage, adapt, aims at adapting the European into African subject matter, thus assuming partial rights of intervention in the genre. Third stage, adept, is a declaration of cultural independence whereby postcolonial writers remake the form to their own specification without referring to European norms. The notion the double, or divided or fluid identity is the underlying characteristic of postcolonial writer and literature (Barry 189).

Chinua Achebe is one of the African writers, who brought the attention of the world to the concerns of African people and the richness of cultural heritage of Africa. Still, the decolonisation of Africa has not been complete in the mental level and that the traumatic effects of colonisation still hover upon the African people. Therefore, to reclaim the identity is an existential concern for the people of Africa by reconciling them with past, history and civilisation. He calls for to purge away the complexes accumulated over the years of self-denigration and self-abasement. At the same time, this should not end up in a nonsensical idealisation of African past as Garden of Eden.

Arrow of God is a novel in which Achebe portrays two cultures confronting each other. Achebe wanted to show the disrupting effect as an externally imposed power system has on an internally imposed power system. Conflicts already present within the Igbo society coupled with repercussions from external invasion result in disaster for the Igbo society. Thus it disintegrates from within and reorients itself to Christianity. This reorientation leads to the

assimilation of Western values and beliefs and eventually the Igbo identity is lost.

The paper will highlight the loss of identity of African people at socio-cultural, religious and political levels. The identity of African people was at stake at the advent of colonial invasion. The life with modified and hybrid identities make the life of African people an inauthentic existence. The religious, social, cultural and political implications of civilizing Africa was very much detrimental to the original and spontaneous life of the Africans, in a large frame work, the life of all the people in the colonies. The history, religion, society, culture, etc. of the native people were defined in terms of the compartmentalised, linear, exclusive and absolutistic framework imported from the West. The philosophies and dynamisms behind the culture of natives were looked down as derogatory and many of them are extinct without being able to withstand the powerful intervention of the mighty powers of colonisation.

The novel, *Arrow of God* of Achebe has been really a success in its exploration of Igbo culture. Like the novels *Things Fall Apart* and *No Longer at Ease*, this novel also explores the intersections of Igbo tradition and European Christianity. The novel is set in the village of Umuaro at the beginning of the twentieth century. Almost in the lines of the main characters in the preceding novels, Okonkwo in *Things Fall Apart* and Obi in *No Longer at Ease*, the story of Ezeulu the central character unveils ultimately leading to his tragic end (Batra 9).

The *Arrow of God* is a political and cultural novel set in Nigeria in the early twentieth century. It explores the intersections of Igbo tradition and European Christianity by telling the story of Ezeulu, a chief priest of Ulu. In this novel cultures confront their differences. Achebe portrays the disrupting effect exerted by the colonialist upon the Igbo society which disintegrates from within and reorients itself to Christianity. This reorientation not only led to the assimilation of Western values and beliefs but also to the eventual loss of the Igbo cultural identity (Grate 1). The homeland of the Igbos was divested virtually by the European colonizers. African religion and way of life have been irreparably tampered and substituted by a hybrid culture and vision of life.

Socio-Cultural Identity

Achebe is very much alarmed by the fact that the socio-cultural identity of the African people was put to stake with the advent of colonial administration in the Igbo region. At various levels, the Igbo traditional values and taboos were redefined. Achebe was keen to react against the attitude of the Europeans to describe Africa in term of exotism with a reductionist and distorted mentality (Zouiche 5). The socio-cultural identity of people in Africa may be summarised as having unified sensibility, having a synchronic approach towards time. It was Communalistic, Agrarian. Whereas the foreign identity that was superimposed upon the African people was one of dislocated sensibility, diachronic,

individualistic, urbanised and economically based on money (Pandurang 96-97).

When they were compelled to work for the road, which Mr. Wright was building to connect Okperi with Umuaro, people at the villages became restless, as they had to work without payment. And in the gathering that followed their dissatisfaction, Moses Unachukwu, one of the first converts to Christianity, speaks about the total infiltration of western ideals with feelings of submission and helplessness. He tells the native people that: "...and I can tell you that there is no escape from the white man. He has come. When suffering knocks at your door and you say there is no seat left for him, he tells you not to worry because he has brought his own stool. The white man is like that" (Achebe 84). Here Unachukwu accepts the advent of white man and his intrusion in a mood of helplessness. He is not ready to act against or resist rather he is submissive and takes it for granted that there is no way outside and no escape. He continues that, "as daylight chases away darkness so will the white man drive away all our customs" (Achebe 84). Here he unknowingly admits that the customs and practices of their native origin are of darkness and it has to be expelled by the 'light' which white man brings in. An assent to the colonial powers is already present in the thoughts of Moses Unachukwu. Besides, he construes his own native culture in terms of darkness. An unconscious inferiority feeling is injected to the minds of natives of the people by the education and exhortation of the colonisers.

Here it is very much apt to the recall the contribution of Edward Said in *Orientalism* (McLeod 40-41). Creating binary divisions to contrast whatever is inferior and negative with natives, branding them as uneducated, not enlightened, uncultured etc.

Achebe through the mouth of Unachukwu brings about the intrusion of white culture in all its forms and systems. When the discussion about compulsory labour without payment went on and most of the villagers got agitated at the justification and fearfulness of Unachukwu regarding the dominance of white man, he cautioned them, "...The wither man, the new, religion, the soldiers, the new road-they all are part of the same thing, the white man has a gun, a matchet, a bow and carries fire in his mouth. He does not fight with one weapon alone" (Achebe 85).

The education they gave to the natives, often led to creation of 'white mental images' in the minds of those who attend. So the ideal was given to them and they should aspire and follow those ideals, which are not in tune with native traditions. Thus, we see Oduche, who had to be compulsorily sent to the church, developing an admiration towards English language and the culture of British people. It is very clear from Achebe's description:

But there was somebody else who had impressed Oduche even more. His name was Blackett, a West Indian missionary. It was said this man although black had

more knowledge than white men. Oduche thought that if he could get one-tenth of Blackett's knowledge he would be a great man in Umuaro (Achebe 46).

Chinua Achebe was very particular to revive the African past and move with it in a renewed confidence. Once he commented that his interest is to help the fellow Africans to a real pride in their own, pre-colonial culture. He made it very clear in his words at a conference in Leeds in 1964:

...it would be foolish to pretend that we have fully recovered from the traumatic effects our first confrontation with Europe. Three or four weeks ago my wife who teaches in English in a boys' school asked a pupil why he wrote about winter when he meant the harmattan. He said he would be laughed out of class if he did such a thing!...

I would be quite satisfied if my novel did no more than teach my reader that their past-with all its imperfections- was not only long night of savagery from which the first Europeans acting on God's behalf delivered them. (as qtd. in Ravenscroft 28-29)

Religious Identity

The work of the missionaries in the Igbo regions did affect them to a great extent, that the Africans lost their native religious practices and lost to a Christian world of beliefs and religious practices. We see a number of instances where we see the religious interventions in the novel and affect the course of life of Ezeulu, the chief priest, his family, the villages of Umuaro.

Ezeulu himself is seen sending his own son, Oduche to church. Of course, it was part of his shrewdness so as to know about and access to the power of white man. He wanted his son to be his eye in the church so that he can closely observe what was going on there and act accordingly.

Unfortunately, all his plans proved to be wrong, when Oduche got attracted to Christian religion and once he tried to shut a sacred python in a box because the catechists had taught him against the devotion to python. Mr. Goodcountry, the new catechist taught, "if we are Christians, we must be ready to die for the faith, he said. You must be ready to kill the python as the people of the rivers killed the inguana. You address the python as Father. It is nothing but a snake, the snake that deceived our first mother, Eve. If you are afraid to kill it do not count yourself a Christian" (Achebe 47). For Umuaro people, python is very much related to the devotion of deity of Idemili and nobody should kill a python. It was an act of sacrilege for the people in Umuaro.

Everybody was shocked at the action of Oduche, who dared to lock a python in box. Furthermore, as it was from the son of the priest, it heightened the graveness of the issue. People began to think about the incident in very negative terms. "If the Chief Priest of Ulu could send his son among people who kill and eat the sacred python and commit other evils what did he expect ordinary men and women to do?" (Achebe 125), they began to ask themselves. People were highly dissatisfied with the action of Ezeulu and his son.

The feast of Yam: This led to lot of dissatisfactions and commotion among the people of Umuaro. However, Ezeulu was very much adamant in his position, “You all know what our custom is. I only call a new festival when there is only one yam left from the last. Today I have three yams and so I know that the time has not come” (Achebe 207).

At this juncture, the catechist Goodcountry understood that this was an appropriate time to intervene and attract the people to offer their yams to Christian God. So in the new church committee, he made his mind clear that the people may bring yams, livestock, money and what not. He succeeded in making them convinced that they could do harvesting without fearing Ulu.

The Christianity being a monotheistic religion with triumphalism had always looked down upon other religion and labelled them as heathens or gentiles. The approach of Christianity powered by its Royal Empire backup early from the beginning always had totalitarian claims over others and categorised people on harsh terms. The European colonial invasion and missionary work had so many things to give and take. Both processes made the other easy and enriched each other for a long time.

The religious backup for colonisation and standardisation of the uncultured is a thing that is criticised often. Zouiche points out that the ‘inferior status’ of the Africans had even received religious sanctions when Biblical interpretation was invited in to suggest that the negro race as lower race to serve the superior white race. This often led to justify the exploitation of millions of Africans and the settlement of Africa as a civilising mission and the white man’s burden getting the Africans civilised (Zouiche 6).

Political Identity

With regard to the Igbo people, where life was approached holistically, strictly compartmentalised western investigation may prove to be an ambitious effort. Hence to understand the loss of political identity cross references to loss of identity in the cultural and religious levels is very much normal.

The colonial administration represented by the team of captain Winterbottom, his assistant Tony Clarke, and others like Robert, Wade, etc. always wanted to have a hand in the villages. The Okperi district was already under the colonial powers also. But at Umuaro, things have been little more difficult.

As the Igboland was conquered, the colonial administration wanted to set up a new system of ruling. They want to appoint warrant chiefs. The chief is to be called so because the sole legitimacy derived from a colonial legal document, the warrant. The introduction of warrant chief system disturbed the system of African societies. These warrants were ultimately the puppets of colonial administration. So, many of the village chiefs did not want to be mere warrant puppets in the hands of colonisers. So people like Ezeulu reacted against this system of administration (Batra 46).

In the novel we instances where Ezeulu is very much proud of himself and never wanting to be a tool in the hands of British people. When he was asked by the messenger from captain Winterbottom to come and meet him, he was very proud and told to the messenger, "...and tell you white man that Ezeulu does not leave his hut. If he wants to see me he must come here" (Achebe 139). Though he had been very much proud, later on he went to meet captain to the captain's place. His own village chiefs and people did not want him to stay at Umuaro without going to meet the white man.

We see the power of Ezeulu and the African native administrative system represented by him becoming weak as the novel progresses to the end. Ezeulu and his system could not withstand the powerful invasion and dominance of the white people. Even before the collapse of Ezeulu, Mr. Wright was able to keep the people of Umuaro to construct the new road between Okperi and Umuaro without paying them. Getting people to work without payment is nothing but slavery. Thus, the colonial administration had succeeded to control the fate of the Igbo people.

Politically Igbo people lost the identity as independent society having its own rules, customs and traditions. The branding of the system by the colonisers as insufficient and very much primitive is nothing but a part of the scheme that the colonisers had upon them. The white man's burden for educating and civilising the native people is always a rational explanation in disguise to justify motive plundering the resources of natives.

A study of the loss of identity is justified in order to reaffirm it. A process of decolonisation should take place as a counter discourse. Decolonisation can be said to be a reaffirmation one's cultural values and systems. As the colonial master had rejected and crumbled native culture. They tried to impose the European way of life into the colonised people. Thus, decolonisation seeks for a retrieval of the forgotten rhythms of life (Nayar 83).

This paper was an attempt to look into the novel *Arrow of God* by Chinua Achebe with a postcolonial bend so as to enable us to identify the loss of identity in the various layers of the life of Igbo people, in a broader sense, the people of Africa. The people of Africa have really suffered to inexpressible depths as a result of the colonising endeavour by the white people especially the British people.

Various techniques are employed by the colonising agents to make the process of colonising easy and justifiable. The colonising powers tried to convince themselves and others that they do care for the people of Africa and try to civilise them and lead to a life of enlightenment and culture. Thus technically, the native people of Africa were considered in terms of negative that are to be made positive and corrected with the 'generous' help and concern for the uncivilised and uneducated aboriginal people.

The religious, social, cultural and political implications of this giving a 'helping hand' was very much detrimental to the original and spontaneous life of the Africans, in a large frame work, the life of all the people in the colonies. The history, religion, society, culture, etc. of the native people were defined in terms of the compartmentalised, linear, exclusive and absolutistic framework imported from the West. The philosophies and dynamisms behind the culture of natives were looked down as derogatory and many of them are extinct without being able to withstand the powerful intervention of the mighty powers of colonisation.

Thus, it can be observed that the loss of identity in socio-cultural, political and religious levels depicted in the novel *Arrow of God* coincided with the annihilation of the genuine original native identity. At this juncture, 'a going back' will involve finding the lost identity and escaping from the imposed artificial one.

Conclusion

Postcolonial approach calls for a re-reading of the completely colonial epistemology, despising anything that is non-western. A redefining return to the past to launch to brighter future is the mission to be accomplished. However, this process is not as simple as merely returning to the traditions. It is a journey in search of the lost identity among the distorted identities while owning a modified identity.

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The Trinketization of Racism Impelled in Mahasweta Devi's Short Story "Rudali": A Postcolonial Approach

Honoureen Beatrice Gamble

II MA English, St. Joseph's College (Autonomous), Tiruchirappalli

Introduction

A major element in the post colonial agenda is not to de-establish the narratives of art, nation, and patriarchy but to emancipate the "have nots" and the downtrodden within the newly independent nation state. As the theory Post-colonialism manifests by itself questioning the inequalities and social injustices alienating mankind into groups. Such alienation becomes the framework of the short story "Rudali" by Mahasweta Devi. Rudali is a powerful story glimpsing around the trinkets of two races in the Village of Rajasthan. This is an acidly ironic tale of devastating one race and others. The story is sheathed around the shell of colonisers and the colonized under the real stature of the Post-colonial world. The author signifies the metamorphosis of the central character Rudali who is a woman by birth but stands the test of time with her free will, and authentic consciousness. She embarks her survival as the incisive step of eradicating the colonisers from the very souls of her sanichari community.

In remarkable words of „ Rosa Parks, Racism is still with us. But it is up to us to prepare our children for what they have to meet and hopefully, we shall overcome. The vital crusts of the paper enforces the transformation that takes place in the lives of the protagonist Sanichari and the counter half friend Brinda who is by fate born to be a Rudali till she faces death. Brinda stands as the sign for mourning and a sterotype under the domains of the colonisers, the upper class men of the village. The story emphasizes the plot between two women, who adopt the strategies of survival becoming whores for the patriarchs of the colonised demic society in life. The colonisation of the sanichari race are perpetuated by the socio-religious set-up and their own poverty are a downfall of the societal norms and claims. In due course of time the eco-social serenity of the sanichari race regains its symbol of renaissance.

The Third World, the Marginalia:

The paper discusses the deep concerns of the colonized upper class society oppressing the colonized women suffering from the triple submission of caste, class, and gender. The story glorifies the death of the demi god to establish their power of supremacy. Ironically drawn to the past years the colonisers of the Rajput upper class knights expressed their remorse ignoring the dead, but gave prior values to their rich status.

“Racism is a kind of life condition which segregates the exploitation, suppression, and marginalization of the inferior colonized race the sanicharies.

The author gives a direct authoritative statement in the text, linking rudali to sanichari's fate born and destined in the sphere of infinite sufferings and agony. Any individual born under the darkest night of "Ganju Caste" were deprived to live only in desperate poverty. The sanichari race were spelled with the disease of illtreatment and stranglement being the pleasures of the other caste.

Under the postcolonial perspective the short story clouds the lack of identity, freedom

Of choice, the free will to live as one community. The translated short story rudali manipulates the existence of the survival people making them the microcosm of the Third tantalised world. The author devotes much of the story to trace the evolutions into a professional team of wailers. Sanichari finds her place in with her friend Brinda. The colliding of two women embarked the call for the whole race as one. This racist story propounds the idea stating, If there are any changes, they are mere the travesty of human existence. The women depicted are the brave hearts of vision. However, they cannot develop the sooner, as they are cornered by multiple imbecile depressions. The rudali is a saga of colonised individuals, pinning for true identity.

The Unvoiced Palpitations of Rudali

Rudali depicts the low untouchables of tribal community named Ganjus and Dushads who are compelled to enslave their lives with tyranny of the upper caste rajputs. Imbecile in nature the men took privilege in capturing the real identity and lands of the wrecked sanicharies. The paper enfolds the raving spirit of the unvoiced race, who are revolting against the deceiving patriarchal maniac.

The setting takes its hold in a small Tahad village of Rajasthan. The conflict of racism is such a blight on the Indian Society which mars all our claims to reign over the world in the 21st century. This curbed the colonisers and the colonised of the post nexus phase erupting demons of the society as caste and gender. Sanichari was married by law to man way elder than mind, body and age.

As days and months wailed through time, her husband died, alienating her with a male child. The story knits the spaces of Sanichari's life doomed to darkness and reprimement until she found a speck of brevity by the meeting of a woman rudali. To refer to ancient traditions, the Sanichari race had a notion, any one born on Saturday would bear the name of curse and burden all their lives. This notion took its hood in the character Sanichari, as she symbolised herself to be a misfortune or an unlucky sign for her community.

Hence forth her race was dismissed from attaining any identity freedom, and uniqueness in the eyes of the socio- political world (Chakraborty 67).

The Smudgish Afflictions of Racism

In reference to customs in areas of Rajasthan, the Tahad village knocked the entire human conditions which made a reflection on promoting racism by zamindars and country folks around the globe.

The result of this nonsical flue destroyed the unity of the people driving them apart based on their races. Profession- making was the only means of exploiting the lower legs of the village. They began hiring money mourners called on the death of the male upper class Rajput families. The mourners were tagged as “Rudali” (roo-dah-lee), signifying them as “Female weeper” or weeping on tragic situations. These women were handcuffed to mourn and cry in public expressing condolences to the less- fortunate higher status people. These limp souls of royal kingship were deprived of paying grief to the dead as their royal immorality resisted them lifelong.

Sanichari was a ganju by and her mother in law believed that she was unlucky by birth born on an inauspicious saturday that her destiny was only suffering [...] to herself im so unlucky that Saturday ruined my life. You were born on Monday- was your life any happier? Budha, Moongri, Bishri- do They live happy? (54) In accordance the Vaid (lower caste) have no humanity (66). This smudgish lurks the Sanichari woman who have had pain from birth to her becoming a wife and mother. Throughout her existence she was barred of crying belonging to the ganju race of lower level.

As a woman she swallowed her female identity, fragility, simplicity, without the authenticity of crying or feeling which every woman could never resist in day to day’s life. As the story breaths through the pain and trauma of sanichari, she tightly clings to her racial identity discovering her power by attaining her lost dignity in the trunketilization of the imposterised malice world.

Colonial Indictment of Feudalism

Talking of Postcoloniality in the space of difference, in decolonized terrain. The author Mahasweta Devi emancipates the space of displacement, of the colonized and decolonized taking its own form in Rudali. The position of Sanichari tags herself as the victim depressed in historicity of the weaker race. She becomes the rising wail of protest of the Rudalis before the rebellious Rajput patriarchs.

Rudali emerges as a multi-layered dimensional story striving out the odds, finding roads towards the lure of empowerment and success. The author cryptically tints the unity of the Sanichari race with the entry of Brinda who is a real rudali, and teamed up with Sanichari to bring freedom for the awaited souls of the Tahad village.

Conclusion

The story Rudali, ignites its victory of colonization under the roots of Companionship between Sanichari and Brinda whom shared the same days of

alienation into the mesh patriarchal dominance ruled by the royal kingships. The very will power of Brinda moulded Sanichari standing firm passing the lost feeling of her death. Brinda's death created within, the lilt of strength mentally and physically. The colonised treatment made her feel, any tear for Brinda was a commodity and transfiguration of her new self. In the words of Swami Rama; Highest morality is the greatest joy within (111).

The paper discloses that the world of traumatic space with colonizers and colonised implicates a strong perception in the story Rudali, Here are two powerful women, may we know them, be them and raise them from the keel of patriarchal junk of racists, eradicating the demonic trankits of Castism in the post-colonial languid universe.

The story "Rudali" ends with an Epitaph, " Live life in the three domains adopting the societal norms, adapting the love and unity from all nations, and adepting to any sudden dangers the competitive world could bash the humanitarian existence of life. Rudali suggests that nothing can be done until the collective consciousness of society

Is uplifted and incited into reversing the age old paradigms, of gender, caste, class, and its hegemony towards a developed egalitarian economy in the historical premises of the world in radical praxis. (Sekhar154).

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**Survival of Traditional Cultures in Canada as portrayed in
A. M. Klein's "Indian Reservation: Caughnawaga"**

X. Akshay Joseph Dylan

II MA English, St. Joseph's College (Autonomous), Tiruchirappalli

Civilizing the Uncivilized

In the name of civilizing the natives, the colonizers have destroyed the cultural wealth of the land. The culture of the natives was considered as obstacles to the civilization process. As A. M. Klein, in his poem "Indian Reservation: Caughnawaga", traces out the way the culture of the natives in the reservation was made antique by the colonizers. The poet substantiates the transformation of the culture into western in the following lines.

*"one afterschool I'd leave the classroom chalk,
the varnish smell, the watered dust of the street,"*

Schools and varnish were things that were not part of the culture of the natives. They were new to it and the poet questions the existence of the red Indians in today's world. The culture of the natives could only be found as pictures in the calendars according to the poet. Even the very first stanza of the poem raises questions about the existence of the native people and their culture.

*"Where are the braves, the faces like autumn fruit
who stared at the child from the colored frontispiece,
and the monosyllabic chief who spoke with this throat?
Where are the tribes, the feathered bestiaries?"*

Things used by the people of a culture are considered as symbols of that culture and are left back for their future generations to know the dignity and reverence of their esteemed culture. But in this native land such articles are either sold as fashion articles or being preserved for further research. The culture of the native red Indians has lost its recognition as culture. In the poem, the poet exclaims that all those articles and practices of the natives of Canada were now found only in the museums as a thing of awe for the present generation.

*"..... The game,
losing its blood, now makes these grounds its crypt.
The animals pale, the shine of the fur is lost,
bleached are their living bones. About them watch
as through a mist, the pious prosperous ghosts."*

The native culture remains only in words and does not exist in real world. The social, political and economic interests of a group of people contribute to the culture of that group. But the colonizers have set target on these criteria to abolish the native culture. As Duncan Campbell Scott, Deputy Superintendent of

Indian Affairs from 1913 to 1932 clearly states, "I want to get rid of the Indian problem. [...] Our object is to continue until there is not a single Indian in Canada that has not been absorbed into the body politic, and there is no Indian question, and no Indian Department". In order to civilize the uncivilized, as the native red Indians killed each other for land, the settlers who were the so called 'civilized' massacred the native people and still they call themselves as civilized. Even the ancestral ghosts of the natives couldn't take revenge upon the massacre against their children. It shows the modern weaponry used by the settlers in genocide.

Even after the formation of the reserves, the settlers have used various other means to get rid of the Indian culture. The Bagot Commission of 1844 proposed the idea of educating the children in the reserves in boarding schools far away from their parental influence in order to bring them up in a colonial culture-the separation of children from their parents was touted as the best means by which to sustain their civilizing effects. Further similar successive proposals such as the *Gradual Civilization Act* (1857), *Act for the Gradual Enfranchisement of Indians* (1869), and the Nicholas Flood Davin publication titled *Report on Industrial Schools for Indian and Half-Breeds* (1879), which noted that "the industrial school is the principal feature of the policy known as that of 'aggressive civilization'" were taken into consideration.

"the Indians should, as far as practicable, be consolidated on few reservations, and provided with permanent individual homes; that the tribal relation should be abolished; that lands should be allotted in severalty and not in common; that the Indian should speedily become a citizen [...] enjoy the protection of the law, and be made amenable thereto;"

[Report on Industrial Schools for
Indian and Half-Breeds, 1879]

Davin disclosed in this report the assumptions of his era-that "Indian culture" was a contradiction in terms, Indians were uncivilized, and the aim of education must be to destroy the Indian in the child. In 1879 he returned from his tour of the United States' Industrial Boarding Schools with a recommendation to Canada's Minister of the Interior, John A. Macdonald, to implement a system of industrial boarding schools in Canada.

