

Dr. Razole Prabhakar

HE-SHE
THE EXTREMES

HUMANITY



FIVE ONE-ACT-PLAYS

FOLLIES FALL APART

THE VAIN SACRIFICES



HUMANITY

Dr. Razole Prabhakar

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Humanity is the crux of all the religions. The pivotal duty of every religion is to lead human beings towards Vasudaika Kutumbakam. Today, the pious purpose of religions is topsy-turvy. The biggest problem is that religions beget fanatics, who are on swift foot to destroy our freedom, and they also beget a number of exploiters in the name of religion. We fail to teach humanity. Therefore, this book attempts to expose the ultimate truth: Humanity is the Divinity.



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PSYCHOLOGY FOR HEALTH, HAPPINESS AND HARMONY

VOLUME-I



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31. Prevalence of Elder abuse : Need for Social Work Intervention

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Abstract: The ageing of the world's population is a global phenomenon with extensive economic and social consequences. The ratio of the elderly population (60 years and older) is now 1 in 10. By the year 2050, the ratio would have increased up to 1 in 5. Due to changing family structure and modernization, elderly population is facing inevitable challenges to live their life respectfully. According to a rough estimate, nearly 40 percent of elderly living with their families are reportedly facing abuse of one kind or another, but only 1 in 6 cases actually comes to light (Help age India website,2012). The proposed study aims to understand the socio-economic profiles and problems experienced by the elderly, social support received and the types of abuse they have experienced with the help of standardized scales. The universe of the study consists of elderly living in the 6 villages/towns of three selected districts of erstwhile Andhra Pradesh. A sample of 400 were selected from the universe of 3208 elderly in the study area with the help of simple random sample with proportionate allocation method. To address the complexity and inter-factorial problems of the elderly which are multifaceted, there is an imperative need of intervention. The researcher has provided intervention in the area of health, nutrition, family, economic problem, social life, religious life, personality betterment, adjustment to old age, enhancement of social support, welfare legal education and community sensitization towards elderly problems. The study revealed that there is a significant difference between pre and post intervention scores of frequency in problems, incidence of abuse and social support.

Key Words: Elder abuse, frequency of problems, social support, Intervention

Introduction:

In the twentieth century the proportion of population aged 60 or over has increased in all countries of the world. About 600 million people in the world were aged 60 or over at the turn of the new millennium and their number are expected to increase further. Globally the share of elderly increased from 9 percent in 1994 to 12 percent in 2014 and is expected to reach 21 percent by 2050 (World Population ageing 2013). From 1994 to 2014, Asia added the largest number of older people (225 million) accounting for almost two thirds (64 %) of global growth. The data from 2011 census revealed that there are 103.83 million elderly in the country constituting 8.6 percent of the population. Among the states the proportion of elderly in total population vary from around 6 % in states like Assam, Jharkhand, Uttar Pradesh to more than 9 %-10% in Maharashtra, Odisha, Punjab, Tamilnadu, Himachal Pradesh and highest percent i.e. 12.6% in Kerala (Censusindia.gov.in).

During the old age many have to join their adult children and they are totally dependent on them. This creates loss of privacy for the adult child, conflicts arise when adult children are not prepared for this role. The dependent parent who still persists on advising and directing the very child on whom he is dependent creates incongruent role situation. The chronic complainer, the demanding parent cannot take a child's role in the family of his child. This serves to stir family conflict and lead to elder abuse. The growing worldwide focus on the abuse of older people since then has sought the focus on human rights, gender, equality and population ageing .

Elder abuse is defined as "a single, or repeated act, or lack of appropriate action occurring with any relationship where there is an expectation of trust which causes harm, distress to any older person" (Action on Elder Abuse 2006). A Global Response to Elderly Abuse and Neglect; WHO, 2008 report apprehends that the elderly abuse has serious consequences on the health and well-being of older people and can be of various forms: physical, verbal, psychological/emotional, sexual and financial. It can also simply reflect intentional or unintentional neglect. Elderly abuse in India has received noteworthy voice in the last two decades abundantly. The study done by Jamuna (1995) talked about the conditions of elder abuse in Indian cultural context. A host of factors such as frailty and degree of dependency, lack of space in the house, financial status, temperament and perception of care givers collate in producing abusive behavior from family members.