Origin of Reserves

The origin of reserves dates back to 1637, the moment the French missionaries set foot on the land of North America. The tract of land settlements decided by the French missionaries in view of guiding the aboriginals adopt Christianity, was the rough model of the reserve systems. Gaining control from the French, the Whites, under the hood of 'civilizing' the aboriginal further specialized and drafted the design of reservations. Legally, after the "The Indian Act of 1876",

the reserves were called “Indian Reserves” with its initiative from the “Constitution Act of 1867” which did set out the notion ‘Indians and Lands Reserved for Indians’.

Intention of Reserve Formation

The ultimate intention of the early settlers, the French and the Whites was to own the land of North America. To achieve the intention, the idea followed by them was to pull down the innocently hard and rude natured native red Indians to a more passive and sedentary way of living. The nature of life of the natives, such as disputing upon the control over the land territories and hunting for their daily livelihood, were considered as the uncivilized way of living by the settlers. Thus achieved subjugating them through feeding them a calm and quiet way of living, the settlers called them civilized and named the process ‘civilizing the uncivilized’.

Having the land acquisition as the real intention, the way it was implemented vary in number. The land disputes were fed by the colonizers (Whites, French, and so on) as they financed the settlement of their respective settlers. With the increase in number, the land dwindled in size leading to further disputes between the settlers and the natives. The colonizers taking the upper hand suppressed the disputes and delivered judgments in favour of the settlers, creating number of reserves just at the stroke of a pen. The disputed land will become the land of the settlers while the natives of that land would be consigned to the created reserves. In the name of promoting agriculture too, the settlers had the natives pushed to reserves that hold lands that are not suitable for agriculture which they later took it from them under the act of “Reserve Reduction”.

“ the same government that took away most of their lands secured them in the possession of reserves, and then took away most of the reserves.”

[Cole Harris, *Making Native Space*]

Present Scenario

The reserve systems destroyed all the cultural ethics that dwelled upon the native Indians for several ages. Right from the way of accommodation the reserves provided to the people, the culture was colonized. The housing amendments of the reserves were based on the American way of living, with enough room for a nuclear family, which pulled down the joint family atmosphere of the native Indians. In terms of job too, they were forced to lose their cultural identity.

According to Statistics Canada in 2011 there are more than 600 First Nations/Indian bands in Canada and 3,100 Indian reserves across Canada. For the 2011 census, of the more than 3,100 Indian reserves across Canada, there were only 961 Indian reserves classified as census subdivisions. Reserves suffer

from poverty, substance abuse, suicide, unemployment, and mortality. Some reserves exhibit what has been controversially described as ‘Third World’ conditions, due to inadequate housing and contaminated water supplies, among other things. As Globe and Mail reporter Christie Blatchford wrote regarding the Yellow Quill First Nation in 2008, “The reserve water supply was so poor that until 2004, when a new water treatment system began operating, residents lived under a boil-water alert that lasted fully eight years.” It is widely accepted that the cultural genocide and social disruption perpetrated over generations through displacement, discriminatory legislation such as the Indian Act, and federal programs such as the residential school system created enduring hardships among Aboriginal peoples and hindered the re-establishment of social networks and the development of stable communities.

In addition to these social hardships, reserve communities often face economic and environmental challenges. Reserves are typically located in areas where economic opportunities are limited, and the reserves themselves provide few resources. Access to resources such as fish and timber are heavily regulated, and in many cases the government maintains ownership of any mineral or subsurface resources (*BC Indian Reserves Mineral Resources Act*). Because reserves are held in trust by the Crown, people living on them do not “own” the land. Property is not considered an asset, and band members generally face difficulty in obtaining mortgages, small business loans, or lines of credit. They also face more restrictions than private owners when it comes to developing their land. As well, government rights-of-way such as power transmission lines, railways and highways frequently intersect reserve lands, dividing them up and further reducing useable space.

The impacts of the reserve system also take on a gendered dimension. Aboriginal women on reserves face additional challenges with property, for example. Historically a woman has had to leave the reserve community she married into if her husband abandons her or passes away. In these cases, lack of regulation regarding on-reserve matrimonial property has forced many women to leave their homes and belongings behind as they leave the reserve causing more trouble to them as there doesn’t exist traditional practices as it did before the settlers.

Reserves fall under federal rather than provincial or municipal jurisdiction—levels of government that typically provides services, infrastructure and regulations to non-reserve communities. In the spring of 2009, Sheila Fraser, the auditor general of Canada, concluded an audit of the environmental conditions of reserves. She found that there was a significant gap between environmental conditions in reserve communities and those in other communities in Canada. Non-reserve communities are regulated by provincial and municipal governments, which have systems in place to deal with waste disposal and air and water monitoring. Reserve communities, on the other hand, fall under the jurisdiction of Indian and Northern Affairs Canada (INAC), as

stipulated in the Indian Act. Fraser concluded that INAC lacks the capacity and resources and is generally unprepared to provide these services and regulations to reserve lands. In fact, the audit found that INAC has no idea how waste is disposed of in 80 reserve communities, a startling statistic that provides a glimpse into the breadth of challenges to overcome.

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A Psychoanalytic Perspective in Toni Morrison's *Beloved* with a Reference to the Protagonist Sethe

A. Vinoth

M.Phil. English, St. Joseph's College (Autonomous), Tiruchirappalli

Beloved artificially combines a haunting amalgam of the past and the present experience of slavery. The novel is a series of flash backs and it is divided into three parts. Inspired by the story of a runaway slave who attempted to kill her own children rather than have them returned to slavery, Toni Morrison's novel explores the psychological and physical violence's caused by slavery and its deviating import on the successive generation. *Beloved* is specifically Sethe's story. It is also the story of all the slaves of the sweet home plantation of Kentucky, Baby Suggs, Paul D Garner, Paul F Garner, Paul A Garner, Halle Suggs and Sixo.

Toni Morrison's narration and portrayal of the character of Sethe in the novel is analyzed to make possible assumption on the personality. The analysis of the character is carried out through the various aspects and incidents from the novel.

Psychoanalytic theory refers to the definition of personality organization and the dynamics of personality development that underlines and guides the psychoanalytic, psychodynamics and psychotherapy called Psychoanalysis. Through the scope of psychoanalytic lens, humans are described as having sexual and aggressive drives. Psychoanalytic theorists believe that human behaviour is deterministic. It is governed by irrational forces, and the unconscious, as well institutional and biological drive. Due to this deterministic nature psychoanalytic theories do not believe in free will which is expressed in personality.

According to Sigmund Freud's psychoanalytic theory, personality is composed of three elements. These three elements of personality are known as the Id, the Ego, and the superego. They were together to create complex human behaviours. According to Freud when a child is born they are born only with 'Id' but later as the child grows it develops 'Ego' because of the 'Super Ego' that is formed in the unconscious of the child because of the society and culture in which the child lives in.

According to Freudian theory anything that a person says or thinks has to be from the Ego of a person's that is after a outcome of the conflict of the Id and Super Ego. This study would be an outcome from the psyche of the author. Since the author has her super Ego and Id just like every other person in this world. One can assume that the same can be applied to the common psyche of the entire humans.

The Id is the only component of personality that is present from birth. This aspect of personality is entirely unconscious and includes the instinctive and primitive behaviours. According to Freud, the Id is the source of all psychic energy, making it the primary component of personality. The Id is driven by the pleasure principle, which strives for immediate gratification of all drives, wants, and needs. If these needs are not satisfied immediately, the result is a state anxiety or tension.

For example, an increase in hunger or thirst should produce an immediate attempt to eat or drink. The Id is very important early in life, because it ensures that an infant's needs are met. If the infant is hungry or uncomfortable, they cry until the demands of the Id are met however, immediately satisfying these needs is not always realistic or even possible. If we were ruled entirely by the pleasure principle, we might find ourselves grabbing things we want of other people's hand to satisfy us. This sort of behaviour would be both disruptive and socially unacceptable. According to Freud's , the Id tries to resolve the tension created by the pleasure principle through the primary process, which involves forming a mental image of the desired object as a way of satisfying the need.

The Ego is the component of personality that is responsible for dealing with reality. According to Freud, the Ego develops from the Id and ensures that the impulses of the Id can be expressed in a manner acceptable in the real world. The Ego functions in three layers of conscious, preconscious, and unconscious mind.

The Ego operates based on the reality principle, which strives to satisfy the Id's desires in realistic and socially appropriate ways. The reality principle weighs the costs and benefits of an action before deciding to act upon or abandon impulse. In many cases, the Id's impulses can be satisfied through a process of delayed gratification. The Ego will eventually allow the behaviour, but only in the appropriate time and place. The Ego also discharges tension created by unmet impulse through the secondary process, in which the Ego tries to find an object in the real world that matches the mental image created by the Id's primary process. The Ego balances the Id, the Super Ego and reality in order to maintain state of consciousness.

The last component of personality to develop is the superego. The Super Ego is the aspect of personality that holds all of our internalized moral standards and ideals that we acquire from both parents and society, our sense of right and wrong. The Super Ego provides guidelines for making judgments. According to Freud, the Super Ego begins to emerge at around age of five.

This study is to concentrate on the inner mind of the protagonist. The conflict in the mind of protagonist is very important. The main problem is the background of the character and the past experiences that make all sorts of things. Therefore the research would construct itself around the conflict between id and the super ego. "BELOVED, she is my daughter. She is mine. see she come back to me of

her own free will and I don't have to explain.....If I hadn't killed her she would have died and that is something I could not bear to happen to her" (236).

"She was n't even two years old when she died. Too little to understand, too little to talk much even" (5). In the quoted passage the protagonist Sethe, a former slave whose love for her children and hatred of slavery causes her to commit an unthinkable act in order to keep her children free from a life of bondage. No doubt that what was done by Sethe could be wrong in the eyes of a moralist. But she did it because she was surrounded by the most immoral and unjust world where justice and self-respect could not be restored accepted ways of injustice and self-destruction. The protagonist argues that a mother must and would do anything to ensure the welfare of her children, even it means prostituting herself like the "Saturday girls" who sell their bodies in the slaughter house yard. Here the opposing forces in conflict according to psychology are the id and the super ego. The super ego of Sethe character is revealed in these lines and explains how much she suffered in her life. "They beat you and you was pregnant? And they took my milk!" (20).

Before she could escape from the plantation, the two white boys, the school teacher's nephews sucked out her breast milk and lashed her with rawhide whips. Although she was in terrible pain from the whipping, Sethe ran away from the sweet home at that night. This incident reminds that Sethe's mind slightly changed into super ego. She thinks that her children will not face these kind of slave experience in their future. "I am not dead-I am not" (251).

Beloved is a combination of adult body and infant perceptions used to describe her experience on the other side where death is a "dead man on my face and daylight comes through the cracks". The strongest emotion of love for Sethe, whom she observes chewing and swallowing. The depiction of the watery division between the Earth and after the life fails to separate Sethe from her daughter. Sethe's mind is fully filled with love of beloved. Unconsciously she feels in love with beloved and she tries to see her face here unconsciously plays a vital role. "I drank your blood...You are mine" (254 - 256).

The three merge in the final lines, blessed by milk, smile and blood. The benediction like a classic admirer's charm is uttered three times the Super Ego plays a vital role because each of them wants to expose their love with one another. The relationship between mother and daughter, sisters and relationship are with Sethe and Denver. Everyone wants to be as mine. Through unconsciously they reveal their inner ideas because they long for love and care from their loved ones. This makes clear; they are ready to sacrifice their wishes. Denver wants to become close with beloved and she wishes to see her face whereas Sethe wants to see the smile, they feel happy when she finds again.

Slavery is presented as a pattern. The owners of slaves believe that they should show their superiority over the slaves and justify their actions. The damage that

every black inherits at the hands of slave master forces to kill babies to avoid children turning slaves.

Toni Morrison's *Beloved* is not many writers had attempted to recreate the internal life of the mind and the spirit of a slave woman. One might well paraphrase the thought of the contemporary psychoanalytic critic Julia Kristeva to ask "what do we know about the discourse of the slave mother. In other words, what do we know about the minds the emotions the psychological forces operating in these slaves?"

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Have Nots' Helplessness in Haves' Land: An Existential Approach to Benjamin's Diasporic Novel *Goat Days* (Aadujeevitham)

K. J. Joseph

II MA English, St. Joseph's College (Autonomous), Tiruchirappalli

Introduction

The ambiguity and the abstract nature of the term diaspora is defined by Martin Bauman as, expressing notions of hybridity, heterogeneity, identity, fragmentation and (re)construction, double consciousness, fractures of memory, ambivalence, roots and routes, discrepant cosmopolitanism, multi-locationality and so forth. One cannot assure that these common characteristics of diaspora are available in all the works of diasporic writers, but usually some will be there. As Susan Koshy says in his book *The Making of a Neo Diaspora*, the recent interest in diaspora exceeds academy and become a major preoccupation of politicians, policy makers and the public. Benjamin's novel *Goat Days* is a revelation about the lamentations of labour migrants in Gulf countries from India, who reached there with the dreams of better employment and monetary avenues. Haves have notes but have nots have no notes. This paper explores the problems faced by have nots at the hands of haves who have notes in their hands. The paper brings out the lamentations of the protagonist Najeeb Muhammad (have not), in the land of Arabs (haves). It also discloses the pitiable condition of Indian labourers or migrants in economically booming nations.

Diaspora Literature

The immigrants who have access to education and literacy register their everyday experiences and plights in their works. In general, diaspora literature discusses the problems the migrants face in the new land. Amitav Gosh points out that "It is the imaginary relationship between the Indian diaspora and India that has been the most creative site for theoretical reflection in literature".

Based on the theme of writing, diaspora writers can be divided into two types: writers whose works focus on their home country and writers whose works talk about the settled country. The first type of writers locates their work in their home country in order to criticise it or to portray their home country and its culture to the foreign readers or use their work as a tool to remember their home country. The second type of writers locates their works in the settled countries to reflect the changes they undergo or to tear the mask of multicultural nations, by portraying its discrimination towards them, or to show their developed condition in the settled countries.

Brian Keely in his article "International Migration: The Human Face of Globalisation Discourse" analyses how diaspora becomes a new form of

slavery. He examines how a number of indentured labourers in different parts of the world are suffering nothing less than the fate of slaves. *Goat Days* echoes with reflections of similar brutality that was experienced by innumerable blacks during the Trans Atlantic slave trade in the west. Though legally the institution of slavery was abolished, yet human trade in form of labour migration continued. In the era of British territorial expansion it was practiced in form of indentured labour, however, currently it is practiced as the 'Kafala'

Benyamin and His Diasporic Novel Goat Days

Benny Benjamin is an Immigrant Novelist, a native of Kulanada, in Kerala. Born in the year 1971, with the birth name Benny Daniel, he writes under the pseudonym 'Benyamin' which he himself calls as a mask. He moved to the Kingdom of Bahrain in 1992 and has been living there ever since as an engineer. Benyamin's first story "Satru" was published in 1999. His short story collections include *Euthanasia (Mercy Killing)*, *Penmarattam (Ladies Sex)* and *EMSum Penkuttiyum (EMS and the Girl)*. Benyamin's other novels were *Abeesagin* (a name from the Old Testament), *Pravaccakanmarude Randam Pustakam (The Second Book of Prophets)*, *Akkapporinte Irupatu Nasrani Varshangal (Twenty Years of Christian Quarrels)* and *ManjaVeyil Maranangal (Yellow Lights of Death)*. He has also written notes like "Irunda Vanasthalikal" ("Dark Forest Places") and "Anubhavam, Ormma, Yaathra" ("Experience, Memories & Travel"). Many awards and honours that he was credited show how he influenced the literary world within a few years of his literary career. It includes Abu Dhabi Malayali Samajam Short story Award for *Euthanasia (Mercy Killing)*, Abu Dhabi Sakthi Award, 2009 Kerala SahityaAkademi Award winner, 2012 Man Asian Literary Prize long list and 2013 DSC Prize for South Asian Literature short list for *Goat Days*.

Benyamin's novel, *Aadujeevitham* was first published in 2008, and won the Kerala SahityaAkademi Award in 2009. He wrote the novel originally for *Matrubhumi* Magazine. Translated into English as *Goat Days* by Joseph Koyippally in 2012, it was received with great acclaim by a wider readership, and reached the long list of the prestigious Man Asian Literary Prize in 2012. The story focuses on the hardships of Najeed Muhammad's life. The story is based on true events. The book is divided into four parts—Prison, Desert, Escape, and Refuge, with forty three chapters and an author's note. From the beginning itself the narrative points to the hard experiences the narrator had endured till that moment. The novel begins and ends in Sumesi prison. The second part begins in a rural village in Kerala, the native place of the protagonist Najeed. He and Hakeem goes to Gulf with a lot of dreams, but get abducted by an *arbab*, originally an animal farm owner. He made them slaves in his *masaras* in desert where they were forced to live a life like goats but in a more pitiable condition than them. With the help of a Somalian Ibrahim Khadiri, they escape from there after more than three years. Get lost in desert for days. Hakeem dies out of thirst and Ibrahim disappears in the end. Somehow

with the help of a rich Arab, Najeeb reaches the Malabar Restaurant run by Kunjikka, a refuge for Malayalis in Batha market. From there he got another victim like him, Hameed who also escaped from his *arbab's* house. They together with much difficulty get themselves arrested in a hope to reach Kerala with the help of Embassies. But before the arrival of the officers Hameed was dragged away by his master. Najeeb's *arbab* also came there, but spared him for he was not really under his visa. This was the real shock to Najeeb that he realized that what he had endured was the fate of some other man. From there, he was deported to India as a part of a government project to deport unauthorized residents to the countries of their origin.

Haves and Have Nots

The concept of "haves and have nots" appears in the writings of Marx. He believed that there were two types of people that existed historically. The "haves" were called "capitalists" because they had all the money". The capitalists would then force the "have nots," whom he called as the "proletariats (working class)," to work for them. This situation was unfair in the distribution of wealth within a society that would cause problems. Problems emerge when capitalists pay the working classes very low wages while keeping the profits for themselves. In this manner the rich would become richer and the poor would become poorer. This situation would lead to the working class becoming frustrated and helpless. This novel portrays the pathetic situation of Najeeb, The have not, in the hands of Arabs, the haves.

Have Nots' Helplessness in the Land of Haves

After translation to English, Benyamin's Malayalam novel *Aadujeevitham*, acquired enormous critical acclaim. *Goat Days* makes the peripheral voices of labour migrants audible across globe. It diligently explores the diasporic elements of the protagonist's journey. The novel is an eye opener for people across globe who desire to migrate to foreign lands in search of better monetary conditions. The poverty and lack of employment in our country must be eradicated to avoid the drain of Indian workforce to other economically booming nations. *Goat Days* navigates across barriers of time and space to bring to light the desolation and helplessness of the people who have been trapped in the nexus of this contemporary labour trade. The following points explains the helplessness of have nots in the land of haves.

Haves' Visa; a Via to Make Slaves or Have Nots

Najeeb's homeland did not offer him any monitory elevation or job opportunities, so he convinced himself for this migration. Under this modern-day inhuman institution of slavery millions of people are exploited and tormented, their passports are confiscated by their masters and they are forced into rigorous servitude. Najeeb dreamt of travelling to Gulf like many of his fellow Malayalis. After getting married he decided to revise his economic condition. He thought, "Can one go hungry?" (35), and pledged to travel to Gulf

to undertake better livelihood opportunities for his family. He mortgaged his house, his wife's jewellery, borrowed money and boarded the "Jayanti Janata" (39), train from Kayamkulam to Bombay. He began his journey without knowing the truth that Haves' visa is a via to make slaves.

Under the Custody of the Custodian of His Dreams

The Gulf dream has sown the seeds of dreams of an ideal land in him and his travel companion Hakeem's mind. But everything turns upside down when they are taken from the airport to be slaves. Najeeb and Hakeem are forcibly transported to a goat shed in an unfamiliar desert landscape by a stinking local Arab. Najeeb's distress and perplexed mindset is revealed in his words, "From that moment, like the maniyani fly, an unknown fear began to envelop my mind, An irrational doubt began to grip me, a feeling that this journey was not leading me to the Gulf life that I had been dreaming about and craving for"(52).

Like Pinnocchio, a character from children's fiction, Najeeb and Hakeem are driven and lured to the 'Land of Toys' here Riyadh, the land of dreams, which indeed is a farce. The inhospitable treatment that the narrator receives at the hands of the man who abducted him from the airport, locally known as 'arbab' was extremely frustrating. In desperate agony Najeeb surrenders all hope of any generosity from his arbab. The word 'arbab' is a Persian word meaning "master" or "owner".

Najeeb's agony did not affect his arbab as he was least bothered about Najeeb's thirst and hunger. Najeeb questioned the tradition of Arabian hospitality and expressed his diminishing hope questioning, "Is this the legendary Arab hospitality that I have heard about? What kind of arbab are you, my arbab? Don't deceive me. In you rest my future. In you rest my dreams. In you rest my hopes" (59). Najeeb tells "the one who walks in front of me is the custodian of all my dreams, the visible god who would fulfil all my ambitions".

Have Nots Journey to Darkness

Najeeb had left home for making money in Gulf, but very soon he learned that his aspirations were nothing more than a mirage. They were taken in an old vehicle. He remembers that the unending jolts and the growl of the vehicle entwined composing a lullaby for his fatigued ears and he fell asleep. And it was only when the arbab shook him that he awoke to eye-piercing darkness. The arbab growled like an angry wildcat. The darkness represents the darkness that have nots is going to face in the haves' land.

Have Nots' Sympathy for Have Nots

Only the have nots can understand the pathetic situation of other have nots. As Najeeb reaches in the Masara, he finds a scary figure. He had matted hair like that of a savage who had been living in forest for years. His beard touched his belly. He was a slave of the arbab. He began to speak to Najeeb in Hindi. There

was pity in those words, and also sadness, resentment etc. And Najeeb writes, “Today I understand he was lamenting my fate and wailing” (61).

Have Nots’ Tears Before Haves’ Cheers

“All the grief he had been retraining gushed forth as tears. He howled loudly in front of the arbab”.(65) It was the over flow of the sorrow and hunger that filled the have nots mind. The tears of the have nots fell on the foot of the haves who was in cheers. He expected pity on him by seeing him cry. But the arbab angrily pushed him out of the tent. The tears of have nots fall only outside the tents of haves’ cheers.

Have Nots’ Hunger Wins Over His Habits

The arbab told him that he should eat. If he was in his home he wouldn’t even drink coffee without first ducking into the river. He would not eat without brushing his teeth and doing his morning rituals. But that day, for the first time, he violated all his hygienic rules. He had drunk milk without brushing his teeth. Hunger for one and a half days forced him to ignore his habits. Hunger will win over the habits in the case of have nots.

Have Not’s Initiation to be Haves’ Slave

The arbab gave him a thobe- the dress of the typical Saudi Arab man, a long, white, shirt like garment, loose fitting, long sleeved and extending to the ankle, usually made out of cotton and a pair of shoes, then the arbab came over and handed him a long stick and he understood that it was his initiation to become another scary figure. Haves give gift to have nots to make them slaves.

Have Nots Under Haves’ Surveillance

Najeeb was introduced to the hostility of his arbab when he displayed his authority over Najeeb by means of his binoculars and double barrelled gun. Arbab used his binoculars to captivate the labourers who tried to flee from his vicinity, and the gun was used to kill them if they tried to raise their voice. Have nots always live under the surveillance of haves.

Have Nots’ Sighs in Signs

Najeeb was unable to communicate with his arbab or the “scary figure” (81), because they spoke languages he did not know. The “scary figure” was a weird looking man who like Najeeb served the arbab. This lack of communication fuelled Najeeb’s adversity. Though by means of non-verbal gestures he tried to communicate, yet he failed to fetch his master’s generosity. He philosophizes on one occasion saying that, “After all, compassion doesn’t require any language” (61). Haves fail to read the sighs in the signs of have nots.

Have Nots’ Lives Have No Value

The wretched condition of his life is again emphasised when Najeeb describes an incident, when he has been dead tired and stops to drink some water, the

arbab hits on him hard and has snatched the cup of water from him just to fling it away. He has been forced to return to work thirsty and panting. The 'usefulness' versus 'uselessness' of the individual is evident in the novel. His physical work is wanted to look after the sheep; whereas he is unwanted as an individual who talks, feels or who has emotions. He has to do the back-breaking work and is not supported with enough food for carrying out the works, or even water at least for washing.

Have Nots' Have No Sanitation

There were restrictions on sanitation due to shortage of water. He cleaned himself with stones after defecation. Najeeb angrily asserts that, "I had never faced such a predicament in my life.... The harshest for me was this ban on sanitation" (78). He was being physically reprimanded by these regulations. It was in wake of these bitter circumstances that Najeeb pondered over the look of the camels living in the shed. He says, "I would like to describe the camel as the personification of detachment" (79).

Have Nots' Killed by Haves

An arbab can kill him or beat him and no one would question the arbab; Najeeb lived in such a pathetic condition. When 'the scary figure', another immigrant labourer, tried to escape from the masara, he was killed and buried in the desert by the arbab. No one realises or values the life or the death of these immigrants. No master would bother whether the slave knows the work or not, but he is expected to do it without any talk voice. Even though the given duties were strange to Najeeb, he was tamed by his master and is forced to do the works. Najeeb says, "The arbab cared only about my work, not my discomforts" (94). He is willing to adjust a lot to survive in a new situation and yet the arbab persecutes him as if to discipline him to be an obedient servant.

Have Nots' Loneliness in the Land of Haves

Najeeb lived isolated from other people in a 'masara' a place he understood to be a goat shed. He verbalizes his plight by saying that, "I lived on an alien planet inhabited by some goats, my arbab and me" (125). To him all human company was forbidden, and he could only interact with the goats around him. He gradually develops a strong familial bond with the goats. He assigned human characteristics to these goats who shared his loneliness. He scolded the goats, cuddled them and adored them like his family. In an incident in the novel Najeeb embraced the sheep to shield him from extreme cold and confessed that, "I spent the winter as a sheep among the sheep" (140). Later when his arbab locks him in a masara, he survives by consuming "unhusked wheat" that belonged to the goats. The protagonist is an alienated character amidst the harsh desert environment. He calls himself an "orphan's corpse", when he cannot withhold his anguish. Even the enticing serenity of the desert sunset cannot fetch him any solace, on the contrary it arouses in him extreme sorrow and longing. He vents his agony saying that, "One of the greatest sorrows in the

world is to not have someone to share a beautiful sight” (159). He is a lonely man who has no control over his life. He surrendered all hopes of freeing himself and agreed to stay with animals as one of them.

Have Not's Choiceless Helplessness

The humiliating conditions and the beatings he receives, subject to the mood of the arbab, are terrible. He is left without any choice and cannot help obeying the arbab. The title of the novel *Goat Days* itself suggests the animal-like life the protagonist has in the desert, which is completely controlled by the arbab's gun and binoculars. His life in the masara hence becomes a big challenge for him. The only human being he sees every day is the cruel arbab, who is tough like a thunder, and his only friends are the sheep. The restriction and repression that is imposed upon him using the gun and binoculars limit him even from seeing Hakeem, who is also working for another arbab under similar condition. So, his life becomes apparently meaningless and is left without any freedom of choice. He obeys the arbab like a faithful and fearful dog and like a machine.

Unquestionable Haves and Voiceless Have Nots

Whatever is done by the arbab is to be accepted because he belongs to the haves and whatever is done to the have nots is to be accepted voicelessly and blindly because they are have nots. Once when Najeeb was physically too weak, he went near the arbab crying and begging him, to be taken to some hospital; it was not only that he didn't not pay any attention but also the very next day asked him to milk the goats. In another instance, Najeeb talks about the reaction of arbab when he showed his injured hand, "I got a smack on my head as a reply" (120). Like this there are number of instances in the novel that show how he is unheard, unnoticed, exploited and persecuted in the work place. It was not only the arbab but the desert, the physical space, also drained away their energy. The indifferent desert crushed and gobbled the slaves. The long weary journey of escape, through the desert without any water or food pushes Hakeem into the hands of death.

Have Nots in the Iron Bars of Freedom

As the French linguist Saussure emphasised that the meaning of a word is relational, Najeeb's idea of freedom is also purely relational. Thus his idea of freedom is just the freedom to talk, walk, to have good food and the chance to meet other people. The novel opens in a prison raising, at the outset, questions that will be resolved later. An aura of dismay and intrigue is generated by the narrator when he says, "Why is it that even misfortune hesitates to visit us when we need it desperately" (5). The narrator, Najeeb Muhammad along with his companion Hameed tries to enrol themselves voluntarily into the prison. He gives the description of a large country prison called "Sumesi" prison. The prison blocks were divided on grounds of nationality, "One block for each nationality - Arabs, Pakistanis, Sudanese, Ethiopians, Bangladeshis, Filipinos, Moroccans, Sri Lankans and then, finally, Indians. Most of the Indians were

surely Malayalis. Naturally we were taken to the Indian block” (11). The catastrophic life that Najeeb had escaped converted the prison into nothing less than a sanctuary where he could recuperate. He justifies his act of voluntary prison enrolment by dropping a clue regarding his horrifying past for the reader, “Can you imagine how much suffering I must have endured to voluntarily choose imprisonment!” (12).

Conclusion

The author emphatically asserts that Najeeb’s catastrophic journey cannot be tampered with, or redesigned for securing popularity or critical acclaim. He says, “I didn’t sugar-coat Najeeb’s story or fluff it up to please the reader. Even without that, Najeeb’s story deserves to be read. This is not just Najeeb’s story, it is real life. A goat’s life” (255). Authenticity of narration and explicit portrayal of Najeeb’s fiasco in Gulf lent this troubling study of Indian labour migrants an extraordinary literary charisma. This novel also provides an insight into the lives of many suppressed people who suffer in countries other than their homeland and throws light on the have nots’ helplessness in haves’ land in a realistic way.

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Significance of Land Reforms for the Empowerment of Dalits in Contemporary Tamil Nadu

P. Sadasivam¹ and V. Sankar²

¹Assistant Professor of History, Bishop Heber College (Autonomous), Tiruchirappalli

²Assistant Professor of History, St. Joseph's College (Autonomous), Tiruchirappalli

Land is a source of livelihood for the people of our country. Because, the country is having largest population and its largest section of workforce is primarily depended on land and its subsidiary activities. Among the workforce depended on land the 'Dalits' consist of a major social base in this nation. Though, Dalits have been the major social base of our workforce that is largely depended on land, the equitable distribution of land to these people is still a serious concern. Because, the evolution of four-fold division of society and crystallization of complex caste system in due course inflicted various duties, obligations and restrictions on these people. Therefore, these people's property and ownership rights and involvement into every social, economic, political and cultural activities have been consistently denied from ancient period. However, in India and particularly in Tamil Nadu, after independence land reform measures have been initiated with the objectives of eliminating inequality, reducing poverty, rectifying unequal distribution of land resources, rural development, establishing democratic society and making headway in the existing socio-economic order comprehensively by which facilitating the processes of empowerment among Dalits in our contemporary society.

Land Distribution in India

Land reform can be defined as the redistribution of rights and interests in land in favour of the landless and the poor cultivators¹. Thus, land reform provides a means for redistribution of landed property through structural reforms which can bring about revolutionary improvements in the standard of life on the rural poor who have been deprived of their due rights in land due to domineering influence of the landed class in all spheres of rural life including social, political, administrative and religious spheres². In India land has been more important from pre-historic period due to the social, professional and productive values of human. In due course, in the four-tier Hindu society, caste started to play a significant role in all social equations. While the upper strata in the caste hierarchy were enjoying all the social, economic and political luxuries, the lower strata were denied opportunities to get even a measure of equality with the upper strata. In the traditional Hindu hierarchal society, Dalits, also known as Panchmas, were socially, economically and politically suppressed people. The Dalits mostly subsisted by engaging in occupations like scavenging, leatherwork and other menial works. Moreover, they were neither allowed to

owning land, nor taking land on lease³. This trend was continued until the medieval period in India despite they had been tillers of the soil irregularly.

However, during the British period significant changes took place gradually in the socio - economic conditions of Dalits. For the first time in India, the right over land was given to Dalits during the British period. A commission was appointed in 1891 by the Madras Presidency to study the conditions of the *Pariah* a Dalit community and got the positive report to assign the lands to Dalits. The policy of assignment of land to *Pariahs* started from 1918 in every Ryotwari village. Land was assigned for these depressed groups not only for cultivation, but also for building houses, establishing schools and for forming small *Pariah* settlements. Meanwhile, the land assigned for cultivation rose sharply from 19,251 acres in 1920-21 to 3, 42,611 acres in 1931⁴. The land rights received by Dalits gradually strengthened their presence over land but it was not universal among all other Dalit community across the presidency as well as the country.

After independence, the government of India took major initiatives on land reforms in order to establish social equality among citizens and make comprehensive economic development in our country. So in the original document of our constitution itself they included right to property as a fundamental right but later on it was converted into legal right and provided legal sanction⁵. Besides, the planning commission constituted for organized and balanced economic development in our country too insisted land reforms must be initiated to establish a socialistic pattern of society in India⁶. Therefore, land reform measures were taken with the main objectives of abolition of the intermediary system between the state and the tillers, imposition of ceiling on agricultural landholdings, consolidation of landholdings and adoption of modern techniques in agriculture. However, the actual implementation of land reforms rests with the state governments and legislative measures were enacted and adopted in this regard vary from state to state suiting to local conditions and requirements⁷.

Land Reform Initiatives in Tamil Nadu

Since the inception of independence land reforms have continued to be on the national agenda through various measures of planning commission and other agencies of government of India. In consonance with national agenda the Tamil Nadu government took major initiatives in land reforms from the period of first people elected government to redistribute rights to marginalized sections, ensure common justice and protect them from deprivation of upper ladder of the society and other intermediaries and achieving higher levels of social equality across the state⁸. The major land reform initiatives of Tamil Nadu government are as follows:

a) Tamil Nadu Cultivating Tenants (Protection) Act, 1955

The Tamil Nadu cultivating tenants (Protection) Act passed and received assent of the President of India on 24th September 1955. The Act primarily lays down that no cultivating tenant shall be evicted from his holdings, except for the non-payment of rent or doing any act which is injurious to the land or crops thereon, failure to cultivate the land, using the land for any purpose other than agricultural or denial of the title of the landowner to the land⁹. Thus, this Act protects the interest of the cultivating tenants, from eviction from the lands, except for non-payment of lease rent or doing any act of injurious or destructive to the land or crops thereon, using the land for any purpose other than agricultural or horticultural or wilfully denying the title of the land owner to the land. The disputes between the land owners and tenants are settled by the Revenue Courts¹⁰. Besides, in 1968 special provisions were made in Tamil Nadu cultivating tenants Act. To enable the cultivating tenants to pay the arrears outstanding on the 20th April 1968 in easy installments¹¹.

b) Tamil Nadu Bhoodan Yagna Act, 1958

The Bhoodan Movement or Land Gift Movement was a voluntary land reform movement in India, started by Acharya Vinoba Bhave in 1951 at Pochampally village in Telangana. In extension of this movement Vinoba visited all the places in India, while his visit in Tamil Nadu, few people made land donation to this movement. In order to regulate lands received as donation by Acharya Vinoba Bhave through Bhoodan Yagna Movement the Tamil Nadu Bhoodan Yagna Act was enacted in 1958. Through the enactment of this act proper distribution of donated lands to Dalits and reasonable protection to them have been made¹².

Recently, as per G.O (Ms.) No. 144, rural development and Panchayat raj department dated 11.10.2006 the Bhoodan subject has been transferred and attached with land reforms department for the plausible improvement of land reforms and extent more concentration of Dalits empowerment in Tamil Nadu. Besides, as per G.O. (Ms.) No. 493, revenue department dated 23.12.2009, the Tamil Nadu Bhoodan board has also been reconstituted mainly to rejuvenate and face the challenges in the contemporary globalized world¹³.

c) Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961

The Act was enacted with a view to reduce the disparity in the ownership of the agricultural land and concentration of such land with certain persons and to distribute such land among the landless poor. Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961 came into effect on the 6th April, 1960, wherein the ceiling area for a family consisting of five members had been fixed as 30 standard acres¹⁴. For every additional member of the family consisting of more than five members, an additional extent of 5 standard acres was allowed in addition to the ceiling area of 30 standard acres, subject to the overall ceiling of 60 standard acres¹⁵.

As on the date of the commencement of the Act, any female member of the family having lands in her own name, to be entitled to hold *stridhana* property upto a ceiling of 10 standard acres. The notified date of the said Act was 02.10.1962. The reference date for holding of land was as on 06.04.1960¹⁶. With a view to increase the number of beneficiaries by acquisition of the agricultural lands held by the big landowners in excess of the ceiling area and for the distribution of such lands to the landless and other rural poor, reduction of ceiling on land was introduced in the year 1970, by amending the Parent Act, by the Act to the effect that the ceiling area fixed earlier at 30 standard acres has been reduced to 15 standard acres. The notified date of the Act was 02.10.1970. The reference date for holding of land was as on 15.02.1970. It may be seen from the Parent Act, that exemptions were granted under the Principal Act for the lands grown with sugarcane and the lands used exclusively for grazing purposes¹⁷.

With a view to achieve the object of distribution of ceiling surplus lands to the landless and rural poor, the exemption granted under the Principal Act for lands grown with sugarcane and grazing lands were ordered to be withdrawn by amended Act, with effect from 15.01.1972. The overall ceiling area of 60 standard acres, as fixed under the Parent Act, has been refixed at 40 standard acres through an amended Act called the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Second Amendment Act, 1971¹⁸. This Act also came into effect from 01.03.1972. Subsequently, by another amended Act, viz., Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Fourth Amendment Act, 1972 the overall ceiling limit was further reduced from 40 standard acres to 30 standard acres¹⁹. This Act came into effect on the 1st March 1972. Even though the Trusts were not attracted by the provisions of the Parent Act, ceiling limit has been fixed for the Trusts through Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Third Amendment Act, 1971 according to the character of the Trusts. To sum up, as on date, 30 standard acres of land is the maximum extent of land that a family can hold in the State²⁰.

d) Land Purchase Scheme

The Land Purchase Scheme was introduced in 2002 with the aims to provide agricultural land and various other agricultural inputs to landless, small and marginal female farmers belonging to Scheduled Castes in Tamil Nadu. The maximum unit costs Rs.1.00 lakh subsidy 50 percent of the unit cost and 50 percent loan from Bank. The registration cost and stamp duty is exempted for 75 percent. Preference to be given to *Adi Dravidar* Women Self Help Group and income limit to rural is Rs.18,460 and urban is Rs.28,536²¹. The scheme is exclusively for Scheduled Caste Women. The beneficiary will be permitted to purchase land upto 5 acres of dry land and 2.5 acres of wet land. The government has issued orders for the exemption of 100% stamp duty for the registration of the land purchased under the scheme²².

Impact of Land Reform Initiatives in Tamil Nadu

The task of land reforms were one of the serious concern of the first people elected government in Tamil Nadu. Though, the Britishers were the first one to provide land rights extensively to Dalit community but they not at all keen in adopting progressive measures. Therefore, this had given space for mushrooming the *zamindars* and the other big land lords and provided a golden opportunity to exploit the Dalits to a great extent. But after independence serious of efforts have been taken by Tamil Nadu government that has infused profound impact on the socio-economic order of Tamil Nadu²³.

The focal issue confronted by the first people elected government was abolition of intermediaries, protection of tenants from discrimination and fixing of land ceiling. So then government passed two important acts one is tenants 'protection act in 1955 and land ceiling act in 1961. As a result of tenants protection act, tenants have come into direct control of state government and more lands have been brought to government possession for distribution to landless Dalit farmers²⁴. Though, these two aspects resulted heavy burden on the state exchequer, created safety and security to small and marginal Dalit farmers in Tamil Nadu. Besides, the land ceiling act 1961, also has reduced concentration of lands from big zamindars and land lords in Tamil Nadu and gradually reduced social and economic domination over Dalits in Tamil Nadu²⁵. Anyhow, the consolidation of land and ceiling of landholdings were important measures adopted by almost all the states of the Union including Tamil Nadu.

However, "A Study of Tamil Nadu's Economy" by K. Nagaraj, a Professor of Madras Institute of Development Studies (MIDS) notes: "while there has been a substantial transfer of land ownership from the upper castes to the middle and lower castes, access to land remains very low for the Scheduled Castes. This is particularly true for landholdings in higher size classes, and for holdings with better quality irrigation like well irrigation²⁶. Besides, "Thangaraj, professor of the MIDS, also notes that data from the Population Census of 1991 and the Agricultural Census of 1990-91 show that while Dalit accounted for 19.18 per cent of the State's population, their share of area operated was only 7.1 per cent²⁷.

The Table-1 reveals distribution of land holdings among Dalit community in Tamil Nadu as per the Agricultural Census, 2010-11. Besides, these census clearly demonstrates the uneven distribution of land holdings and how other people having more land than Dalit people. Moreover, in Tamil Nadu, as per the 2011 census the total Scheduled Caste population is around 1,44,38,445²⁸. Tamil Nadu stands in the fourth place among the states having the highest percentage of the Scheduled Caste population in India.

Table-1
Number and Area of Land Holding by Scheduled Castes in Tamil Nadu

S. No.	Size of Holding (in ha.)	Individual Holdings		Joint Holdings		Total holdings	
		Number	Area	Number	Area	Number	Area
1.	Below 0.5	552844 (99.07) [63.83]	130967 (99.34) [26.81]	5199 (0.93) [70.46]	868 (0.66) [22.68]	558043 (100) [63.89]	131835 (100) [26.78]
2.	0.5-1.0	187024 (99.37) [21.59]	131811 (99.38) [26.98]	1186 (0.63) [16.07]	820 (0.62) [21.42]	188210 (100) [21.55]	132631 (100) [26.94]
3.	1.0-2.0	95536 (99.32) [11.03]	130370 (99.29) [26.69]	653 (0.68) [8.85]	930 (0.71) [24.31]	96189 (100) [11.01]	131300 (100) [26.67]
4.	2.0-3.0	20280 (99.14) [2.34]	48296 (99.14) [9.89]	175 (0.86) [2.37]	420 (0.86) [10.98]	20455 (100) [2.34]	48716 (100) [9.90]
5.	3.0-4.0	5958 (98.72) [0.69]	20368 (98.73) [4.17]	77 (1.28) [1.04]	261 (1.27) [6.82]	6035 (100) [0.69]	20629 (100) [4.19]
6.	4.0-5.0	2170 (97.88) [0.25]	9631 (97.91) [1.97]	47 (2.12) [0.64]	205 (2.09) [5.36]	2217 (100) [0.25]	9836 (100) [2.00]
7.	5.0-7.5	1621 (98.30) [0.19]	9667 (98.15) [1.98]	28 (1.70) [0.38]	182 (1.85) [4.76]	1649 (100) [0.19]	9849 (100) [2.00]
8.	7.5-10.0	434 (97.97) [0.05]	3712 (97.98) [0.76]	9 (2.03) [0.12]	77 (2.02) [2.00]	443 (100) [0.05]	3789 (100) [0.77]
9.	10.0-20.0	238 (97.94) [0.03]	3177 (98.04) [0.65]	5 (2.06) [0.07]	63 (1.96) [1.66]	243 (100) [0.03]	3241 (100) [0.66]
10.	20.0 & Above	15 (100) [0.00]	479 (100) [0.10]	0 (0) [0]	0 (0) [0]	15 (100) [0.00]	479 (100) [0.10]
11.	All Classes	866120 (99.16) [100]	488479 (99.22) [100]	7379 (0.84) [100]	3827 (0.78) [100]	873499 (100) [100]	492306 (100) [100]

Source: Agricultural Census, 2010-11.

Meanwhile some of the human development indicators are helping us to understand the present scenario of Dalits in Tamil Nadu after various land reform initiatives. They are as following:

a) Poverty

Poverty is one of the social crime in our country²⁹. The Dalit people are the prime victims of these crimes. In Tamil Nadu, around 23% of total population is under poverty line among these Dalit communities having highest proportion of percentage. The main reason behind these is unequal distribution of land resources, over dependence on agriculture and unemployment³⁰. The below table explicit the percentage of poverty among various social groups in Tamil Nadu.

Table-2
Percentage of Population below Poverty Line by
Social Groups in Tamil Nadu (2004-05)

Rural				Urban				Rural & Urban
SC	OBC	Others	All	SC	OBC	Others	All	Combined
31.2	19.8	19.1	22.8	40.2	20.9	6.5	22.2	22.5

Source: Planning Commission Report, 2005

b) Workforce Participation

The work participation rate is the percentage of workers to the total population. The work participation rate among Dalit population is 48.1 per cent in 2001, which is higher than 44.7 per cent for the state population as a whole. The work participation rate of Dalit population however, has declined marginally, if compared to 48.4 per cent reported in 1991 Census³¹. The male work participation rate has been 55.8 per cent and female work participation rate 40.3 per cent at 2001Census. At individual caste level, the work participation rate varies from the highest 55.4 per cent among Chakkiliyan to the lowest 44.4 per cent among Adi Dravida. Adi Dravida has also recorded the lowest female work participation rate of 35.1 per cent³². It shows the insecure job nature of Dalit population, landlessness and overdependence on agriculture and its allied works.

Table - 3
Percentage of Marginal Workers in Tamil Nadu

Gender	2001 Population			2011 Population		
	Rural	Urban	Total	Rural	Urban	Total
Male	12.8	6.1	9.9	14.8	7.9	11.5
Female	27.1	14.6	23.8	24.3	16.0	21.6

Source: Primary Census Abstract Data, 2011.

These two important indicators reveal the status of Dalits in Tamil Nadu and their relation with land after various land reform initiatives. Though, land reform measures made various changes in the socio-economic life of Dalit people it doesn't fulfill the expected results comprehensively.

Conclusion

Early human person needs land primarily for their survival. But the emergence of concepts like territorial expansion, domination over territory, land revenue and commercialization of agricultural products increased the real value and importance of land. However, in the years following India's independence conscious process of nation building considered the problem of land reform with pressing urgency. Because, the land is not just a primary means of production but as the holder of social status, economic security, power and identity. Therefore, in Tamil Nadu land reform initiatives have taken as consonance with the above ideas and these measures provided numerous safeguards to Dalits like universal access to land resources, proper distribution of land, and protection from eviction and so on. Despite, these measures relieved Dalit people from earlier stress it is still not fulfilling all the expected objectives. There are many factors responsible for this tardy progress but important among them are the lack of adequate direction and determination, lack of political will, absence of pressure from below, inadequate policy instrument, legal hurdles, absence of correct-up-dated land records and the lack of financial support. Besides, the neo-liberal policy of Indian government has been obviously adding new pressure to Dalits because allowing the corporate sectors to accumulate land in the name of economic development. Moreover, Dalit communities have always been largely at the receiving end of all the initiatives. Hence, it is important to realise that land reforms are not just distribution of existing lands but it serves as one of the major apparatus to empower Dalits in contemporary Tamil Nadu.

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Efficacy of Orientation Training Programme in Organizations

K. Arockiam¹ and T. Gunasundari²

¹Head, Dept of HRM, St. Joseph's College (Autonomous), Tiruchirappalli

²PhD Scholar, Dept of HRM, St. Joseph's College (Autonomous), Tiruchirappalli

Introduction

In today's cut-throat competitive world, attracting and sustaining the proficient employees is the pinnacle priority for all the organizations. Here the induction training plays a crucial role for an organization to attain its long term competitiveness. Induction training bridges the gap between fresh recruits and organizations. It will help both the organizations and fresh human resources to build up a healthy relationship between them. "Training is an organized activity for increasing the knowledge and skills of people for a definite purpose. The trainees acquire technical knowledge, skills and problem solving ability by undergoing the training programme. Training makes a very important contribution to the development of the organization's human resources and hence to the achievement of its aims and objectives. Training needs to be effectively managed so that the right training is given to the right people, in the right form, at the right time and at the right costs" (*Dr.B.Rathan Reddy, Edition 2012*)

"Training is the act of increasing the knowledge and skill of an employee for doing a particular job" (*Edwin B.Flipppo*)

"The organized procedure by which people learns knowledge and skill for a definite purpose" (*Dale S.Beach*)

Induction Training

Induction training is efficient training. The efficient model supplements natural learning with a systematic intrusion that relates to the organizations objectives. The structures of induction training include: Training is part of the organizations overall planning process and is in line with its goals.

Induction training is the preliminary training given to new-fangled employees. The first impression is best one, when new employees join the organization. The initial collaboration and relationship, the organization has with the new employees is very significant to resolve upon the future accomplishment and responsibility in the later period. Training is the systematic procedure by which an employee enhances the knowledge and skills for doing a particular job. It means the training is the anticipated and organized activity to divulge skills, knowledge and technology with a systematic methodology which is very spirited to the employees. It is also a fact that new employees who join the organization, have lots of belief, expectation about job, boss, environment, nature of work etc. It is the responsibility of the organization to make the new

employees gratified as well. The effectiveness of induction programme depends not only in familiarizing the new employees, but it is right strategy to make the employees as a 'Right-fit' to the organization. So, it should be done analytically and meticulously and make the employees to regulate with organization culture. Hence more reputation is given for the effectiveness of induction training and need to be appraised periodically to rally the induction programme.

Why new employee needs an Induction Training Programme?

Attracting and retaining employees have become an inspiring task in the economic environment. The induction training program is designed to acquaint with new employees to an organization. It distresses how much an employee feels valued by the organization. Besides, it obliges to live up to the expectations of new employees, endorsing that they have made the right decision joining in an organization. It should also inspire the new employees to stay with you for the long term.

On boarding data

- 90% of employees make their decision to stay at a company within the first six months.
- 22% of employee turnover happens in the first 45 days of employment.
- One in three newly hired employee's leaves before the end of their first year.
- 69% of new employees more likely to stay because of effective on boarding.
(www.Polarisft.com)

Role and Responsibilities of Induction Program

The core HR department is wholly responsible for conducting an induction training programme in an organization. Line manager has to manage induction schedule and allot team leader for new employee.

Team leader should prepare training schedule and be responsible for each new employee. They should make adjustments in induction plan, if needed. HR department has maintained the database of induction program. The feedback session will be conducted by HR department for the new employees.

Induction Training Elements

1. Company Element

- ✓ Company synopsis
- ✓ Company antiquity
- ✓ Company vision and mission
- ✓ Company strategy
- ✓ Company traditions and principles
- ✓ Organizational structure
- ✓ Network of operations
- ✓ Company products

2. HR Element

- ✓ Job welfares
- ✓ HR strategies
- ✓ HR practices
- ✓ Welcome package
- ✓ Employment contract
- ✓ Employee handbook

3. IT Element

- ✓ IT policy
- ✓ IT helpdesk support processes
- ✓ Software required for the job
- ✓ Usage of company hardware/ software

4. Job Element

- ✓ Department overview
- ✓ Department organizational structure
- ✓ Department explicit policies
- ✓ New employee's job profile
- ✓ New employee's job intentions

Segments of Induction Programme

a) Universal Induction

The HR department conducts the first segment of induction. The main purpose of this induction is to attract the new employees to the organization by explaining him the mission, objectives, history and philosophy of the organization. The HR manager should explain the job nature, job description, salary, promotion, personnel policies and grievance handling practiced in the organization to the new employees. The induction training conducted for a few days or a few weeks depending on the organization. This would indoctrinate the new employees to work in the organization for long term.

b) Explicit Induction

The new employee's superior directs this induction training programme. The superior person should explain the job description to the new employees. The superior person should show the work place, around the premises, introduce to the team members, and briefly explain the methods and procedures regarding his job. This training helps the new employees to fine-tune with his work environment.

c) Development Induction

The new employee's absorbs the main persistence of this training superior to substantiate whether the new employees triumph adapted with their work atmosphere. At the end of induction training, feedback session conducted to the

new employees, so that they can make the induction training more effective in future.

Conclusion

In this concept paper, the researcher explored that by skills acquired by the new employees also regulate the efficiency of the programme. It has scrutinized the elements through which the effectiveness of induction training programs is proficient in the organization. Induction training is very imperative since it is the disposition in development for the forthcoming achievement of organization by training the new employees as obligatory by the organization. They should sustain a moral affiliation between managers and employees. Training and Development Program is a necessity for all the employees, so that they can expand their professionalism. It helps to rally the evolution and enlargement of organization.

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Research Productivity in the University of Madras: A Scientometric Study

A. Rosaline Mary¹ and M. Dorairajan²

¹Librarian, Kalaikaviri College of Fine Arts, Tiruchirappalli

²Librarian, St. Joseph's College (Autonomous), Tiruchirappalli

Introduction

The measurement of research productivity performance in universities has become a periodical, routine affair in most of the developed countries. Till a few years ago, criterion for such a measurement remained question through various scales were under trial. Today, measuring the research performance of a university applying the scientometrics and bibliometric principles have become an accepted practice in the absence of any other suitable alternative mechanism despite criticism from a section of academic quarters. All kinds of peer reviewed research publication and their impact factor are taken into account besides a number of socio psychological factors influencing research performance or productivity of scholars involved in science communication.

The present study is on "Research Productivity in the University of Madras: A Scientometric Study".

University of Madras

The University of Madras is a public State university in Chennai, Tamilnadu. Established in 1857, it is one of the oldest and premier universities in India. The university was incorporated by an act of the Legislative Council of India. It is a collegiate research university and has six campuses in the city viz., Chepauk, Marina, Guindy, Taramani, Maduravoyal and Chetpet.

At present, there are 73 academic departments grouped under 18 schools, covering diverse area such as sciences, social sciences, humanities, management and medicine along with 109 affiliated colleges and 52 approved research institutions.

Objectives

- To analyse the rate of growth of scientific literature in the University of Madras.
- To find out the most prolific authors in the University of Madras.
- To identify the distribution of research productivity output of researchers in various journals.
- To identify the geographical area of research concentration.

Need for the study

The aim of the present investigation is to analyze research output of the University of Madras measured by the number of publications published

between 1989 to 2014 study period in the International and National, local journals and to identify the productivity and the international visibility of the universities.

Scope and Limitations

As a higher academic institute, major missions of a university are teaching, learning and research activities are the prime area of concern not only to the universities but also to the Government.

To pursue excellence and the performance of the university through the aggregate performance of the faculty members is essential. To evaluate the publication productivity of the university through its individual faculty members, no matter which department these faculty members are affiliated with. The present study focuses on the publications of the research scholars and faculty members are considered and further the study is carried out with the indexed records in web of science during the period of 1989 to 2014.

Data Collection

The publications of Universities are mostly in the form of articles in journals. The research papers abstracted and indexed in web of science database were taken as the primary source for the present study to identify the research performance of the universities.

Review of Literature

Raja and Balasubramani (2011) have analyzed plasmodium falciparum research publication in India measured from Histcite software and other tools. The results show that the growth of Indian literature in plasmodium facicparum deposition and make the quantitative assessment of the research in terms of year-wise research output, geographical distribution, nature of collaboration, characteristics of highly productive institutions and the channel of communication used by the scientists.

Srinivasa Ragavan (2012) in his work was to analyze the scientometric parameters for Medicinal plant research publications. Investigator has compared the author productivity and citations by various institutions at national level. It could clearly see that during the period 1973-2009, a total 1265 publications were published at national level and the data has reflected in Web of Science database. This paper finds trend towards collaborative research is gaining momentum. As every work of researchers depends mainly on the library since it provides more scholarly information and hence these kinds of studies are more relevant in identifying thrust areas of research.

Dorairajan and Rosaline Mary (2015) this paper discussed about the scientometric Analysis of research productivity in Thiruvalluvar University during 1989-2014. It is noted that institutions were contributed 85 of the total research productivity. It is noted that Thiruvalluvar University contributed the highest number of research publication (83) at the same time at ranks first,

Global citation Score 446 only. Thiruvalluvar University collaborates with Anna university contributed only 13 research publication at the same time it ranks 9 Global citation Score and The lowest king Saud university contributed (3) at the same time it ranks Global citation score 5.

Dorairajan and Rosaline Mary (2015) this study aims to assess the publication productivity of the Universities in Tamil Nadu using Scientometric tools. The Web of Science database was used to retrieve relevant records. The performance of the most productive authors, institutions, most preferred type of documents, journals is assessed. The citation scores were used to rank the universities under study.

Analysis

In total 7251 articles, got indexed in Web of Science database during 1989-2014 from University of Madras, it is seen that 155 articles were published in 1989 and it is increasing gradually. During 2014 more number of articles was indexed in web of science that is 457 (6.30%) but in the year 2000 it was 189 records (2.60%) on an average there were 278 articles published per year.

The Relative Growth Rate of the publication productivity in the Madras University was 0.02 in the year 1990 and it was increased to 0.30 in the year 2000. But, it is reduced to 0.19 in the year 2010. The mean relative growth rate during the period 1989 to 1996 was 0.03. It is further increased to 0.110 between the periods 1997 to 2004. The steady growth of 0.241 in the period of 2005 to 2014 can be observed from the above analysis. With regard to Doubling Time of the productivity, it was 2.65 in the year 1990 and increased to 20.38 as the maximum in the year 1997. There is a slight change during 2007 (13.07) and 2013 (19.25) contrastingly, there is an increasing trend in the mean doubling time 5.213 in the year 1996 to 9.117 in the year 2004. Again, it is coming down 3.34 in the year 2014. It is inferred from the table that the research productivity in terms of relative growth rate and Doubling Time were in fluctuation.

During the period of study 1989-2014 web of science covers the papers published by 8477 authors from university of madras. Average number of author per article is 1.5. Among the authors it can be view that the Prof. D. Velmurugan with 387 records placed in first position contributed 5.3 percent of the articles while the author Prof. R. Raghunathan, who possesses the second position, contributed 291 records that is 4.0 percentages. The author Prof. VT Ramakrishnan with 10th rank contributed 104 articles during the study period that is 1.4 percent. It is clear from the analysis that Prof. D. Velmurgan received 552 local citations and 1429 global citations.

Out of 7251 articles published by University of Madras, 586 articles were published (8.1%) in Acta Crystallographica Section E-Structure as the most preferred journal.

**Table 1: Year wise Distribution of research productivity in
University of Madras**

S. No.	Publication Year	Recs	Percent	TLCS	TGCS
1.	1989	155	2.1	151	887
2.	1990	159	2.2	169	1110
3.	1991	130	1.8	220	1272
4.	1992	156	2.2	203	1077
5.	1993	198	2.7	318	1663
6.	1994	179	2.5	257	1576
7.	1995	191	2.6	283	1612
8.	1996	202	2.8	429	1854
9.	1997	209	2.9	331	2007
10.	1998	226	3.1	426	2418
11.	1999	256	3.5	358	2244
12.	2000	189	2.6	354	2449
13.	2001	206	2.8	401	3445
14.	2002	223	3.1	267	2790
15.	2003	309	4.3	530	3796
16.	2004	280	3.9	476	3457
17.	2005	360	5.0	671	4738
18.	2006	447	6.2	558	6066
19.	2007	424	5.8	448	4592
20.	2008	397	5.5	490	4255
21.	2009	425	5.9	479	3583
22.	2010	351	4.8	294	3666
23.	2011	401	5.5	283	2286
24.	2012	354	4.9	202	1656
25.	2013	367	5.1	97	1209
26.	2014	457	6.3	35	599

Table 2: Relative growth rate and doubling time of the research output of University of Madras

S. No.	Year	No. of Recs	Loge 1 p	Loge 2 p	RGR	Mean	Dt	Mean
1.	1989	155	--	5.043	---	0.030	---	5.213
2.	1990	159	5.043	5.069	0.026		2.665	
3.	1991	130	5.069	4.868	0.201		3.448	
4.	1992	156	4.868	5.050	0.182		3.808	
5.	1993	198	5.050	5.288	0.238		2.912	
6.	1994	179	5.288	5.187	0.101		6.861	
7.	1995	191	5.187	5.252	0.065		10.661	
8.	1996	202	5.252	5.308	0.056		12.375	
9.	1997	209	5.308	5.342	0.034	0.110	20.382	9.117
10.	1998	226	5.342	5.421	0.079		8.772	
11.	1999	256	5.421	5.545	0.124		5.589	
12.	2000	189	5.545	5.242	0.303		2.287	
13.	2001	206	5.242	5.327	0.085		8.153	
14.	2002	223	5.327	5.407	0.080		8.663	
15.	2003	309	5.407	5.733	0.326		2.126	
16.	2004	280	5.733	5.635	0.098		7.071	
17.	2005	360	5.635	5.886	0.251	0.241	2.761	3.544
18.	2006	447	5.886	6.103	0.217		3.194	
19.	2007	424	6.103	6.050	0.053		13.076	
20.	2008	397	6.050	5.983	0.067		10.343	
21.	2009	425	5.983	6.052	0.069		10.043	
22.	2010	351	6.052	5.861	0.191		3.628	
23.	2011	401	5.861	5.994	0.133		5.211	
24.	2012	354	5.994	5.869	0.125		5.544	
25.	2013	367	5.869	5.905	0.036		19.25	
26.	2014	457	5.905	6.125	0.220		3.15	
Total		7251						

Table 3: Most Prolific Authors in University of Madras

Author	Recs	Percent	TLCS	TGCS
Velmurugan D	387	5.3	552	1429
Raghunathan R	291	4.0	756	2163
Ponnuswamy MN	229	3.2	155	927
Fun HK	178	2.5	352	814
Mohanakrishnan AK	164	2.3	382	846
Ravikumar K	155	2.1	182	357
Varalakshmi P	146	2.0	340	2233
Rajakumar P	130	1.8	307	757
Kandaswamy M	112	1.5	332	1585
Ramakrishnan VT	104	1.4	416	1235

Table 4: Journal-wise Distribution

Journal	Recs	Per-cent	TLCS	TLCS/ T	TGCS	TGCS/ T	TLCR
Acta Crystallographica Section E-Structure Reports Online	586	8.1	513	64.37	853	107.43	637
Acta Crystallographica Sec. C-Crystal Structure Communications	184	2.5	326	18.25	879	49.46	140
Current Science	124	1.7	77	4.50	638	46.41	72
Indian Journal of Animal Sciences	116	1.6	5	0.33	73	5.94	7
Tetrahedron Letters	105	1.4	399	54.62	1513	209.39	321
Molecular and Cellular Biochemistry	93	1.3	220	24.43	1383	164.53	210
Indian Veterinary Journal	90	1.2	2	0.14	39	2.37	2
Synthetic Communications	83	1.1	103	8.77	436	44.66	212
Medical Science Research	74	1.0	109	5.68	206	10.70	58
Chemico-Biological Interactions	65	0.9	128	16.10	1183	157.23	160

Table 5: Document wise Distribution

S. No.	Document Type	Recs	Percent	TLCS	TGCS
1.	Article	6488	89.5	8327	61488
2.	Meeting Abstract	199	2.7	0	25
3.	Note	167	2.3	155	709
4.	Article, Proceedings Paper	139	1.9	116	1180
5.	Letter	95	1.3	30	684
6.	Review	84	1.2	95	2144
7.	Editorial Material	31	0.4	2	57
8.	Correction	24	0.3	3	5
9.	Biographical-Item	8	0.1	0	7
10.	Book Review	7	0.1	0	0

It is found from the analysis that the major portions of the publications were in the form of articles i.e. 6488 (89.5%).

The analysis shows that 7251 papers were published in journals collaborated with the authors from 99 countries. The maximum of 4.3 percent of the articles were published in collaboration with United States of America (310 articles).

Table 6: Country wise Distribution

S. No.	Country	Recs	Percent	TLCS	TGCS
1.	India	7187	99.1	8646	65451
2.	USA	310	4.3	225	4762
3.	Malaysia	200	2.8	356	986
4.	Japan	143	2.0	99	2403
5.	South Korea	131	1.8	94	1231
6.	Germany	66	0.9	58	1330
7.	UK	54	0.7	42	2459
8.	France	51	0.7	49	943
9.	Canada	41	0.6	24	1031
10.	Mexico	34	0.5	44	472

Table 7: Institution wise Distribution

S. No.	Institution	Recs	Percent	TLCS	TGCS
1.	Anna University	487	6.7	349	3201
2.	Tamil Nadu Vet & Animal Science University	278	3.8	49	669
3.	University of Sains Malaysia	179	2.5	352	793
4.	Indian Institute of Chemical Technology	159	2.2	192	410
5.	Indian Institute of Science	125	1.7	137	1375
6.	Central Leather Research Institute	123	1.7	115	1213
7.	Indian Institute of Technology	122	1.7	89	1385
8.	Indira Gandhi Central Atomic Research	89	1.2	70	929
9.	SRM University	74	1.0	52	631
10.	Presidency College (Autonomous)	67	0.9	27	62

The publications made by the authors of University of Madras with other institutions were analyzed. It is inferred that 6.7 percent of the articles were published along with the Anna University by publishing 487 articles. Next to this 278 articles were published with Tamil Nadu Vet & Animal Science University (6.7%).

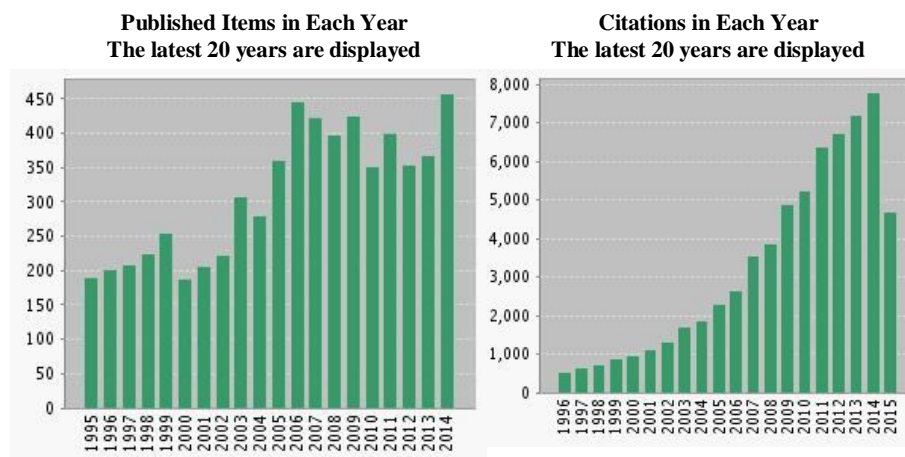
Table 8: Language wise Distribution

S. No.	Language	Recs	Percent	TLCS	TGCS
1.	English	7243	99.9	8729	66290
2.	German	4	0.1	1	4
3.	Spanish	2	0.0	0	10
4.	French	1	0.0	0	3
5.	Portuguese	1	0.0	0	0

It is observed that majority of the papers published (7423) were in English language i.e. 99.9 percent and very few papers were published in other languages such as German, Spain, French etc.

Citation Report of the University of Madras

This report reflects citations to source items indexed within Web of Science Core Collection. Perform a Cited Reference Search to include citations to items not indexed within Web of Science Core Collection.



Results found	: 7251
Sum of the Times Cited	: 66306
Sum of Times Cited without self-citations	: 57264
Citing Articles	: 49990
Citing Articles without self-citations	: 46559
Average Citations per Item	: 9.14
h-index	: 75

From the citation report, it is found that the h-index of the research productivity in University of Madras is 75 with the sum of the times cited were 66306 and the articles cited were 49990. The average citation per item is 9.14.

Findings

- During 2014 more number of articles was indexed in web of science that is 457 (6.30%) but in the year 2000 it was 189 records (2.60%) on an average there were 278 articles published per year.
- It is inferred from the table that the research productivity in terms of relative growth rate and Doubling Time were in fluctuation.
- Among the authors it can be view that the Prof. D. Velmurugan with 387 records placed in first position contributed 5.3 percent of the articles while

the author Prof. R. Raghunathan, who possess the second position contributed 291 records that is 4.0 percentage

- It is found from the analysis that the major portions of the publications were in the form of articles i.e. 6488 (89.5%).
- The maximum of 4.3 percent of the articles were published in collaboration with United States of America (310 articles).
- From the citation report, it is found that the h-index of the research productivity in University of Madras is 75 with the sum of the times cited were 66306 and the articles cited were 49990. The average citation per item is 9.14.
- It is inferred that 6.7 percent of the articles were published along with the Anna University by publishing 487 articles. Next to this 278 articles were published with Tamil Nadu Vet & Animal Science University (6.7%).
- It is observed that majority of the papers published (7423) were in English language i.e. 99.9 percent and very few papers were published in other languages such as German, Spain, and French etc.

Conclusion

Nowadays, the publication productivity of an institution is given due importance while making the institution in the list of ranking them in the competitive world. In this regard this paper verified the research productivity of the University of Madras with the help of the indexed records in the database Web of Science. It is recommended to make necessary steps to motivate more number of faculty members to publish the articles in the peer reviewed international journals which are indexed in various databases such as Scopus, Social Science Citation indexes, Research Gate and Google Scholar etc to measure the impact factor and h-index etc.

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On Ishikawa Iteration with Different Control Conditions for Asymptotically Non-expansive Non-self Mappings

P. Julia Mary¹ and A. Anthony Eldred²

¹M.Sc. Mathematics, St. Joseph's College (Autonomous), Tiruchirappalli

²Asst Prof of Mathematics, St. Joseph's College (Autonomous), Tiruchirappalli

Introduction

Definition 1.1

Let E be a real Banach space and let C be a nonempty closed convex subset of E . A map $T : C \rightarrow C$ is said to be asymptotically nonexpansive ([2]) if there exists a sequence $\{k_n\} \subset [1, \infty)$ with $\lim_{n \rightarrow \infty} k_n = 1$ such that

$$(1.1) \quad \|T^n x - T^n y\| \leq k_n \|x - y\|$$

for all $x, y \in C$ and $n \geq 1$.

T is said to be uniformly L -Lipschitzian ([2]) if

$$\|T^n x - T^n y\| \leq L \|x - y\|$$

for all $x, y \in C$ and $n \geq 1$, where L is a positive constant.

For a map of T of C into itself, the Ishikawa iteration scheme is studied ([1]): $x_1 \in C$, and

$$(1.2) \quad \begin{cases} x_{n+1} = \alpha_n T^n(y_n) + (1 - \alpha_n)x_n \\ y_n = \beta_n T^n(x_n) + (1 - \beta_n)x_n \end{cases}$$

Definition 1.2

Let C be a nonempty closed convex subset of a Banach space X and let D be a nonempty subset of C . A retraction from C to D is a mapping $P : C \rightarrow D$ such that $Px = x$ for $x \in D$. A retraction P from C to D is nonexpansive if P is nonexpansive (i.e., $\|Px - Py\| \leq \|x - y\|$ for $x, y \in C$).

Let E be a real normed linear space, K a nonempty subset of E . Let $P : E \rightarrow K$ be the nonexpansive retraction of E onto K . A map $T : K \rightarrow E$ is said to be asymptotically nonexpansive([2]) if there exists a sequence $(k_n) \subset [1, \infty)$, $k_n \rightarrow 1$ as $n \rightarrow \infty$ such that the following inequality holds.

$$(1.3) \quad \|T(PT)^{n-1}x - T(PT)^{n-1}y\| \leq k_n \|x - y\|, \forall x, y \in K, n \geq 1.$$

T is called uniformly L -Lipschitzian if there exists $L > 0$ such that

$$(1.4) \quad \|T(PT)^{n-1}x - T(PT)^{n-1}y\| \leq L \|x - y\|, \forall x, y \in K, n \geq 1.$$

Let K be a nonempty closed convex subset of a real uniformly convex Banach space E . The following iteration scheme is studied:

$$(1.5) \quad x_1 \in K, \begin{cases} x_{n+1} = P(\alpha_n T(PT)^{n-1}(y_n) + (1-\alpha_n)x_n) \\ y_n = P(\beta_n T(PT)^{n-1}(x_n) + (1-\beta_n)x_n) \end{cases}$$

Lemma 1.1 ([6]) Let $r > 0$ be a fixed real number then a Banach space E is uniformly convex if and only if there is a continuous strictly increasing convex map $g : [0, \infty) \rightarrow [0, \infty)$ with

$g(0) = 0$ such that for all $x, y \in \text{Br}[0] = \{x \in E : \|x\| \leq r\}$,

$$\|\lambda x + (1-\lambda)y\|^2 \leq \lambda \|x\|^2 + (1-\lambda) \|y\|^2 - \lambda(1-\lambda)g(\|x-y\|) \text{ for all } \lambda \in [0, 1]$$

Lemma 1.2 ([7]) Let $g: [0, \infty) \rightarrow [0, \infty)$ with $g(0) = 0$ be a strictly increasing map. If a sequence $\{x_n\}$ in $[0, \infty)$ satisfies $\lim_{n \rightarrow \infty} g(x_n) = 0$, then $\lim_{n \rightarrow \infty} (x_n) = 0$.

2. Main Results

Lemma 2.1

Let E be a real uniformly convex Banach space, K closed convex nonempty subset of E . Let $T : K \rightarrow E$ be asymptotically nonexpansive with sequence $\{k_n\} \subset [1, \infty)$ such that

$\sum_{n \geq 1} k_n - 1 < \infty$ and $F(T) \neq \emptyset$. Let $\{\alpha_n\} \subset (0, 1)$ be such that $\varepsilon \leq 1 - \alpha_n \leq 1 - \varepsilon \forall n \geq 1$ and some $\varepsilon > 0$. From arbitrary $x_1 \in K$ define a sequence $\{x_n\}$ by equation (1.5). Then $\lim_{n \rightarrow \infty} \|x_n - x^*\|$ exists for each $x^* \in F(T)$.

Proof

For any $x^* \in F(T)$, utilizing (1.5), we have

$$\begin{aligned} \|x_{n+1} - x^*\| &= \|P(\alpha_n T(PT)^{n-1}(y_n) + (1-\alpha_n)x_n) - Px^*\| \\ &= \|\alpha_n(T(PT)^{n-1}(y_n) - T(PT)^{n-1}x^*) + (1-\alpha_n)(x_n - x^*)\| \\ &\leq \alpha_n k_n \|y_n - x^*\| + (1-\alpha_n) \|x_n - x^*\| \\ &\leq \alpha_n k_n \|\beta_n(T(PT)^{n-1}(x_n) - x^*) + (1-\beta_n)(x_n - x^*)\| + (1-\alpha_n) \|x_n - x^*\| \\ &\leq \alpha_n \beta_n k_n \|T(PT)^{n-1}(x_n) - x^*\| + \alpha_n k_n (1-\beta_n) \|x_n - x^*\| + (1-\alpha_n) \|x_n - x^*\| \\ &\leq \alpha_n \beta_n k_n^2 \|x_n - x^*\| + \alpha_n k_n (1-\beta_n) \|x_n - x^*\| + (1-\alpha_n) \|x_n - x^*\| \\ &\leq \|x_n - x^*\| [\alpha_n \beta_n k_n^2 + \alpha_n k_n (1-\beta_n) + 1 - \alpha_n] \end{aligned}$$

$$\begin{aligned}
 &\leq \|x_n - x^*\| [\alpha_n \beta_n k_n (x_n - I) + \alpha_n (k_n - I) + 1] \\
 &\leq \|x_n - x^*\| [1 + \mu_n], \text{ where } \mu_n = \alpha_n \beta_n k_n (k_n - I) + \alpha_n (k_n - I) \\
 &\|x_{n+1} - x^*\| \leq \|x_n - x^*\| (1 + \mu_1) (1 + \mu_2) \dots (1 + \mu_n) \\
 &\leq \|x_n - x^*\| e^{\sum_{i=1}^n \mu_i}
 \end{aligned}$$

since, $e^{\sum_{i=1}^n \mu_i}$, $\|x_n - x^*\|$ is bounded.

This proves that $\|x_n - x^*\|$ is a bounded sequence and hence $\lim_{n \rightarrow \infty} \|x_n - x^*\|$ exists.

Theorem 2.2

Let E be a real uniformly convex Banach space, K closed convex nonempty subset of E . Let $T : K \rightarrow E$ be asymptotically nonexpansive with sequence

$$\{k_n\} \subset [1, \infty) \text{ such that } \sum_{n=1}^{\infty} k_n - 1 < \infty \text{ and } F(T) \neq \emptyset. \text{ Let } \{\alpha_n\} \subset (0, 1)$$

be such that

$\varepsilon \leq 1 - \alpha_n \leq 1 - \varepsilon \forall n \geq 1$ and some $\varepsilon > 0$. From arbitrary $x_1 \in K$ define a sequence $\{x_n\}$ by equation (1.5). Let $\{\alpha_n\}$ and $\{\beta_n\}$ be sequences in $[0, 1]$ and satisfy the following condition :

$$\sum_{n=1}^{\infty} \alpha_n (1 - \alpha_n) = \infty, \limsup_{n \rightarrow \infty} \beta_n < 1 \quad (2.1)$$

Then $\liminf_{n \rightarrow \infty} \|x_n - T(PT)^{n-1} x_n\| = 0$.

Proof

For any $x^* \in F(T)$, utilizing (1.5), we have

$$\begin{aligned}
 \|x_{n+1} - x^*\|^2 &= \|\alpha_n (T(PT)^{n-1}(y_n) - x^*) + (I - \alpha_n)(x_n - x^*)\|^2 \\
 &\leq \alpha_n \|T(PT)^{n-1}(y_n) - x^*\|^2 + (I - \alpha_n) \|x_n - x^*\|^2 - \alpha_n (I - \alpha_n) g(\|x_n - T(PT)^{n-1}(y_n)\|) \\
 &\leq \alpha_n k_n \|y_n - x^*\| + (I - \alpha_n) \|x_n - x^*\|^2 - \alpha_n (I - \alpha_n) g(\|x_n - T(PT)^{n-1}(y_n)\|) \\
 &\leq \alpha_n k_n \|\beta_n (T(PT)^{n-1}(x_n) - x^*) + (I - \beta_n)(x_n - x^*)\|^2 + (I - \alpha_n) \|x_n - x^*\|^2 \\
 &\quad - \alpha_n (I - \alpha_n) g(\|x_n - T(PT)^{n-1}(y_n)\|) \\
 &\leq \alpha_n k_n^2 \beta_n \|x_n - x^*\|^2 + \alpha_n k_n (I - \beta_n) \|x_n - x^*\|^2 - \alpha_n k_n \beta_n (I - \beta_n) g(\|x_n - T(PT)^{n-1}(x_n)\|) \\
 &\quad + (I - \alpha_n) \|x_n - x^*\|^2 - \alpha_n (I - \alpha_n) g(\|x_n - T(PT)^{n-1}(y_n)\|)
 \end{aligned}$$

$$\begin{aligned}
\|x_{n+I}-x^*\|^2 &\leq \|x_n-x^*\|^2 + \{\alpha_n\beta_n k_n^2 + \alpha_n k_n - \alpha_n\beta_n k_n - \alpha_n\} \|x_n-x^*\|^2 \\
&- \alpha_n\beta_n k_n (I-\beta_n) g(\|x_n-T(\text{PT})^{n-1}(x_n)\|) - \alpha_n(I-\alpha_n)g(\|x_n-T^n(\text{PT})^{n-1}(y_n)\|) \\
\alpha_n(I-\alpha_n) g(\|x_n-T(\text{PT})^{n-1}(y_n)\|) &\leq \|x_n-x^*\|^2 - \|x_{n+I}-x^*\|^2 + \\
&\quad \{\alpha_n\beta_n k_n (k_n-I) + \alpha_n(k_n-I)\} \|x_n-x^*\|^2 \quad (2.2)
\end{aligned}$$

$$\begin{aligned}
\alpha_n\beta_n k_n (I-\beta_n) g(\|x_n-T(\text{PT})^{n-1}(x_n)\|) &\leq \|x_n-x^*\|^2 - \|x_{n+I}-x^*\|^2 \\
&+ \{\alpha_n\beta_n k_n (k_n-I) + \alpha_n(k_n-I)\} \|x_n-x^*\|^2 \quad (2.3) \\
\{\alpha_n\} \text{ and } \{\beta_n\} &\text{ satisfy (2.1)}
\end{aligned}$$

Let $m \geq 1$. Then from the inequality (2.2), we have

$$\begin{aligned}
\sum_{n=1}^m \alpha_n (I-\alpha_n) g(\|x_n-T(\text{PT})^{n-1}(y_n)\|) &\leq \|x_I-x^*\|^2 - \|x_{m+I}-x^*\|^2 \\
&+ \sum_{n=1}^m \{\alpha_n\beta_n k_n (k_n-I) + \alpha_n(k_n-I)\} \|x_n-x^*\|^2
\end{aligned}$$

when $m \rightarrow \infty$, we have

$$\sum_{n=1}^m \alpha_n (I-\alpha_n) g(\|x_n-T(\text{PT})^{n-1}(y_n)\|) < \infty$$

$$\text{since } \sum_{n=1}^{\infty} (k_n-1) < \infty, \|x_n-x^*\| \text{ is bounded and } \sum_{n=1}^{\infty} \alpha_n (1-\alpha_n) = \infty$$

$$\therefore \liminf_{n \rightarrow \infty} g(\|x_n-T(\text{PT})^{n-1}(y_n)\|) = 0$$

From lemma 1.3 we get

$$\liminf_{n \rightarrow \infty} \|x_n-T(\text{PT})^{n-1}(y_n)\| = 0$$

$$\begin{aligned}
\text{since } \|x_n-T(\text{PT})^{n-1}(x_n)\| &= \|x_n-T(\text{PT})^{n-1}(y_n) + T(\text{PT})^{n-1}(y_n)-T(\text{PT})^{n-1}(x_n)\| \\
&\leq \|x_n-T(\text{PT})^{n-1}(y_n)\| + \|T(\text{PT})^{n-1}(x_n)-T(\text{PT})^{n-1}(y_n)\| \\
&\leq \|x_n-T(\text{PT})^{n-1}(y_n)\| + k_n \|x_n-y_n\| \\
&\leq \|x_n-T(\text{PT})^{n-1}(y_n)\| + k_n \|x_n-\beta_n T(\text{PT})^{n-1}x_n + \beta_n x_n\|
\end{aligned}$$

$$\leq \|x_n - T(\text{PT})^{n-1}(y_n)\| + k_n \beta_n \|x_n - T(\text{PT})^{n-1}(x_n)\|$$

$$(1 - k_n \beta_n) \|x_n - T(\text{PT})^{n-1}(x_n)\| \leq \|x_n - T(\text{PT})^{n-1}(y_n)\|$$

$$\liminf (1 - k_n \beta_n) > 0 \ \& \ \liminf_{n \rightarrow \infty} \|x_n - T(\text{PT})^{n-1}(y_n)\| = 0$$

$$\liminf_{n \rightarrow \infty} \|x_n - T(\text{PT})^{n-1}(x_n)\| = 0$$

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Some New Analytic Mean Graphs

P. Lawrence Rozario Raj¹ and C.Ranjitha²

¹ Asst Prof of Mathematics, St. Joseph's College (Autonomous), Tiruchirappalli

² M.Sc. Mathematics, St. Joseph's College (Autonomous), Tiruchirappalli

1. Introduction

By a graph, we mean a finite, undirected graph without loops and multiple edges, for terms not defined here, we refer to Harary [2]. For standard terminology and notations related to graph labeling, we refer to Gallian [1]. In [4], Tharmaraj *et al.* introduce the concept of an analytic mean labeling of graph. Analytic mean labeling of various types of graphs are presented in [3,5]. The brief summaries of definition which are necessary for the present investigation are provided below.

2. Definitions

Definition 2.1

A graph labeling is the assignment of unique identifiers to the edges and vertices of a graph.

Definition 2.2 [6]

The shadow graph $D_2(G)$ of a connected graph G is obtained by taking two copies of G say G' and G'' . Join each vertex u' in G' to the neighbors of the corresponding vertex u'' in G'' .

Definition 2.3 [4]

A (p,q) graph $G(V,E)$ is said to be an analytic mean graph if it is possible to label the vertices v in V with distinct from $0,1,2,\dots, p-1$ in such a way that

when each edge $e = uv$ is labeled with $f^*(e = uv) = \frac{|[f(u)]^2 - [f(v)]^2|}{2}$

if $|[f(u)]^2 - [f(v)]^2|$ is even and

$$\frac{|[f(u)]^2 - [f(v)]^2| + 1}{2}$$

if $|[f(u)]^2 - [f(v)]^2|$ is odd and the edge labels are distinct. In this case, f is called an analytic mean labeling of G . A graph with an analytic mean labeling is called an analytic mean graph.

3. Main Results

Theorem : 3.1

Let G be any analytic mean graph of order m (≥ 3) and size q , and $K_{2,n}$ be a bipartite graph with the bipartition $V = V_1 \cup V_2$ with $V_1 = \{w_1, w_2\}$ and $V_2 =$

$\{u_1, u_2, \dots, u_n\}$. Then the graph $G * K_{2,n}$ obtained by identifying the vertices w_1 and w_2 of $K_{2,n}$ with that labeled 0 and labeled 2 respectively in G is also analytic mean graph.

Proof

Let G be a graph of order m and size q .

Let v_1, v_2, \dots, v_m and e_1, e_2, \dots, e_q be the vertices and edges of G .

Let G be any analytic mean graph with mean labeling f .

Then the induced edge labels of G are distinct and lies between

$$1 \text{ to } \frac{(m-1)^2}{2} \text{ (or) } \frac{(m-1)^2 + 1}{2}.$$

Let v_j and v_k be the vertices having the labels 0 and 2 in G .

Let $V = V_1 \cup V_2$ be the bipartition of $K_{2,n}$ such that

$$V_1 = \{w_1, w_2\} \text{ and } V_2 = \{u_1, u_2, \dots, u_n\}.$$

Now identify the vertices w_1 and w_2 of $K_{2,n}$ with that labeled 0 and labeled 2 respectively in G .

Define $h : V(G) \rightarrow \{0, 1, 2, \dots, m+n-1\}$ by $h(v_i) = f(v_i)$ for $1 \leq i \leq m$

$$h(u_i) = m + i - 1 \text{ for } 1 \leq i \leq n$$

Let h^* be the induced edge labeling of h . Then $h^*(e_i) = f^*(e_i)$ for $1 \leq i \leq q$

For $1 \leq i \leq n$

$$h^*(v_j u_i) = \begin{cases} \frac{(m+i-1)^2 + 1}{2} & \text{if } m+i-1 \text{ is odd} \\ \frac{(m+i-1)^2}{2} & \text{if } m+i-1 \text{ is even} \end{cases}$$

$$h^*(v_k u_i) = \begin{cases} \frac{(m+i-1)^2 - 3}{2} & \text{if } m+i-1 \text{ is odd} \\ \frac{(m+i-1)^2 - 4}{2} & \text{if } m+i-1 \text{ is even} \end{cases}$$

Then the induced edge labels $K_{2,n}$ are distinct and lies between

$$\frac{m^2 - 4}{2} \text{ (or) } \frac{m^2 - 3}{2} \text{ and } \frac{(m+n-1)^2}{2} \text{ (or) } \frac{(m+n-1)^2 + 1}{2}.$$

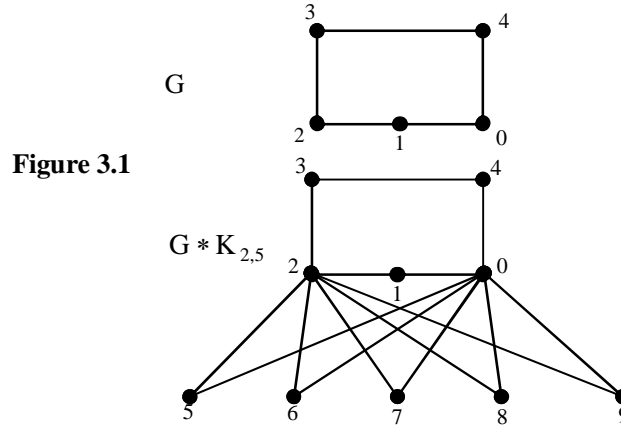
Also, the induced edge labels of G are distinct and lies between

$$1 \text{ and } \frac{(m-1)^2}{2} \text{ (or) } \frac{(m-1)^2 + 1}{2}.$$

Then the induced edge labels of $G * K_{2,n}$ are distinct. Hence $G * K_{2,n}$ is analytic mean graph.

Example 3.1

Analytic mean labeling of G and $G * K_{2,5}$ are given in figure 3.1.



Theorem 3.2

Let G be any analytic mean graph of order m (≥ 4) and size q , and $K_{3,n}$ be a bipartite graph with the bipartition

$$V = V_1 \cup V_2 \text{ with } V_1 = \{w_1, w_2, w_3\}$$

and $V_2 = \{u_1, u_2, \dots, u_n\}$.

Then the graph $G * K_{3,n}$ obtained by identifying the vertices w_1, w_2 and w_3 of $K_{3,n}$ with that labeled 0, labeled 2 and labeled 3 respectively in G is also analytic mean graph.

Proof

Let G be a graph of order m and size q .

Let v_1, v_2, \dots, v_m and e_1, e_2, \dots, e_q be the vertices and edges of G .

Let G be any analytic mean graph with mean labeling f .

Then the induced edge labels of G are distinct and lies between

$$1 \text{ to } \frac{(m-1)^2}{2} \text{ (or) } \frac{(m-1)^2 + 1}{2}.$$

Let v_j, v_k and v_r be the vertices having the labels 0, 2 and 3 in G .

Let $V = V_1 \cup V_2$ be the bipartition of $K_{3,n}$ such that $V_1 = \{w_1, w_2, w_3\}$ and $V_2 = \{u_1, u_2, \dots, u_n\}$. Now identify the vertices w_1, w_2 and w_3 of $K_{3,n}$ with that labeled 0, labeled 2 and labeled 3 respectively in G .

Define $h : V(G) \rightarrow \{0, 1, 2, \dots, m+n-1\}$ by

$$h(v_i) = f(v_i) \text{ for } 1 \leq i \leq m$$

$$h(u_i) = m + i - 1 \text{ for } 1 \leq i \leq n$$

Let h^* be the induced edge labeling of h .

Then $h^*(e_i) = f^*(e_i)$ for $1 \leq i \leq q$

For $1 \leq i \leq n$

$$h^*(v_j u_i) = \begin{cases} \frac{(m+i-1)^2 + 1}{2} & \text{if } m+i-1 \text{ is odd} \\ \frac{(m+i-1)^2}{2} & \text{if } m+i-1 \text{ is even} \end{cases}$$

$$h^*(v_k u_i) = \begin{cases} \frac{(m+i-1)^2 - 3}{2} & \text{if } m+i-1 \text{ is odd} \\ \frac{(m+i-1)^2 - 4}{2} & \text{if } m+i-1 \text{ is even} \end{cases}$$

$$h^*(v_r u_i) = \begin{cases} \frac{(m+i-1)^2 - 9}{2} & \text{if } m+i-1 \text{ is odd} \\ \frac{(m+i-1)^2 - 8}{2} & \text{if } m+i-1 \text{ is even} \end{cases}$$

Then the induced edge labels $K_{3,n}$ are distinct and lies between $\frac{m^2 - 9}{2}$ (or)

$$\frac{m^2 - 8}{2} \text{ and } \frac{(m+n-1)^2}{2} \text{ (or) } \frac{(m+n-1)^2 + 1}{2}.$$

Also, the induced edge labels of G are distinct and lies between

$$1 \text{ and } \frac{(m-1)^2}{2} \text{ (or) } \frac{(m-1)^2 + 1}{2}.$$

Then the induced edge labels of $G * K_{3,n}$ are distinct.

Hence $G * K_{3,n}$ is analytic mean graph.

Example 3.2

Analytic mean labeling of G and $G * K_{3,4}$ are given in figure 3.2.

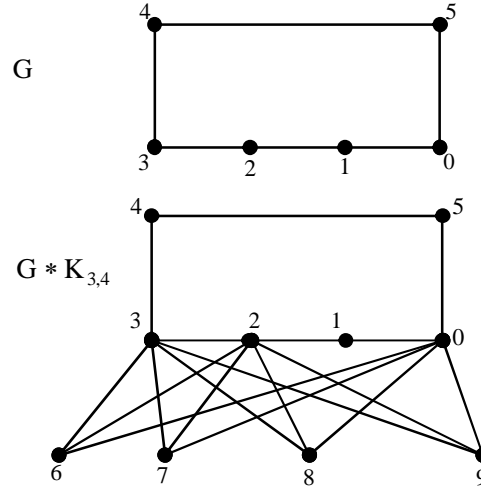


Figure 3.2

Theorem 3.3

$D_2(K_{1,n})$ is an analytic mean graph.

Proof

Let v, v_1, v_2, \dots, v_n be the vertices of the first copy of $K_{1,n}$ and $v', v'_1, v'_2, \dots, v'_n$ be the vertices of the second copy of $K_{1,n}$ where v and v' are the respective apex vertices.

Let G be $D_2(K_{1,n})$.

Then $|V(G)| = 2n + 2$ and $|E(G)| = 4n$.

Define $f : V(G) \rightarrow \{0, 1, 2, \dots, 2n+1\}$ by

$$f(v) = 0,$$

$$f(v') = 2,$$

$$f(v_i) = 2i-1, \text{ for } 1 \leq i \leq n$$

$$f(v'_n) = 2n+1,$$

$$f(v'_i) = 2i+2, \text{ for } 1 \leq i \leq n-1$$

Let f^* be the induced edge labeling of f . Then

$$f^*(vv_i) = \frac{(2i+1)^2 + 1}{2}, \text{ for } 1 \leq i \leq n$$

$$f^*(v v'_i) = \frac{(2i+2)^2}{2}, \text{ for } 1 \leq i \leq n-1$$

$$f^*(v v'_n) = \frac{(2n+1)^2 + 1}{2}$$

$$f^*(v' v_i) = \frac{(2i+1)^2 - 3}{2}, \text{ for } 1 \leq i \leq n$$

$$f^*(v' v'_i) = \frac{(2i+2)^2 - 4}{2}, \text{ for } 1 \leq i \leq n-1$$

$$f^*(v' v'_n) = \frac{(2n+1)^2 - 3}{2}$$

Then the induced edge labels are $\{1, 2, 3, \dots, \frac{(2n+1)^2 + 1}{2}\}$.

Therefore, $D_2(K_{1,n})$ is an analytic mean graph.

Example 3.3

Analytic mean labeling of $D_2(K_{1,4})$ is given in figure 3.3.

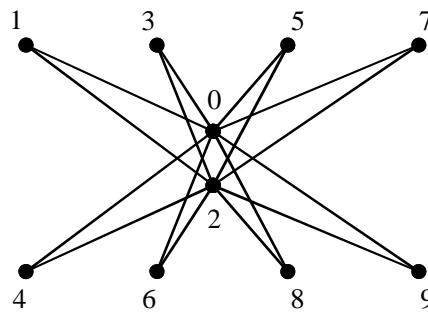


Figure 3.3

4. Conclusion

In this paper, an analytic mean labeling of $G * K_{2,n}$, $G * K_{3,n}$ and $D_2(K_{1,n})$ are presented.

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Linear and Nonlinear Optical Properties of L-Alanine Oxalate Single Crystals

S. Arockia Avila and A. Leo Rajesh

Department of Physics, St. Joseph's College (Autonomous), Tiruchirappalli

1. Introduction

Nonlinear optical processes provide the key functions of frequency of the system and their applications depends upon the various properties of the materials, such as transparency, birefringence, laser damage threshold, refractive index, dielectric constant, second order nonlinearity and large third order susceptibilities etc. [1]. Nonlinear optical materials with large third order nonlinear susceptibilities are essential for all optical switching, modulating, and computing devices because the magnitude of the quantity dominates the device performance [2,3]. New molecular organic compounds with one or more aromatic systems in conjugated positions, leading to highly efficient charge transfer systems have been actively studied [4-6]. Most of the organic crystals are composed of aromatic molecules that are substituted with π -electron donors and acceptors which exhibit intermolecular charge transfer resulting in high SHG efficiency. These compounds must crystallize in a non-centrosymmetric class in view of applications making use of quadratic optically nonlinear effects. Organic compounds are formed by weak Vander Waal's and hydrogen bonds and it possess high degree of delocalization and hence they are optically more nonlinear than inorganic materials [7]. Some of the advantages of organic materials include flexibility in the methods of synthesis, scope for altering the properties by functional substitution, inherently high nonlinearity, high damage resistance etc [8]. Organic materials with delocalized π -electrons usually display a large NLO response which makes it most resourceful for various application including optical communication, optical computing, optical information processing, optical disk data storage, laser fusion reactions and laser remote sensing [9]. Further investigations on organic NLO materials have subsequently produced very good materials with highly attractive characteristics. Amino-acid family single crystals are gaining importance as highly feasible second-order NLO materials. The amino acid L-alanine can be considered as the fundamental building block of more complex amino acids which shows strong non linear behaviour and anomalous phonon coupling and is a system exhibiting vibrational solitons [10]. The earlier works on LAO were restricted to structure solving, thermal, optical and photoacoustic studies [11-12]. Hence an attempt is made to grow an organic NLO material L-alaninium oxalate (LAO) using L-alanine and oxalic acid by using slow evaporation technique and the grown crystal was subjected to powder XRD, FT-IR, UV-Vis-NIR, Second order and third order nonlinear optical studies and the results were discussed.

2. Experimental

2.1 Synthesis of L-alanine oxalate crystals

L-Alanine oxalate (LAO) single crystals were synthesized from AR grade L-alanine and oxalic acid with equimolar ratio. The calculated amount of the reactants was thoroughly dissolved in deionised water. To obtain a homogeneous mixture the prepared solution was stirred well for about 5 hours using a magnetic stirrer and then the solution was filtered and allowed to evaporate in the dust free atmosphere. Using successive recrystallization, good quality large size single crystals were obtained in a period of 30 days of the dimensions $23 \times 6 \times 5 \text{ mm}^3$ and the photograph of the as grown L-alanine oxalate crystals are shown in Fig.1.

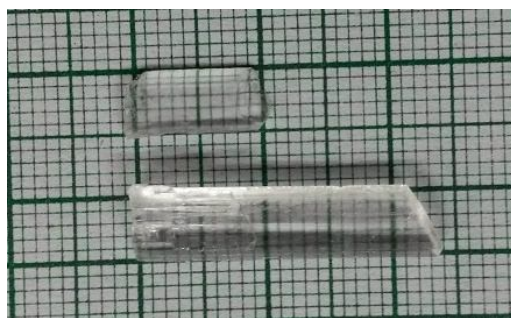


Fig. 1. As grown L-Alanine oxalate single crystal

3. Results and Discussion

3.1 Single crystal X-ray Diffraction analysis

Single crystal X-ray diffraction pattern was recorded for the grown crystal using Enraf Nonius CAD4 X-ray Diffractometer with Mo K α radiation ($\lambda = 0.7107 \text{ \AA}$) to obtain the lattice parameters and space group. The single crystal XRD data reveals that the grown LAO crystals belongs to orthorhombic system with space group $P2_12_12_1$ and the calculated lattice parameter values are found to be $a = 5.591 \text{ \AA}$, $b = 7.276 \text{ \AA}$, $c = 19.569 \text{ \AA}$ and the cell volume, $V = 796.06 \text{ \AA}^3$ [13].

Table 1. Single Crystal XRD data of L-Alanine oxalate crystals

LAOX (Reported)	LAOX (Obtained)
$a = 5.6302 \text{ \AA}$	$a = 5.591 \text{ \AA}$
$b = 7.235 \text{ \AA}$	$b = 7.276 \text{ \AA}$
$c = 19.5973 \text{ \AA}$	$c = 19.569 \text{ \AA}$
$V = 803.146 \text{ \AA}^3$	$V = 796.06 \text{ \AA}^3$
orthorhombic	orthorhombic
$P2_12_12_1$	$P2_12_12_1$

3.2 Fourier Transform Infrared Spectroscopic Studies

The FTIR spectra of the grown crystal were analysed by Fourier Transform Infrared spectral analysis using a Perkin Elmer Spectrometer by KBr pellet technique within the range of 400-4000 cm^{-1} and the resulting spectrum is shown in Fig.2. The presence of the functional groups of L-Alanine oxalate was identified by Fourier Transform Infrared (FTIR) spectrum. The characteristic vibrations of the carboxylate ions and the zwitter ionic group NH_3^+ of LAOX are depicted in the spectrum. Observed frequencies are compared with those of similar functional groups including carboxylate ions. During the synthesis NH_2 group in the free acid is converted into NH_3^+ ions. In the spectrum, the peak at 3244 cm^{-1} corresponds to OH stretching of COOH group of amino acid the peak at 2905 cm^{-1} is due to NH_3^+ symmetric stretching in plane and the peak at 2517 cm^{-1} is attributed to NH_3^+ symmetric stretch out of plane vibrations. The C-C overtone vibration is observed at 1919 cm^{-1} , and C=C stretching at 1720 cm^{-1} . The vibration peak at 1580 cm^{-1} is due to NH_3^+ asymmetric bending and that at 713 cm^{-1} corresponds to C=O bending. The FTIR vibrational spectrum establishes the presence of NH_3^+ group in the crystal confirming the protonation of amino acid group leading to the formation of LAOX molecule.

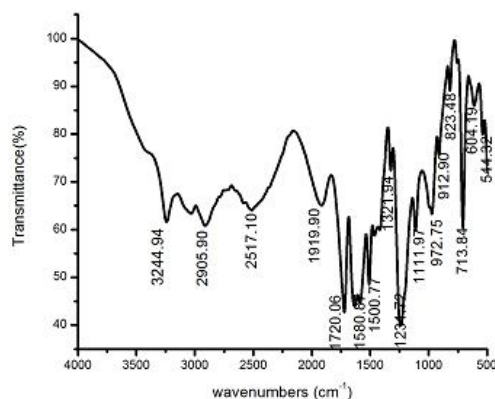


Fig.2. FTIR spectrum of L-Alanine oxalate

Table 2. Vibrational assignments of L-Alanine Oxalate

Wavenumber (cm^{-1})	Assignment
3245	OH stretching of COOH group of amino acid
2906	NH_3^+ symmetric stretching in plane vibration
2517	NH_3^+ symmetric stretch out of plane vibrations
11919	C-C overtone vibration
11720	C=C stretching vibration
1580	NH_3^+ asymmetric bending vibration
7713	C=O bending vibration

3.3 UV-Visible NIR spectral analysis

The optical transmission spectrum gives valuable information about the atomic structure of the molecules because the absorption of UV and visible light involves the promotion of σ and π orbital electrons from the ground state to higher energy state. To measure the optical transparency of the grown crystal within the range of 190-1100 nm region of electromagnetic spectrum, the linear optical study was carried out using Perkin Elmer Lambda 35 UV-Visible spectrophotometer.

Estimation of Optical Constants

Optical constants such as the optical band gap, extinction coefficient and refractive index were estimated in order to know the optical property of the title materials [14]. The optical band gap (E_g) of L-Alanine oxalate crystals was estimated from the relation

$$h\alpha\nu = A(h\nu - E_g)^{1/2}$$

where A is the constant, h is the planck's constant, ν is the frequency of the incident photons, α is the extinction coefficient which is obtained from the transmittance value

$$\alpha = \frac{2.3026 \log \left(\frac{1}{T} \right)}{t}$$

The optical band gap was obtained by extrapolating the linear part of the plot between $h\nu$ vs $(\alpha h\nu)^2$ which is shown in Fig. (3).

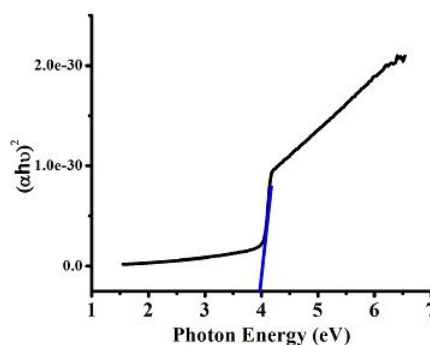


Fig. 3: $h\nu$ Vs $(\alpha h\nu)^2$

Extinction coefficient (K) can be obtained from the relation $K = \frac{\alpha\lambda}{4\pi}$

The plot of extinction coefficient as a function of photon energy is shown in Fig. (4).

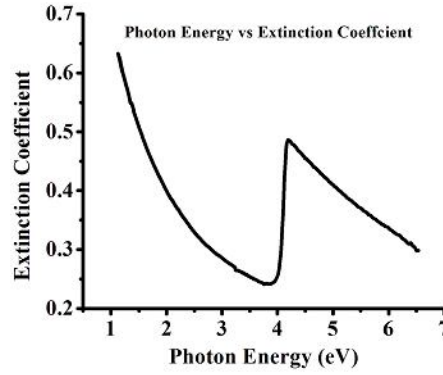


Fig. 4: Photon energy Vs Extinction coefficient

The reflectance (R) and refractive index (n) can be derived from the relations:

$$R = \frac{1 \pm \sqrt{(1 - \exp(-\alpha t) + \exp(\alpha t))}}{(1 + \exp(-\alpha t))}$$

$$n = \frac{-(R + 1) \pm \sqrt{(-3R^2 + 10R - 3)}}{2(R - 1)}$$

The reflectance was also plotted as a function of photon energy and is shown in Fig. (5).

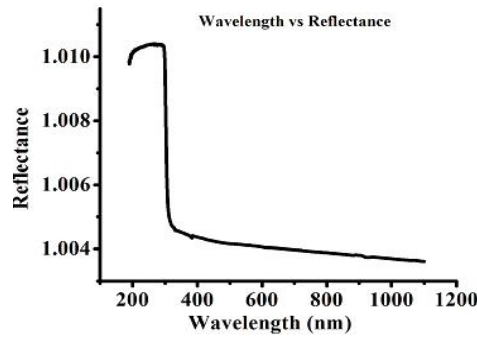


Fig. 5: Reflectance Vs Wavelength

The refractive index was calculated from the plot of refractive index vs wavelength and is shown in Fig. (6). The value of refractive index was found to be $n=1.64$.

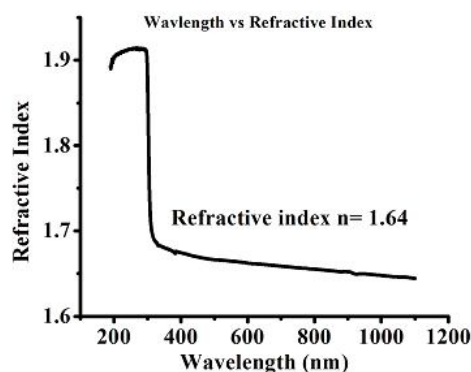


Fig. 6: Refractive index Vs Wavelength

3.4 Second harmonic Generation efficiency

Second Harmonic Generation test for the grown samples were performed by Kurtz and Perry powder technique using a Q - switched High Energy Nd:YAG Laser (QUANTA RAY Model LAB-170-10) Model HG-4B- High efficiency, and the Repetition rate was at 10 Hz. Finely powdered were packed tightly in a micro capillary tube. The SHG efficiency of the title material was measured with respect to the efficiency of the urea crystals. A photomultiplier tube was used to detect the frequency conversion process which results in the emission of green emission. A Q-switched Nd:YAG laser emitting fundamental wavelength of 1064nm was allowed to strike on the powdered sample. The experiment was carried out at room temperature. The input energy used was 3.2mJ/pulse with a pulse width of 8ns with a repetition rate of 10Hz were used. The estimated SHG efficiency of L-Alanine oxalate crystal was found to be 1.1 times that of urea crystal. The SHG efficiency test result confirms the suitability of L-Alanine oxalate crystals in NLO applications.

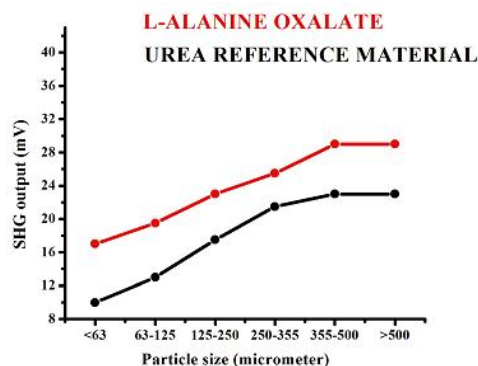


Fig. 7: Particle size dependency of L-Alanine oxalate crystal

3.5 Z-Scan studies

The third order nonlinear refractive index n_2 and the nonlinear absorption coefficient β of L-alanine oxalate crystal were evaluated by the measurements of Z-Scan. The technique is performed using a He-Ne laser of wavelength 632.8 nm. The sample is translated in the z-direction along the axis of the focussed Gaussian beam from He-Ne laser source, and the variation in the far field intensity of the beam from the laser source with the sample position is measured. The amplitude of the phase shift determined thoroughly by monitoring the change in the resistance through a small aperture at the far field position (closed aperture). Intensity dependent absorption of the sample is measured by moving the sample through the focus and without placing the aperture at the detector (open aperture) Fig. 8(a) and (b). By focusing a beam of laser through the crystal, a spatial distribution of the temperature in the crystal surface is produced. Hence a spatial variation in refractive index is created, which acts as a thermal lens, resulting in the phase distortion of the propagating beam.

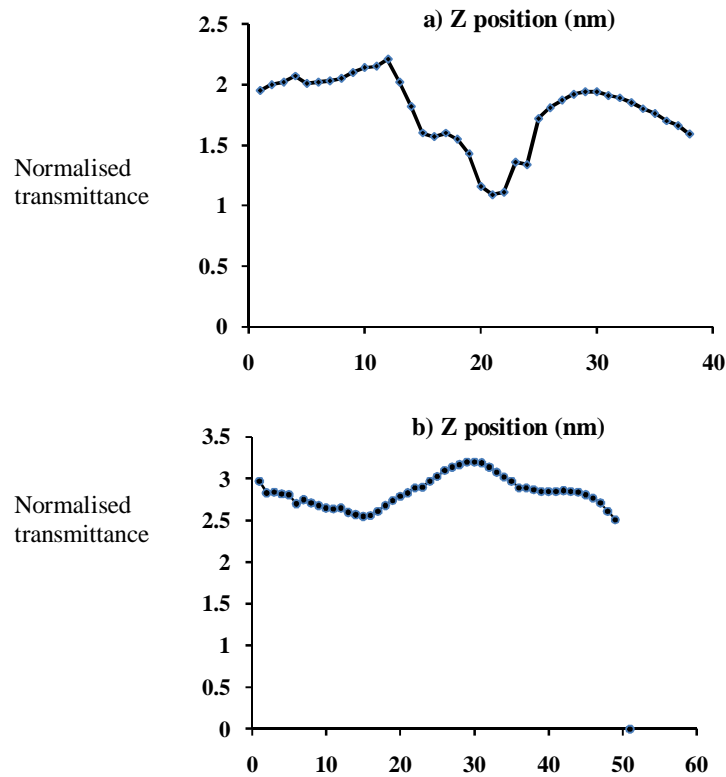


Fig.8. (a) z scan open aperture (b) z scan closed aperture

The difference between the peak and the valley transmission (ΔT_{P-V}) is given in terms of the on-axis phase shift at the focus as,

$$\Delta T_{P-V} = 0.406(1 - S)^{0.25} |\Delta\Phi|$$

where S is the aperture linear transmittance and is calculated by using the relation

$$S = 1 - \exp\left(\frac{-2r_a^2}{w_a^2}\right)$$

where r_a is the aperture radius and w_a is the beam radius at the aperture.

The nonlinear refractive index is given by the expression,

$$n_2 = \frac{\Delta\Phi}{KI_o L_{eff}}$$

where $K = \frac{2\pi}{\lambda}$ in which, λ is the wavelength of the laser light, I_o is the intensity of the laser beam at the focus ($Z=0$), L_{eff} is the effective thickness of the crystal, which is calculated using the expression,

$$L_{eff} = \frac{1 - e^{(-\alpha L)}}{\alpha}$$

where, L is the thickness of the crystal and α is the linear absorption,

$$\alpha = \frac{2.303 \log\left(\frac{1}{T}\right)}{d}$$

where d is the thickness of the crystal and T is the transmittance of the crystal. From the open aperture z-scan data, the nonlinear absorption coefficient is determined by using the relation,

$$\beta = \frac{2\sqrt{\Delta T}}{I_o L_{eff}}$$

where ΔT is the one valley value at the open aperture z-scan curve,

From the n_2 and β values the real and imaginary part of the third order nonlinear optical susceptibility are determined.

These are obtained by using the relations,

$$\text{Re}\chi^{(3)}(esu) = 10^{-4} \left(\epsilon_o C^2 n_o^2 n_2 \right) / \pi \text{ in } (cm^2 / W)$$

$$\text{Im}\chi^{(3)}(\text{esu}) = 10^{-2} \left(\epsilon_o C^2 n_o^2 \lambda \beta \right) / (4\pi^2) \text{ in } (\text{cm/W})$$

where ϵ_o the permittivity of free space is, n_o is the linear refractive index of the crystal, and C is the velocity of light in vacuum.

$$|\chi^{(3)}| = \left[\left(\text{Re}(\chi^{(3)}) \right)^2 + \left(\text{Im}(\chi^{(3)}) \right)^2 \right]^{1/2}$$

The value of β is for saturable absorption and for two-photon absorption. The third order nonlinear refractive index and the nonlinear absorption coefficient were evaluated from the z-scan measurements. Table (3) presents the experimental details and the results of z-scan technique for L-alanine oxalate.

Table 3: Measurement details and the results of the z-scan technique

Laser beam wavelength (λ)	632.8 nm
Lens focal length (f)	12 cm
Optical path distance (Z)	115 cm
Spot-size diameter in front of the aperture (ω_a)	1 cm
Aperture radius (r_a)	4 mm
Incident intensity at the focus (Z=0)	20 $\mu\text{W}/\text{cm}^2$
Effective thickness (L_{eff})	0.9980 mm
Linear absorption coefficient (α)	2
Nonlinear refractive index (n_2)	$2.9787 \times 10^{-1} \text{ cm}^2/\text{W}$
Nonlinear absorption coefficient (β)	$3.133 \times 10^5 \text{ cm/W}$
Real part of the third-order susceptibility	$1.2975 \times 10^{-3} \text{ esu}$
Imaginary part of the third-order susceptibility	$1.077 \times 10^{-4} \text{ esu}$

The calculated value of nonlinear refractive index (n_2) is $2.9787 \times 10^{-1} \text{ cm}^2/\text{W}$. The crystal has a positive refractive index (i.e. self focusing). The self focusing nature of the sample is due to the thermal nonlinearity resulting from the absorption of radiation at 632.8nm. From the open aperture z-scan curve, the nonlinear absorption coefficient (β) is found to be $3.133 \times 10^5 \text{ cm/W}$. This concludes that the nonlinear absorption coefficient is regarded as two-photon absorption.

The real part of the third order susceptibility is found to be $1.2975 \times 10^{-3} \text{ esu}$ and the imaginary part of the third order susceptibility is found to be $1.077 \times 10^{-4} \text{ esu}$.

4. Conclusion

A semiorganic NLO material of L-Alanine oxalate has been grown by slow evaporation solution growth technique. FTIR studies confirm the various functional groups and their vibrational interactions. The optical study shows that the crystal was optically transparent in the entire visible and near infrared region with lower cut-off wavelength of 330 nm. SHG efficiency of L-Alanine oxalate crystal is nearly 1.1 times that of urea crystal. It is concluded that the L-Alanine oxalate crystal can be used as an efficient material for NLO applications and further it can be utilized for fabrication of devices. The nonlinear absorption is regarded as a two photon absorption process due to self-focusing nature of the L-Alanine oxalate crystal. As many attractive linear and nonlinear optical properties are observed in LAOX crystal, thus become a suitable candidate for optoelectronic applications.

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Hierarchical Clustering of Users' Preferences

C. Muthu¹ and M. C. Prakash²

¹Associate Professor, Dept of Statistics, St. Joseph's College, Tiruchirappalli

²PG Student, Bharathidasan Institute of Management, Tiruchirappalli

1. Introduction

The advanced statistical algorithms are now increasingly applied in the emerging field of data science [1]. The Hadoop ecosystem is now extensively used for successfully implementing the advanced statistical algorithms on the big data [2]. In this paper, the usage of hierarchical clustering method is discussed for studying the preferences of the customers of Anil Semiya Company, which wants to move to the next level in its business by making use of statistical algorithms for obtaining potential insights into the preferences of its numerous customers. While this company currently produces 12 fast food items, it is planning to introduce 48 more ragi-based and wheat-based fast food items. In this connection, this company has requested its customers to create accounts and make lists of its fast food items that they would like to consume. From Anil Semiya Company's management's perspective, the information that they would derive from this statistical study will be immensely useful to the company, as it allows them to know how customers' preferences naturally cluster together.

2. Generating Data Set

The data set needed for this study was obtained from the existing customers of Anil Semiya Company through online. It involved downloading many pages from this site and parsing them to extract what each user says he wants. The Python library Beautiful Soup was used for parsing each downloaded web page and building a structured representation. It allowed us to access any element of the page by type, ID or any of its properties, and get a string representation of its contents. Beautiful Soup is also very tolerant of web pages with broken HTML, which is useful when generating datasets from websites.

The structure of the search page was fairly complex, but it was easy to determine which parts of the web page are the lists of items because they all had the class `bgverdanasmall`. We took advantage of this to extract the important data from the web page. We created a new Python file named `downloadanilsemyadata.py` and inserted the appropriate code.

3. Clustering Customer Preferences

The code involved in the Python file `downloadanilsemyadata.py` downloaded and parsed the first 50 pages of the "want" search made by the existing customers from Anil Semiya company's website. The code first created a list of Anil Semiya company's fast food items that more than ten people wanted, then

it built a matrix with anonymous customers as columns and items as rows, and finally, it wrote the matrix to a file named anilsemiya.txt. This code was added to the end of the file downloadanilsemiya.py.

Since the dataset represented by anilsemiya.txt just had 1s and 0s for presence or absence, it was found to be more appropriate to define some measure of overlap between the people who wanted two items. For this purpose, we used the distance measure called the Tanimotto Coefficient, which is the ratio of the intersection set (only the items that are in both sets) to the union set (all the items in either set). This was defined for the two vectors through the appropriate additional Python code.

This code returned a value between 1.0 and 0.0. While a value of 1.0 indicates that nobody who wants the first item wants the second one, 0.0 means that exactly the same set of people want the two items.

The Python program for clustering named clusters.py was used at this stage to generate and draw the hierarchical clusters. The output of this significant exploratory data analytics study carried out on the data provided by Anil Semiya company's customers with the help of hierarchical clustering techniques clearly showed some distinct groups that emerged, such as (Rice Semiya, Ragi Semiya, Rice Upma, Rice Sevai), (Rice Puttu Flour, Ragi Puttu Flour, Wheat Dosa Flour, Roasted Verimicelli). This sort of vital information definitely helps the Anil Semiya company's management to know how exactly their customers' preferences for their fast food items naturally cluster together. This vital information will surely be immensely useful for this company in designing the Recommendation Engine, which they propose to implement for their web site very soon.

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GwehD}wWg; Gythfspd; , dgffdTyfk;

, uh. Kusp f}U}bz d;

Ki dth gl; Mathsh
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KdDi u

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ji yggj LssdH.

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, j j kphffqfs; mi keJssd.

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gwpj nj wy; mwahh edep; thothNu
j j Uty; myyJ nfhi yty; mwahh
ehQry; myyJ gi l Ak; mwahh**

(Gwk; - 20)

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vLj j i u f f w h h .

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, dj fz brpd; ngUk**

(Gwk; - 22)

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Fila; fb; cwqFth. tyja ahi di af; \$l j; JdGWj j v z z h j
t l K k > t s K k ; c i l a R t h f f G k p m t D i l a e h L v d W F W q N f h o p A H f ;
fphH ghLf w h h .

**cz l hykk , t;Tyfk; , ej ph;
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J Q r Y k ; , y h : g w h m Q R t J m Q r g ;
Gfo; v d j d ; c a j U k ; n f h L f F t h : g o p v d j d ;
c y F l d ; n g w D k ; n f h s s y h : m a l t p y h**

**j k f F v d Kayh Nehdj hs;
g w h f F v d KaYeh c z i kahNd**

(Gwk; - 182)

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fhuz k? , ej w D k ; N j t h f s k ; c z z f ; \$ b a r h f h c a u s p f F k ; m K j k ;
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, y y h j t h f s ; G f o ; v d j d ; c a p i u A k ; n f h L g g h . g o p m r h y ; j U k ; , o p T i l a
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j dFf ei u Nj hdwHj j wfhdF; fhuz j i j >

**ahz Lgy Mf ei uay MFj y;
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khz j vd; ki dtpahL kffSk; epukgpdH
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(Gwk; - 191)

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nraahj eyytHfs; mj wF Nkyhff; fy;tp Nfstf;sy; rweJ > caH
nfhsj fffhNt caH thOk; mwQH ngUkffs; j k; Chpy; thofpdwdH.
mj dhy; j dFf ei u Nj hdwtyi y vdw ghLfwdwhh;

ghz bakddd; ghba ghly; j dtkdij dtd; ngUi ki ag
gi wrhwWfwdwJ. gmpuhei jahNuh> FLkgk; - r%fk; - ehL vd %di wAk;
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cyi fg; gi lJjJf; fhLlfwHh.

**ahJk; Cnu ahtUk; NfsH
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Nehj Yk; j z j Yk; mtwNwhudd**

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, yyhky; tho Ntz l k; vdw vz z j i j g; gupgyf;fpdwJ.

epi wthf

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rp , uF

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j kpha;Tj; Ji w> J)atsdhu; fy;Y)u> j pUrrpuhgssp

KdDi u

kdj; d; mwNthLk> MwwNyhLk; rweJ tjsqf Ntz Lk; vdw
cauej rnej i di a kffs;lj;jy; nfhz L NrufFk; fsqfshfr; rqr
, yffpaqfs; j;f;of;pdwd. rqr , yffpaqfs; xtnthdWk; jkpUila
thotay; fsQnakhf c UntLj;Jssd. mi t xtnthU kdj; d; d;
kdTz ufsy; fhz ggLf;pdw khi ai a mfww> kdj; c ssj;jy; xsp; a
VwgLjj;f; \$badthff; fhz ggLf;pdwd. , di wa kffs;lj;jy; nttNtW
fhuz qfS ffhf Kuz ghLfs; Nj hdWf;pdwd. ekKi la %j hi j au
fhyjj;Yk; Kuz ghLfs; , Uej pUf;pdwd. rqr , yffpaqfs; Xuqf
ehl fggqf; , awwggLssd. mtwwy; fi j kkej ufs; vLj;Ji uFfK;
\$wW tophff; fhz ggLk; Kuz ghLf; sf; fz; l wptjhFk; ewwpi z
rj;j;h;Fk; kdj; thotay; Vwgl; e;f;ot;id; mbggilay; thotay;
Kuz ghLf; sg; GyggLj;Jk; ti fa; , ffl Li uahdJ mi kf;pdwJ.

Kuz ghL - ti uai w

xtnthU kdj; i uAk; vj;unfhs;f;pdwnghOJ mtu , Uf;pdw
kde; yap; d i tj;J;jhd; Kuz ghLi l f; Fwgggl KbAk; Kuz ghL
vdgJ “kdj; d; d; c sshuej c l dgl hj; j di k Kuz ghL MFk;
Kuz ghL bd; , Wf;fkhd rpf;FYww epi y> g; z fF> g;ry; (conflict) vdggLk;
rpy; Kuz ghLi l g; g; z fF vd t; t;u;f;f;pdwdu; Kuz ghL vqFk; vgNghJk;
fhz ggLk; xUti f khj; p;ahd Nj hwwggghNI MFk”; (www.ta.wikipedia.org/
s/h8k)s)

Kuz ghL bd; ti ffs;

j dk; kdj; d; k; klLk; Kuz ghLfs; vOt;j;yi y. xtnthU
egUf;FsSk; Kuz ghLfs; c Uthf;pdwd. , ej Kuz ghLfs; , tiTyf;ry;
vyyh epi yfs;Yk; fhz ggLf;pdwd. , rr%f;j;jy; c ss xtnthU
kdj; Df;FsSk; fhz ggLf;pdw j dgggl; t;UgG> ntWgG VwgLk; #oy;
c Uthf;pdwd. , j id i tj;J Kuz ghL bi d VO ti ffs;h
ti fggLj;j;Assdh; mtwwy;

kdj; d; x kdj; d>
kdj; d; x g;wkdj; d>
kdj; d; x r%f;K>
kdj; d; x , awi f>
kdj; d; x nj hopy; El gk>
kdj; d; x fl Ts>
kdj; d; x , awi f klwpa rfj; ffs;

Mf;pad j wngghOJ mw;ej pUf;f;\$ba Kuz ghLfshf mi keJssd ([http://
articles.gourt.com/en/naration](http://articles.gourt.com/en/naration) accessed on /hwt 12.06.2014).

mwQufspd; fUj J

mdwhl thotiy; kdij DfF VwglFpdw epfoTfs; tojahf khwwqfs; cUthfjdwd. , ej khwwqfs; vjdhy; cUthfjdwd vdW ekkhy; fz pff Kbahky; NghFk; kffspd; thotiy; vz z ww epfoTfi s MuhaeJ mj d; tojahf Kuz ghL vdd ? vdgi j kffS fF mwQufS; tpsfFfjdwd.

, yNahd; ngRbqfu; vdgTu; 1957 Mk; Mz L Kuz ghLfs; vdDk; fUj Jg gbtjj i z (Concept) cUthfjAsshu. "Moej Kuz ghLfs; vdgJ xU kdij DfF , dgkww #oeji yapy; xdW myyJ Nkwgl i xdWfnhdW njhlugy; yhj myyJ Kuz gl i vz z qfsjdhy; cUthfjg; gLk; , Wffk; MFk; NkYk; kffs; jk; vz z jjwF Neu; vj uhd nry nrayfi s cz UkngHOJ mstwfjpfkhd , WffjjwF csshfjdwd; mttWffNk Kuz ghL" (thotjaw; fsQrpak; nj hFj p 14> j kpggyfi yfi fofk> g.11) vdW FwggL fjdwhu.

ewwpi z apy; Kuz ghLfs;

goej kpufs; thofi f epfoTfs; , di wa kffspd; gujgygghFk; goej kpufs; thoej thofi fapy; fhj y> tük; , uz Lk; Kffaj Jtk; thaej i t. , di wa jkpufs; thofi fapy; fhj y; , UffwJ> Mdhy; goej kpufs; gidgwwa fhj y; xOfk; , Uffwj h? vdw tpdh vOfjdWJ. fhj y; thofi fapy; <LgLk; fhj yufs; thotiy; Vwgl i Kuz ghLfs; rqr , yffajjjy; mjpfk; fhz fffl fjdwd. xU kdij d; j dffj; j hNd Kuz gl L epwFk; epi y> xU kdij d; gw kdij NdhL Kuz gl L epwFk; epi y vdw , uz L tjj khd Kuz fi sg; gwwa Nj lyfS fF ewwpi z toptFffjdWJ.

kdij d; x kdij d;

kdij d; x kdij d; vdDk; nghOJ xU kdij d; j dffs; vtthW NtWgl L , Uffjdwd> j dDi l a kdij y; Nj hdwf\$ba cz uTfi s vggb ntsiggLj J fjdwhd; vdgi j f; FwffFk; xU j dkdij Uffs; Vwglk; cz uTfs; mtw mfji j r; rhueJk> Gwji j r; rhueJk; , UffjdW nghOJ gyNtW khwwqfs; VwglFjdwd. , kkhwwqfs s; 'fhj y> Vffk> gak> tUjjk' Mfjai t mfk; rhueJ mi keJ tL fjdWJ. 'jwnfhi y Kawr> ntwgbbj y> i gjjjak; gbbj y; j dpi kapy; Gykgj y' , i t mfjjwFs; vOej , cz uTfshy; Gwj j y; GyggLk; NtWgl i epi yfi sf; Fwffjdwd. , eepi yapi dg; GyggLj Jk; tjj khf ewwpi z apy; j i yti j d; neQrpwFr; nrhyypa ghl y; gpd; tUkhW mi kfpwJ.

**üÜki öf; nfj ppa kz p w , UkGj y;
ei uepwk; gLj j eyypz uj J vWotP
j hme; Nj uyu; nfhylyh**

(ew;302)

ghi y eyjjjy; edF Kjuej Ntykuqfs; neUqfjapUffjdwd. , ffl npi af; fhz NghUffg; ngUk; Jdgjj i d cz l hfff; \$baj hf , Uffk; fhufhyjjy; kpFej moF nghUejja nfhdi w kyufs; gjjjUffjdwd. ek; j i ytu , fnfhdi w kyufs; fhufhyjjy; kyuf; \$baJ vdW mwfej Uff kh l i hNuh? MapDk; , dDk; tutyi yNa vdW j dpi kapy; tUeJ fjdwhs;

fhl bNy nfhdi w kyufs; kyuj Uffjdwd. , fnfhdi w kyufs; kd; kpFej mofpi d kfsu; tUkGtJ Nghy> , kkyufi s ahtUk; tUkGk;

tz z k; kyufs; fhLrj Ufɪdwɪ. , j i d ek; j i ytu; mwɪtɪy i yNah
vd VqFɪwɪhs;

fhufhyk; njhl qFk; KdNd ki oi a vj ɪghuj J kyuej eɪkz ɪɪd;
ɛwk; Nghdw fɪɪ Gɪ ufsɪYss eyy gɪnfɪj j cɪlaj hɪɪ vWokyɪ
ki ofɪhyk; ɛɪFj yhNy j dɪɪwkhwɪ ntz i k ɛwk; nghUej ɪɪUj j i y
j i ytu; mwɪhky; , UggɪNuh?

ngɪUs; <lɪr; nrdw j i ytu; fhufhyk; tUkngɪONj tɛJ tɪLNd;
vdW nrhyɪɪɪth> fhufhyj j mɪJ Jj; njhl qFɪdw \$j ɪggUɪj;
njhl fɪj j i d mwɪtɪFk; tɪj khf vWo kyufs; j dDɪla eɪ
ɛw j j j UeJ ntz i k ɛw j j wF khwwk; ngWtɪj j; j i yɪ
cz uɪɪdwɪhs;

MɪɪDk; fhufhyk; nrdWk; \$j ɪggUɪk; tɛJk; , dDk; ek; j i ytu;
tutɪy i yNah vdW j dDɪla Vɪfɪj j ntsɪggɪJ j ɪdwɪhs; vWokyɪ
m j d; moi fg; ngɪɪtɪɪɪJ , UggJ NghdW> j i yɪɪk; ngɪɪtɪɪɪJ
fhz ggɪɪdwɪhs; , qF j i yɪ j i yɪ d ɛɪ d j Jj; j dFɪj j hNd
Gyɪɪɪf; nfhsSk; ɛɪ y i a mwɪɪKbɪɪdwJ.

kdj d; x gw kdj d;

, tɪɪɪy; kdj d; j di dAk; j di dr; Nruej gwi uAk; rhueJ
thoNz ba #oy; , UfɪɪdwJ. mggbr; NrueJ thoɪ f el j Jɪdw
j Uz j j y; Vj htJ xU fhuz j j j d; tɪ stɪf j; j dFɪ mUɪy; tɪɪɪɪdw
myyJ vj ɪggɪɪdw egufɪɪk; rz i l NghLj y> gɪz fɪk; nfhsSj y>
vj ɪj Jg; NgRj y> vj ɪj J ɛwɪy; Mɪɪt c Uthɪɪdwɪ.

rqfɪhyj j y; thoej kɪfs; xtnthUɪUk; gw kdj uɪNshL
njhl uG nfhz l thoej Ufɪɪdwɪh; , j j i fa #oeɪ yɪy; mɪufS fɪ
, i l Na fhz ggɪk; cWt Ki wfsɪy; ɛɪfɪɪdw c i uahɪyfsɪy UeJ
vtɪhW khWgl c ssdu; vdgi j cz uKbAk; , qF kdj d; x gw
kdj d; vdfɪdwngɪOJ j i yɪ d i kaggɪj j j; j i yɪɪk; Nj hoɪAk;
NgɪɪnfhsSk; ɛɪfɪɪy; , Uɪufɪɪ l Na Vwgɪk; fUj J gNgɪhɪ l j j j f;
fhz KbɪɪdwJ. ɛwɪ z aɪy; , j i d>

**nj hyftɪd; nj hi yaj ; Nj hs; eyQ; rhma;
eyfɪh; ɛj j d uhaɪD eyFtu;**

... ..

**Qhy;thaf; fsW ghej l; gl nɪ dj ;
JQrhj ; Jauj ; j QRgɪg; gry;**

(ew; 11)

, ggɪl y; , awgɪj j Nj hoɪFj; j i yɪ , awɪ nkhoj j vdDk;
J i wɪy; m i ke j j hFk; m j htJ Nj hoɪ j i yɪ d , foɪ NgRkNgɪ
m j i dj; j i yɪ kWj Jj; j i yɪ dg; Gfoɪ NgRɪɪdwɪhs; , ggɪl y;
gh i y j j z aɪy; m i ke j j hFk; gh i yɪ xOfɪkhɪJ gɪɪTk; gɪɪT
rhhe j j hFk; mgNgɪ Nj hoɪAk; j i yɪɪk; c i uahɪɪdwɪ.

, ggɪl yɪy; j i yɪɪk; Nj hoɪAk; vj ɪɪh j k; Gɪɪdwɪdu; mgNgɪ
Nj hoɪahɪts; j i yɪ d , foɪJk> j i yɪahɪts; j i yɪ dg; GfoɪJk;
NgRɪɪdwɪdu; , qF Nj hoɪFk; j i yɪɪFk; , i l Naahɪ Kuz ghɪ l
, ggɪl yɪJ Gyggɪj j ɪAssJ.

j i yɪ gɪk; Jai u j; Nj hoɪ vɪJ j i uɪɪdw ngɪOJ ghkɪd; thɪy;
mɪggɪl Mz ahi d i af; fz l ngz; ahi dɪɪd; gɪsɪy; rj j k; Nghy;
CuKɪJk; gɪɪ; nrhwfs; vOej Ufɪɪdwɪ. , j dhy; j i yɪɪd;
ɛɪ dgɪy; thLk; j i yɪɪd; cɪy; tɪɪ kɪɪɪ fhz ggɪɪdwJ.

, jji fa epi yi aj; jii ytiFF msjj jii ytd; kpfngghja ahi di a
tiOqFk; nfhba ghkgpi dg; NghdwtD; vdW ci uffiDwhs;

Nj hopad; \$wi w kWj; Ji uffiK; jii yti NrukddNdHL fOkyjjjy;
NghhGheJ gi fth; NfhliiFFs; tuhj gb fhfFk; kjpi y mojjJ>
mtti uNa mdNw jlaLl; nfhSjjjfi; fssststd; ntwwngwwhd; gpdG
Cuhu; J}wwja gojnrhwfi s vvyhk; kjpi y jlaLl nfhSjjjaJ Nghy
mtu; mojjJ vdDila eyk; NgZ thu; Mi fahy; vd; jii yth; ePop
thof vdW jii yti thojJfwhs;

KbTi u

rqf , yffaqsly; xdwhd ewwpi z KdNdhuFsD; thotjay;
newfi s tpsfFfDwJ. , twwy; mdi wa fhyflijjjy; thoej kfFs;
thotiy; VwglI Kuz ghLfisg gjpT nrajUffDwJ vdgi j mwja
KbfDwJ. xU jdkdij dD; cssjjjy; VwglK; eifoTfs; tojahf
vjji fa khwwjjj VwglJjDwd vdgi j mwjaKbfDwJ. kdij d; gw
kdij NdHL cwT nfhSSfDw nghOJ mjpfk; ciuahLk; #oeji y
VwglfDwJ. mjpfk; ciuahLk; nghOJ j qfi s mwjahky; vjhtjk;
GhpfDwdh; , j dhy; , UtUffK; , i l Na Kuz ghL NjhdWti j mwja
KbfDwJ.

j kpyffja tshrrff kddj ofsd; gqfsgG

[h.] nlyyh Nkhp

Ki dthgl Mathsh;

j kphaTj; Ji w> J}atsdhh; j dchl rpf; fy;Y}hp j pUrrpuhgsssp

KdDi u

j kpo: nkhojahdJ , awwkpo> , i nj j kpo> ehl fj j kpo: vdW tshrrp ngwWk; giddh; mwrtjay; j kpo> fz pdj j kpo: vd NKYk; tshrrpail eJ cSSJ. , di wa cyfy; Foei jfs; Kjy; Kjaeth tiu mthfsd; c ah%rrhfj; j pfotJ , i z ajsk; MFk; , J ntWk; mwrtjay; Ji w rhhej J klLkdW> , j d; tharyhf mwrtpi dj; J}z b> mwrahi k vdDk; rhgFNflbi d xoj J , ej 21-Mk; E}wwhz bYk; j kpo: , yffiatshrrff Kffjakhd gqfhwrtUtJ , i z ajskhFk; , i t xUgi lgghsd; j dJ gi lggi dj; j l l rRtbtty; nfhLfFk; NghJ mit cyf msty; mdi thd; ghhi tfFk; nfhz L nryYk; Kj dik Clfkf tpsqFfidwd. , ej , i z ajsj j y; ntsptUk; kddj ofs; tharyhf vt:thW j kpyffjaqfs; tshrrpail fidwd kwWk; mtwwd; gqfsgG vt:thW cSSJ vdgi j MatNj , ffl Li uapd; Kffja NehffkhFk;

j kpy; kpd; , j ofsd; Nj hwwk; kwWk; j fty; nj hl hG

kffsd; thofi fj j uj i j , c ahJ t j y; kddZ n; rhj dqfspd; Gj pa nj hory; Elgtshrrp kdgj rKj haj j pd; Nkkghl by; Gj pa KdNdwwj i j VwgLj j pAssJ. kddZ f; fUt fshd nj hi y mrR (Tele Printer) nj hi ythp (Telex)> nj hi yefyp (Fax)> mftp (Pager)> mi yNgrp (Cellphone)> , i z ajsk; (website) Nghdwi t j fty; nj hl hG; rhj dqfshfg; gadgl j j ggl l d. mnkhffhty; c ynfqfYk; cSS epWtdqfi s , i z fff; \$ba i gnel> , z l hnel; vdw xU kddZ , i z aj; nj hl hGj; j pl l qfs; cSSd. 1985, y; nl frhry; cSS ` l l d; gyfi yffofj j pd; NuhgNkhfhf; (Rope More Cock) vdgtyh; 'i gnel i rfi - NfhyhfrpA] nyl l h' vdwKj y; kddZ , j o; ntsj p l ggl l J.

vyfl uhdpf; j i fi ul bq; (Electronic Sky writing) vdgNj kddZ , j opd; mbggil lahFk; , j d; tharyhf; j fty; myyJ fl Li u msj Nghh; gj ggghrhpauhFNth> thrfuhFNth gqF nfhsSKbAk; , thfs; j qfs; fz ggghd; Ki dfs; tharyhf tpi uthf mwrtjay; nj hl hG (Scientific Communication) nfhsSKbAk;

, i z aj j y; kpd; j ofsd; Nj hwwk;

Kj dKj yry; fgg1554, y; yp] gd; efhy; ntsj p l ggl l Y}Nrh j kpo; rka tpdhtj l (Luso Tamil Calechesson) Kj y; j kpoE}yhFk; cyf msty; 1985, y; Kj y; kpd; j o; ntsjahdJ 1992-1993 Kj y; j kpo; kpd; j o; tbt i kffgggl l J. 1993, y; Kj y; kpd; ehsj i oj; 'j pdGkp' epWtdk; ntsj p l J. 1992-1993Mk; Mz Lfsy; v] rj j kpo; , yffja kdwk; 'm' vdw xU j kpo: , yffja kddj i o el j j paJ.

kpd; j ofsd; ti fgghL

kpd; , j ofi s mtwwd; ntsj p l L Ki wfS fNfwgf; fhymst Nehffry; ehsj o> thu, j o> khj , j o> rwwj o; vdtK; , yffja , j ofs>

nraj p , j of s> f t p i j , j of s> F w p f N f h s ; , j of s ; v d T k ; t i f g g h L n r a a y h k ;

ehs j of s ;

m r r p Y k > , i z a j j p Y k ; n t s p t U k ; e h s j o f s ;

1. j p d G k p www.dinapoomi.com,
2. j p d k z p www.dinamani.com
3. j p d k y h www.dinamalar.com

, i z a j j p ; k l L k ; n t s p t u f \$ b a e h s j o f s ;

1. j p d f F u y ; www.dina,kural.com
2. j p d K u R www.dinamurasu.com
3. j k p d K u R www.tamilmurasu.com
4. j k p ; r p d p k h www.tamilcinima.com

thu, j of s ;

j k p f j j p ; m r r p ; n t s p t U f p d w t h u , j o f s ; g y T k ; k p d d j o h f T k ; n t s p t U f p d w d . M d e j t p f l d > F K j k > k q i f a h ; k y h > f y f p (t h u k ; , u z L K i w) K j y a , j o f s ; k p d ; , j o f s h f T k ; f p i l f f p d w d .

khj , U K i w , j of s ;

g j p i d e J e h l f S f F x U K i w n t s p t u f \$ b a , j o f s ; k h j , U K i w , j o f s ; M F k ;

c y f j j k p ; f h k ; www.worldtamil.com

khj , j of s ;

j k p ; k p d ; , j o f s ; r p y k h j , j o f s h f T k ; n t s p t U f p d w d . m t w W s ; f d l h t y p U e J n t s p t U k ; g j p T f s ; www.pathivukal.com , j o ; F w g g p l j j f f x d w h F k ;

g j p T f s ; , j o ; g w w g p w , j of s ;

n j d w y > j k p o f k g A i l h > n r k k y h > t u y h W > G j p a f h w W > j y j i K u R > G j p a G j j f k ; N g R J , i t g j p T , j o f s p ; c s s g w , j o f s h F k ;

F w p f N f h s ; , j of s ;

j y j i K u R > G u l r i g ; n g h p a h ; K o f f k ; N g h d w , j o f s ; F w g g p l i x U r h u h ; j q f s J f U j ; J f i s n t s p a L k ; , j o f s h f n t s p t U f p d w d .

, i z g G k p d ; , j of s ; (Link :e-jurnals)

m r r j o f s p ; x N u e p W t j i j r r h e j , i z g G , j o f s ; n t s p t U f p d w d . k p d ; j o f s p ; n t t N t W e p W t d j i j r ; r h e j , j o f i s m w p K f g g L j ; J k ; N e h f f p ; x U k p d d j o ; , i z a j s j j p ; n t t N t W e p W t d , i z g G , j o f s ; n t s p t U f p d w d .

j p z i z a y ; , i z g G , j of s ;

j p z i z a y ; l e J , i z g G , j o f s ; n t s p t U f p d w d . m i t

1. N j h o p f h k ; www.tholi.com
2. t h h g G . f h k ; www.varppu.com

3. j kNohtpak;fhk; www.tamiloviam.com
4. kuj j b.fhk; www.marathadi.com
5. gj pTfs;fhk; www.pathukal.com

fWwJ sj j py; , i z gG , j ofs;

fWwI d; , i z gG , j ofshfg; gj pNdO , j ofs; ntsptUfjdwd.
mi t GJtpi r> j yj;KuR> Gj pafhwW> \$IihQNrhW> r%ftipgGz h:T>
nghpahh; Koffk> meprk> GJ vOjJ> j kJ hrfil> c qfs; E}yfk>
Gj panj dwy> tl fFthry> nrkkyh> Nj d p fwffrl w Nghdwi t MFk;

, yffpa kpddj ofs;

j pz i z> thhgG> kuj j b> j l j j kp> gj pTfs> j kpok; nel>
j kpof;\$I y> epyhrrhuy> j kNohtpak> Mwhkj pi z> fi z ahop j kpof;\$I y>
fWw Nghdw kpddj ofs; , yffpa kpddj ofs; Fwggpl j j ffi t.

kpddj ofsp; , yffpatshrrp

kdj kdqfs; Nj hdWk; fUj Jffsp; ghkhww; rhj dNk , yffpa;
gj pTfs; , yffpak; vdGJ vyNyhUK; mwaj j ff> mwpaNtz ba
Cz i kfs; epi wej i t. , tthwhd fwgi deak; kpFej fUj Jffi s
ntsggLj Jk; , yffpaqfs; mojahJ , ej E}wwhz bYk; kpddj ofsp;
thayhf xtnthU gi lgghshfS k> thrfhfS k> flLi uahshfS k
tshj Jf; nfhz Lj hd; tUfjdwdh.

kpddj ofsp; gqfsgG

thhgG www.Varppu.com kpddj o; ftpi j fS fnfdNw xJffggL
kpddj o; MFk; , twwp; , ogG ngahp hJ el rj j uk> vJTkyyvJTk; vdw
j i ygGfs; vyhk; ftpi j fS; , lk; ngWfjdwd. , twwp; , dWti u 670
ftpQhfs k> 2833 ftpi j fS k; , lkngwWssd. mtwWs; , lk; ngww
ftpi j fsp; xdw

vqfspd; Nj rk; gi lgghsh; (e;thz p)
vqfspd; Nj rj j py; cOJgail
gri ri ag; ghj Jg; grahwathfs;
ehqfs;
, dWk; vk; Nj rj j py; Fz Lfs; tbeJgyahtJk;
ehqfs;
xUeZ l gaz j j py;
kZ Lk; vkNj rj j py;
thofi fi atskha;
thoeJnfhsNthk;

j pz i z , yffpa kpddj o; ntsjahd ftpi j , yffpak; rhhej
Gj j hz L thoj J gwwpa nrajp

j i ygG : Xi y eWffpy; xU Gj j hz L
ntsjaL : rdthp 4> 2016
gi lgghsh; ngah; Uj uh

fy; nghUj wqFk; kyyyahW
Gy; j l tp Gffs; tUb
Ewtk; J&c;g; gyyp; ug; gutp
tssgl hej tskdWfs; Mffp
Ntqi fgLj j Ntqi f nt&ca;

ngaUk; fhlpAk; kypAk;
mwi wthdjd; mfytha; vdd
xspAk; fhi ytUtha; vdd
tpmtp; Fti sthahepW
Nehj y; ahd; cwwJ mwi tNah
thby; fhej y; mz d CoAk;
nfhLtpy; El qfp tbej Jk; mwi tNa.....

vdw ghly; Xi yr; Rtbfsjd; njhdi k fhyj Jk> xU jiytp
ntsiggLj Jk; Gj jhz L Vffk; gwwpa ghly; , J. jiytd; tuT Nehfjpf;
fhj Jf; fhj J neheJ Nghd jiytpfF mJ neba Afk; MdJ vd xU
gilgghsd; jdJ vz z f; fUjij , yffpaj Nj hL xggp Lg; ghggJ kww
thrfhfsfF , yffpajjd; Nkdi ki aj; J}z Ltij , twwpj; fhz
KbfwJ.

KbTi u

j kpo; kpdjdj ofS ffhf thrfhfs; c yfmstiy; , Uggj hy;
gilgghsrfi sAk> mthfsjd; gilgGfi sAk; c yfmstiy; njhpeJ
nfhsSk; thagG VwgLfWJ. , twi wjjhd; mdNw ghuj p “nrdwLth
vlLj; jpfFk; fi yr; nrytqfs; ahTk; nfhz hej qF NrhggH” vdW
\$wAssh; Mdhy; , dW , iz ajj wFr; nrdwhNy vyyhjji rfsk;
, iz affuk; ellk; kpdjdj ofS; vdgi t , dW tsheJ tUk;
khz thfS fFk> MathshfS fFk; mthfsjd; gilggpi d VwWf;
nfhsSTk> gilggpd; tharyhf jdJ , yffpa mwptpi d tshj Jf;
nfhsSTk; kpFej gai dj; j Ufjdwd. j kphfsjd; j kpo; cz htpi d
, iz fFk; ghykhf kpdjdj ofS; tpsqfritUfjdwd. kpdjdj ofS pdy;
ftpi jfs> flLi ufs> rWfijfs; vdggynTW ti ffsy; , yffpaqfs;
tshrrpai ltj wFr; rwej Clfkhf kpdjdj ofS; rwej gqfsigi gAk;
j Ufjdwd vdgi d , j ypuEJ mwpaKbfwJ.

Ji z epdw Elyfs;

1. f.Ji uaurd> , iz aKk; , dpaj kOk;
2. , uhj h nryyggd> j kOk; fz pdpAk;
3. kh.gh.FUrhk> , j opay; fi y
4. r.<] tud> mwptpay; j kpo;
5. e.[hdfjuhkd> mwptpay; j kpo; tuyhW
6. Ji u kz pfz l d> , iz ajj y; j kpoj; j uTjj sqfs;
7. j kpyffpa tshrrpfF Clfqsjd; gqfsigG

v] :ngh.tpd; gi l gGyfk;

rpNtyKUfd;

Ki dtHgl l Mathsh

j kpha:Tj Ji w> J)a tsdH fy:Y}hp j pUrrpuhgssp

j kpo; , yffaajjpd; KdNdhb vOjjhsUk> <oggi l gghspfsy;
Kj di kahdtUkhd v] :ngh. vdfw v] :nghdDj Ji u j kpo; , yffa
c yfiy; j d; rpwGilaH. j kpo; Coajjy; j d; Njliy Cdwi;
j kOfFg; Gjpa ghkhz j i j Ak> Gjpa KfijjAk; nfhLjjth. vOjj;
njhl qfpa fhyjjjyUeNj mth vOjJgNghuhsahf tpsqfath. , th
<ojJg; Gj kggj j d> <ojJ n[afhej d; vdTk; nfhz lhl ggLfwhH.
c yfshtpa j kpo yffaajjpd; MwwykFej vOjjhsH vd , tiuf; \$w
KbAk;

v] :ngh.tpd; thofi f tuyhW

v] :ngh. ahogghz k> ey:Y}hy; 1932Mk; Mz l [ld; 4Mk; Njjp
rz kfk; vdgTUFF kdfhg; gwejhH. Mukgf; fytia ahogghz j j y;
css rkgjjhrahH fy:Y}hary; KbjjhH. gpdG , ilep yffaajjpa
guNk] tuh fy:Y}hary; gpdwhH. mj d; gwF nrdd ffwjJtf;
fy:Y}haryk> j kpoehL mz z hki yg; gyfi yffaajj j yk; c ahfytp
gpdwhH. klffsgG nkj b] j; kjjpa fy:Y}hary; 1955 Mk; Mz l
gljjhM mthahuhfg; gz Ghej hH. v] :ngh.> <] guk; mki kahH vdgti u;
j pUkz k; nraJ nfhz lhl. , thfSfF ehdF kdfS k> xU kfS k;
cssdH. %jjtuhd NkfyhTk; kfd; mEuTk; M] j Nuyahy;
trpfidwdH. filrp kfd; , eu nrdd dary; css gjggfjjjg
ghjJfnfhsfwhH. , ilay; gwej kjutk> Gjutk; , weJtlldH.
, thfsy; kjutpd; fijia 'Mzik' vdw jiyggy; fijahf
mi kjJssH.

v] :ngh. vOjJyfk;

v] :ngh. fy:Y}hp khz tuh , Uej fhyjjNyNa vOjJyfy;
GFeJtlldH. , tuJ %jj rNfhj uH jki gah 'QhNdhjak' vdw
i fnaOjJ , jio eljjpa nghOJ mjy; vOj Mukgj j hH. , th vOjpa
Kjy; ftij tNfrhary; ntsahdJ. , tUila Kjy; rWfij
'Rjejud' vdw gjjhi fary; ntsahdJ. njhlfff; fhyfljjjy;
<onfrhary; v] :ngh.tpd; fijfs; ntsptUtjwF ehfuh[d; vdgth
c WJiz ahf , Uej hH.

v] :ngh. rWfijjjji wary; c Ut mi kggYk> cjjp Ki wfsYk;
gy ghNrhj i df; fijfi s vOj p Gjpa tofisaK; mwKfk; nraJ
i tjJssH. 'gr' vdDk; lqFW fijfS k> ahogghz j j f; fskhf
i tjJ vOjpa 'epy' vdw fijAk> klffsggi kakhf i tjJ
vOjpa 'xsp' Mfiatwiw csslffpa tlhuf; fijfs;
j pwdhathshfspd; ghul Lj yfi sg; ngwwd.

KjyKoffk> tiy Mfpa ehlfqfi s vOj j; j hNk Nki l Naww
ntww ngwWssH. 1953, y; nrdd dary; ei l ngww rkjhhd khehby;
'rhT' vdw ehlfijj v] :ngh vOj p mjy; ebjJk; cssH. mej ehlf
tphtwFj; jiyi k jhqfpa vk:[pMH mej ehlfk; kpf mwGj khdJ
vdW ghul bAssH.

v] :ngh. vOjpa 'Nahfk'; Kj dKj yhf murpay; ghjjjuqfisi
i tjj vOjggli Kjy; GjpdkhFk; tNfrhpay; , uzL mjjjahaqfs;
ntsptej epiyary; mntspal epWjjggliJ. , tUi la "#bfopfhj
kyH" vdw cUtfffi jiaf; 'fi ykfs' , johdJ tUkgp ntsplJ.

vOjJg; Nghusp

v] : ngh. fU> cjjp eil> fwgid Kjyatwmy; GjikAk>
GulrAk; fyeJ rWfijfSk> FWehtyfSk; vOjAssh. fijfSfFg
ngaH itggjYk; mth xU Gjiki af; i fahzlhH. xU vOjjYk>
, uzL vOjJffsYk; RUffkhd ngaHfisi itgghH. jB tB G> Ks>
Rit> mth> fiz Nghdwi t mtuJ fijfSf; jiygGfs; MFk;

, iijg; gwwf; fdf.nrej yehj d; gpdUkhW FwggLfdwhH.
"fijfSfFr; rWpa jiyggLk; Nkhfijj <ojjy; v] :ngh.Nt
Vwgljjath. gy jiygGfsg; ngahfTk> tpi dahfTk; nghUS;
nfhssyhk; , ej cghajjdh; fijjard; Gfkhhd njhdngnui sAk;
ntsaggi lahf rkgjtj; njhfGi gAk; xU Nru v] :ngh fhlLfjdwH. jkp;
, yffajjy; , J Gjpa Kiw> GulrKi w" vdW \$WfjdwH. , jwF
cjhuz khf> v] :ngh. fijfS; vdw njhfjary; css 'NjH' vdw
fijiaf; \$wyhk;

v] :ngh fliLi u> jwdhaT> ftijj> fijggly> ehlfk> Gjpdk>
FWkGjpdk> rWfijj> cUtff; fij Nghdw gyNtW , yffja
tbtqfsYk; jKJ jwi ki af; fhlbaUffwH. "jd; vOjjpd; Nghy;
, tUffUfFk; mstww jddkgrfi fNa , th gilggwwypd; mbehjk;
, th vOjjy; mrrkiy y> jdDzHT , th vOjJfF Ntyaj tyi y"
vdW v] :nghtd; Mzik EjYfFg; ghajuk; vOjpa , ej puh ghHjj rhujp
FwggLsssh.

ei lrrwgp v] :ngh.

v] :ngh. jd; , yffajNjlyfshy; <ojjy; klLkyy> jkp;
ehl bYk; jdJ vOjJj; jwi kahy; Nrggltth ghulggltth. Mdhy;
vjwFk; Mlglhky; jdJ , Wjrf; fhyk; tiujkp; r%fjjpd> FwggHf;
GykngaH jkp; , djjp; vjHfhyk; Nehfij; jllklLr; nrayglth
vdNw \$wyhk;

v] :nght t 'ojJ n[afhejd> rWij kddd> ei lrrwgp>
vdrwyhky; rWggfjdwH. xU Gjpa eilila jdfnfd cUthfjath.
mtuJ jkp; eililag; gwwf; FwggLk; NghJ> "mHjj Ghtkhfr;
nrhwfij; NjHeJ cUtqfisi; gadpi yaNyww Nghij jUk;
jdjJt Kjji u nfhzljhf mJ jpfjdwJ" vdW fdf. nrej yehj d;
GfoeJ \$wAssh.

nrhyggLk; fijg; nghUSfFk; fjghjjjuqfisi; , ayGfFk;
Vwgf; fijfFf; fij> nttNtW eilfisi; i fahstjy; v] :ngh.
jwi kahdth. MWKf ehtyhd; jkpei liag; gyH cahjjf; \$wpa
NghJ> jddhYk; , jji fa eilary; vOj KbAk; vdgi j v] :ngh jd;
rWfijfSf; nkaggjJsssh. , tUi la eililag; gwwf; FwggLk;
NghJ> "eil vdGJ xUtUi la MSi karp; ntsggLjhd; vdGJ wF
v] :nghTk; xU eyy rhdw" vdW vOjjhsH QhdF FwggLsssh.

nfhejsfFk; fliygwwf; FwggLk; NghJ. 'fily; Fklb
thejnaljj fs; Ei u' vdW FWkghf vOJthH. NkYk> "j kponkhopi a

xU Nti ygNghy; FwghHjJk; xU Gi tg Nghy; crrpNkheJk; vOJk; ei laof v] :nghtp; j dñj j pwk'vdW rpwg ghYRggukz jak; \$wpAsshH.

ewNghfF vOj j hsh rqfk;

ewNghfF , yffjak; vdw mwpi fi a 1963 Mk; Mz by; v] :ngh ntsapil hH. “, yffja Copajjy; jhkKk> rjjjaKk; ghJfhffggI Ntz Lk; vdfw MNtrk; vdDs; fddW nfhz bUej fhuzjjjdhNyNa ewNghfF , yffjak; vdfw kWjjhi d ehd; Kd; i tjNjd” vdW v] :ngh FwggLssH. NkYk> ewNghfF , yffjak; gwwpf; \$Wk; NghJ> “ewNghfF , yffjak; vdw Nfhghlil Kdi tjJ KwNghfF , yffjaaffhuHfSff vj pñd , yffja mzpi a cUthffjatd; ehd; KwNghfF , yffjathj pfs; , ulil Ntlk; Nghl hHfs; khHfjak; j Otpa ajHjjk; gwwg; NgrpdHfs; ehd; ekfnfdW xU nkhoikuG czL mej nkhop , ej kz z ñy NgrggLfñwJ. vdNt , ej kz z ñy; jkp; Cdwpa j di ki aAk; rpwgghfg; gujgyrFk; , yffjaqfs; jhd; vqfSila gi lgGfi s KdndLjJr; nryYk’ vdW \$wpAsshH.

ewNghfF , yffja mz pF tYTil v] :ngh. epi wa vOjj; njhl qfjdH. mti u cwrhfggLjj path; tñNfrhp thuggj gg Mrhpah Nyhfehjd; MthH.

v] :ngh. tfjj nghWgGfs;

v] :ngh. njhl ff fhyjjy; fipffiyqi ff; fkAdp] l; flñpYk> njhwrqfjjYk; Kffja qqF tfjJssH. NkYk; , yqi f Nkhil hH njhoyhsh rqfjjjd; kliffsgGf; fip sapd; nrayhsuhfg; gz pñeJssH. , yqi fapd; fkAdp] l; flñ cWggpdHfSila gz Kjyl by> ‘ghuj p Ely; epi yak’ vdw Gj j fffi li a 1950 Mk; Mz by; eWtpdhH. mej g; Gj j ff; fi lapd; Kj y; Kfi kahsuhf , UeJssH.

, yqi fay; ‘ tl , yqi f rkNksdk’ vdw mi kggpy; mj d; Kj yhtJ , i z nrayhsuhf v] :ngh. Nj henj Lffggil hH. , yqi f muR jpi uggf; \$Lj; j hgdjjjd; guj p kjggLl; FOjj i ythfTk; , UeJssH. 1955 , y; kliffsgG nkj b] j; kjja fyYhary; gljjhñ Mrhpauhf; gz pñeJssH. , yqi ff; fi yffofjjjd; ehl ff; FOTpd; nrayhsuhfTk; gz pahwwpAsshH. , yqi fay; j kpgghljjl; Mrhpauhf; gy Mz Lfs; gz pahwwpAsshH. muR mi kgGld; Kuz ghL Vwgl; NghJ mij cjwtpL ntsNawpdhH. gpd; ie[hñah ehl bwFr; nrdW vlL Mz Lfs; Mqfiyk; fwgrFk; Mrhpauhf; gz pahwwpdhH. 1990 Mk; Mz L M] j Nuypahtpd; euej uf; FbAñi k ngwW , Wj pti u mqNfNa thoeJ tej hH.

v] :nghtp; Gi dngahfs;

v] :ngh. vOjJyfid; gy Ji wfsñy jk] i ftz zjjjf; fhIbdhH. <ojjñy mjpfkhd Gi dngahfSffS; ki weJ epdW gy , yffjag; ghñrhj i dñi s eljjg; ghHjjhH. v] :nghtDjJi u vdW vOjtjwF KddH r. nghtDjJi u> Gulrpggj d> Ji u> nghJCrp gi oi kjhrd> uh[> kj u. Gju Mfja gy Gi dngahfi sg; gadgLjj pAsshH.

, skgpi way; ‘ehKk; ehqfSk’ vdfw ji yggy; nfhz NI hb RggH vdfw ngahpYk; vOj pAsshH. , it jtpu vOthD)H Vfhhkguk; vdfw Gi dngahy; jwdhaTfflLi ufSk> gUfz z i s vdfw ngahfsy; mupay; jwdhaTfi sAk; vOj pAsshH. , it jtpu jñahNfr Nj rñfñ errhj hHfFk; , dñah> tjj thd> gejrñguTthH Mfja Gi dngahfi sAk; i fahz LssH.

v] :ngh. vdw ngaH j kpr; Ri tQH kj j jay; vOj j hsuha; j l k;
gj j j gpd dH> mthFs; v] :ngh. vd mi offj; nj hl qf dHFs; , dW>
, JNt> gi l gG , yffja c yfy; toqfj e w f w J.

v] :ngh.tpd; vOj j ffi s ntsa j l , j of s:

v] :ngh.tpd; vOj j ffi s K d n d L j J r; n r y y c j t j a h f
, U e j , j o f s h t d> t b N f r h p N j d U t p j p d f u d> j k p K J> k u f j k>
, s k g i w> N j r h g k h d p R j e j u d> f i y m r y t p u r f d> M f j a i t a h F k>
N k Y k> j k p e h l b y> f h j y> g u r z l t p l d> M d e j N g h j p d p f y f p
f i z a h o p v O j j f i y k f s> M f j a t w w p Y k> M j j N u y p a h t y> m f d p F O R>
k u G M f j a , j o f s p Y k> v] :ngh. vOj j A s s h l.

v] :ngh.tpd; gi l gGfs:

v] :ngh. vOj j h s u h f k l l k p d w p , y f f j a E y> n t s a j l h s u h f T k>
g z p a h w w p A s s h l. ' k j u M H l ; m d ; f h p N a r d j ; ' v d w E y> n t s a j l l f j i j
e l j j p t e j h l , j d ; t h a y h f g> g y E y f i s n t s a j l L t e J s s h l.
m t U i l a E y f s> g y j u g g l i t k d j i d M l b g g i l f F k> f h k j i j A k>
a h o g g h z j j J t h o f i f a p i d A k> k d j c z H T f i s A k> k p f , a y g h f
n t s a j l j j A s s h l.

v] :ngh.tpd; ' j p v d w G j p d k> 1961 , y> n t s p t e j J , J g h y p a y>
e l j i j f s> g w w p A k> c a h p a y> r h H e j c z i k f s p d> N j l y h f T k> c s s J .
1966 , y> n t s p t e j , t U i l a ' r l q F' v d w G j p d k> r % f c z H T f s p d>
F w p a l h f k l l k p d w p , d W k f f s> , o e J t p l a h o g g h z j j p d> N e l i k a h d
M t z k h f j> j p f o f w J . v] :ngh. v d w T l N d N a j p r l q F> v d w , e j
, U G j p d q f i s j j h d> g y U k> F w g g p l t h . , e j g> g i l g G f s p d h y j h d>
, e j p j a v O j j h s h' v d w m i l n k h o p v] :ngh. T f F t e j J .

1974 , y> v O j p 1994 , y> n t s p t e j ' K W t y> R a k u G j N j l y p N y
m i k e j x U j k p> e h l f g g i l g g h F k> ' m g g h T k> k f D k' (1999) v d w
f h t p a k> % d W j i y K i w f i s c s s l f f j a J . , J x U N r h f f h t p a k>
,] y h K k> j k p O k' (1975) v] :ngh.tpd; ,] y h k p a j> j k p> , y f f j a g>
G y i k i a , e E y> n t s p f f h l l f w J . ,] y h k p a k f f s i l a n j h z l f i s
M t z g g l j J k> E y f s s> , J K f f p a k h d j h F k>

' m g i g a h' v d n w h U f i j g g h l i y 1972 , y> n t s a j l b U f f p w h l.
f y n t l l g g h L k> k u i g k h w w p j e i j k U g h l g n g w w J . ' f t p i j a y> e h d>
x u s T N j h y t p v d W , j i d g g w w p v] :ngh. N t \$ w p a l U f f p w h l. ' e l y t h z d>
e p i d T f s> v d w E y> 1994 , y> E y U t k> n g w W n t s p t e j J . e l y t h z d>
v d g t h x U e y y f t p Q H . e l y t h z d> v d w G i d n g a h y> m w p a g g l t h
k l i f f s g G N f . p d d j J i u m t i u g g w w p v] :ngh. t h y> v O j g g l i N j
, e E y h F k>

v] :ngh.tpd; , y f f j a f> f l l i u f s> m l q f j a E y h f ' , d p x U t j p
n r a N t h k> n t s p t e j J . t b G> m t h> M f j a r p W f i j f s> f U j J j> j p z k K k>
e i l a o F k> e p i w e j f i j f s> m l q f j a r p W f i j j> n j h F g G f s h F k> 1994 , y>
n t s p t e j ' M z i k' m t U i l a r p W f i j f s p y> k p f r> r p w g g h d j h F k> '< L'
< o j> j k p> , d k> m b i k a h d t u y h w i w A k> m j d> v j p t p i d a h d N g h u h l l
v O r r p i a A k> n r h y> Y k> K j y> e h l f E y h F k>

v] :ngh. k p F e j M a i t A k> f h y j i j A k> n r y T n r a J> f b d
K a w r p A l d> ' k f h t k r k> v d w r p q f s t h p d> M j p t u y h w i w j>
j k p h f f p A s s h l . , t U i l a ' N j l y> v d w G j p d k> 2004 M k> M z l
n t s p a h f j a J . ' t i y + K s> 2002 , y> n t s p t e j e h l f E y h F k> j k p o y>

vOej KOi kahd mqfj E}y; '?' MFk; 2007, y; ntsptej 'kz pFI k'
vdw Gjpdk; fz b muR Nj hwwk; ngww tuyhwW epfo:Tfi sg; gj pT
nrafpwJ.

kj jhgG + rJuqfk; (2000) xU FWk; GjpdkhFk; fhej p j hprdk;
(2008) , eE}y; v] :ngh.tpd; j kphf:fk hFk; fhej paf; fi j fs; (2008)
, eE}yNy nj hFf:ffggl Lss fi j fs; mi dj Jk; <oj J Kddz p
vOj j hshf:pdhy; vOj j ggl i i t. 'fil j epyy;' 2000 Mk; Mz by;
ntsptej E}yhFk; 'ngUqfhggjak; gj J' vdw E}i y v] :ngh.
nj hFj JssshH. Nj kgg mohNj ghggg> kffs:pd; kdj d> khdfNfL>
fWgGfFoei j > ej j pi uay; el fFk; ehL> tz z j JgGrp vhpfwJ. Nghdw
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Are Human Resource (HR) Competencies Capable of Steering the Enterprises to Success?

F. R. Alexander Pravin Durai¹, R. Prakash²

¹Dean & Associate Professor, Department of Commerce, St. Joseph's College, Trichy

²PhD Research Scholar, Department of Commerce, St. Joseph's College, Trichy

1. Introduction

In the current intensely competitive and optimistic business scenario, many organizations realize that people are the essence of their organization and without them; there is no use of physical assets. Consequently, the HRM departments have begun to ensure that the hired candidates are competent, while the existing employees are made fit for their positions, comfortable, motivated, well trained and entwined with organizational strategies.

Competency is the ability, knowledge and skill that churn out superior performance and also applying these abilities, knowledge and skill in a critical work situation. To put it differently, the unique characteristics of a person that enable him to deliver a superior performance in a given job or a role is known as competency and it typically consists of knowledge, skills, traits, social role, self-image and motive.¹

Core competency posed by individuals like job specific knowledge, skills, abilities, behaviours, and personal characteristics enable them to successfully perform critical work tasks, specific functions, or operate in a given role or in a specific situation.²

A competent HR professional can make the top management feel confident about the efficient functioning of the Human Resource Department and its effective alignment with a business outcome. The HR professional may be a manager, CEO, Entrepreneur or third party HR service providers. In the event of absence of the optimally competent HR manager, even the best business plans and ideas could fail. Similarly, even the best employees may remain under utilized. The fast changing socio-economic and legal environment requires the HR people to possess unconventional skills to face unstructured problems and challenges. The Human Resource professionals should now have requisite HR competencies to take up research, define, develop new theories, concepts and extend further tools to tackle any problem/situation. Let us now see a few emerging spheres where HR professional should hone their skills and competencies to remain relevant, up to date and pragmatic.

2. Core competencies for contemporary HR leaders

Competency in Relationship Management

In this strategic Human Resource era, the companies do not just aim at placing a right person at the right place. Rather, they want to maintain continuous rapport

with their employees by creating a positive working environment that keep the employees satisfied with their work.

HR managers play a key role in building a cordial employee to employee relations, supervisor-subordinate relationship and employees' relationship with management. The competency in relationship management is typically based on the HR manager/professionals' abilities to understand the necessities of and persuade others, effective communication and interaction and influence on others behaviours.³ They should also ensure job satisfaction, transparency in management, shared goals and delegation of the authority and responsibilities to build and maintain smooth relationship with employees. The HR head should have a direct reporting relationship with the top management to give genuine information for accurate decision making.

Competency in Consultation

HR professionals often play a role as an internal consultant and expert on human capital issues. Typically an internal HR consultant can enjoy several advantages by the nature of employment. Per se, he can move across the entire spectrum of organization, have direct access, better understanding with employees as well as management to know the real fact. The competent HR manager can enjoy all the privileges as an internal HR consultant and also address people related issues. They are also bound to deal with human capital related challenges such as staffing needs, training and development needs, employee performance issues, and employee relations issues⁴.

An entry level HR consultant becomes an advanced and professional consultant by their experience, which may take 5 - 15 years.⁵

Competency in Leadership

A manager cannot be successful if he does not possess certain leadership competencies. Obviously, it is applicable to HR manager/professionals too. The proficient HR manager would have inherent leadership skills such as courage, ability to inspire others with confidence, ability to create enthusiasm, initiative, unbiased attitude, organizational abilities and also mental as well as physical fitness⁶. These leadership skills will help HR and other managers maximize the organizations' productivity, enhance the efficacy of employees' performance, create a positive culture and promote harmony.

The leadership skills become a leadership competency when the manager can successfully lead the organization, self and others. To lead the organization the HR managers should have the specific competencies like decision-making, risk taking, setting vision and strategy, managing work, solving problems and adapting to the change. To lead themselves one needs to demonstrate ethics and integrity, self-management, self-learning, self-awareness and develop positional adaptability. Besides, HR managers have to concentrate on the skills like effective communication, empathy, managing teams and work groups, building and maintaining a relationship to lead the others competently.

HR Expertise

According to the Corporate Leadership Council (CLC) the HR expertise means HR professionals' knowledge and skills in the field of recruitment and retention, performance and development, compensation and compliance.⁷ The HR professionals should use that expert skill and knowledge to facilitate effective implementation of the competency-based HRM i.e. competency based HR function like competency-based recruitment, training and development, compensation and integration.

A few studies emphasize on the importance of HR expertise by stating that HR professional must have well-developed knowledge base about HRM. This should make them Human Resource Expert with the ability to develop HR policies, practices and procedures which in turn supports the organization to accomplish mission and goals⁸.

Other Competencies for HR Manager/Professionals

Society for Human Resource Management (SHRM)⁹ proposed a competency model for HR professionals. According to the study an individual who deals with human resources should be competent in the following areas such as HR expertise, relationship management, consultation, leadership, communication skill, global knowledge, cultural effectiveness, ethical practice, critical evaluation and business acumen.

3. Conclusion

The HR practitioners should be highly proactive and interconnected with business development. They should have a clear vision and communication, positive attitude, ability to motivate others and be future oriented to be a successful leader. The HR practitioners ought to be 'up to date' in the field of HRM and also maintain good relationship with management as well as employees by practicing moral, ethical values and integrity in their day to day activities. Apart from these, they should also understand the overall organizational culture to make a harmonious working environment for the employees.

The success is not in what competencies the HR manager/professionals possess; it is about how they use it to build competency-based HR system in their organization. Klen Blanchard¹⁰ mentions that "People who feel good about themselves produce good results" It is also equally true that the competent Human Resource manager alone can create and manage the competent human resources. Core Competency is no longer an option but a necessity of time for HR managers.

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