The speedily ageing population in India is witnessing new challenges. The causes of abuse of older people are complex and multifaceted and may encompass physical, psychological, social, medical, legal and environmental factors and multiple systems (Bagshaw, Wendt & Zannettino 2009). HelpAge India elder abuse survey report (2014) revealed that half of the elderly (50%) were experiencing abuse. 48% males and 53% females reported experience of abuse. Verbal abuse (41%), disrespect (33%) and neglect (29%) are ranked as the most common types of abuse experienced by the elderly. The daughter-in-law (61%) and son (59%) emerged as the topmost perpetrators. The elder victims cite that the primary reasons underlying their abuse are: 'emotional dependence on the abuser' (46%), 'economic dependence on the abuser' (45%) and 'changing ethos' (38%). While abuse has gone up, unfortunately still 41% of those abused did not report the matter to anyone. "Maintaining confidentiality of the family matter"

Abuse and neglect are a major source of stress and can have long-term effects on the health and well-being of older adults. The stress of abuse may trigger chest pain or angina and may be a factor in other serious heart problems. High blood pressure, breathing problems, stomach problems (ulcers), and panic attacks are common stress related symptoms among older people who experience abuse. Abuse has a significant impact on people at any age, but older adults can be especially vulnerable. In general, older adults have less physical strength and less physical resilience than younger persons. Some older adults may be very frail, or already have disabilities or impairments that leave them particularly vulnerable.

Recognizing elder abuse and intervening are important for reducing morbidity and mortality among elderly people due to elder abuse, whether that abuse is by others or self neglect (Wyandt, 2004). Studies were also rare to examine the impact of intervention on elderly problems. Besides all these due to the complexity of the problems and dearth of data in India, the study undertaken throws light over the missed issues. The study entitled " Prevalence of Elder Abuse :

Need for Social Work Intervention" helps to establish the impact of interventions for the betterment of the elderly population to lead a healthy and dignified life and to minimize elder abuse.

Objectives : The present study aims at studying the socio-economic profiles of elderly, their health status, their adjustment to living arrangements and problems experienced by the elderly. The study also attempts to explore social support received by the elderly and the types of abuse they have experienced.

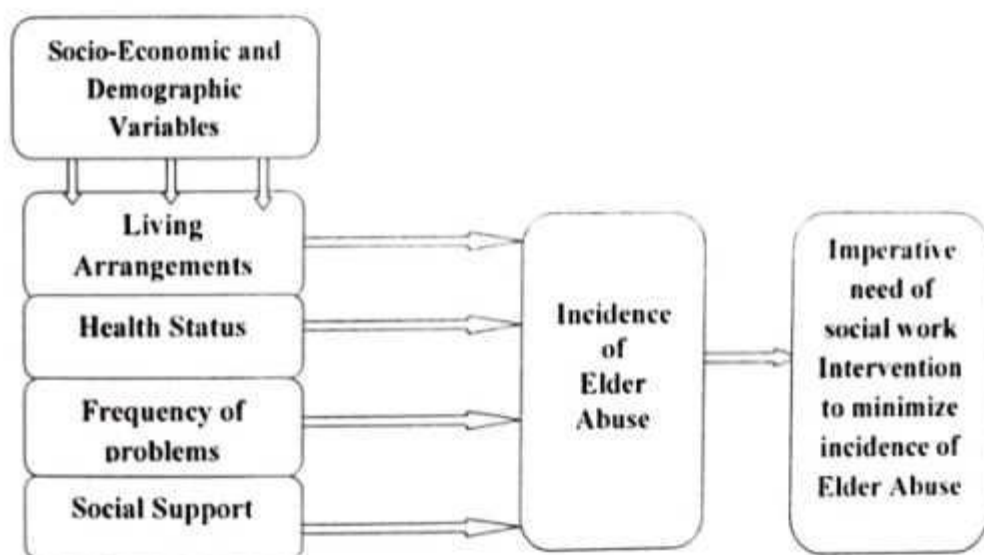
Hypothesis:

- The incidence of abuse on elderly is dominantly influenced by the select variables such as age, education, caste, occupation, source of income, living arrangements, frequency of problems, level of social support received by them etc.
- The post interventional scores of frequency of problems, social support received and abusive experiences by the respondents would be influenced by the intervention provided to elderly.

Conceptual frame Work:

Socio-economic and demographic variable like age, gender, education, occupation, income, caste, type of family, marital status etc influence elderly persons living arrangements and health status, frequency of problems and social support. Further the elderly are susceptible to many problems such as economic, health, family dynamic, social, personality related problems. The poor living arrangements and health status, less social support and more frequency of problems augments the incidence of elder abuse. This is clearly evident from many research studies as most of the abused elderly are dependent on family for everything. The conceptual frame work explains that the poor socio-economic and demographic status of elderly determines their adjustment to living arrangement, health status, availability of social support and ultimately leads to elder abuse. If proper intervention is provided to strengthen family dynamics and enhance social support and sensitization about elderly problems will minimize the incidence of elder abuse. (Fig no: 1)

Fig No : 1 Conceptual frame Work - Factors influence Elder abuse



Methodology:

The study was undertaken in randomly selected three districts in three regions of erstwhile Andhra Pradesh i.e. Nellore from Coastal Andhra, Kurnool from Rayalaseema and Hyderabad from Telangana. The universe of the present study i.e. 3208 consists of the elderly and a sample of 400 elderly were selected with help of random sample with proportionate allocation. Pre and Post test experimental research design was adopted for this study before testing the main sample. The tools viz., inventory to assess health status (Ramamurthi, 1996), a problem inventory for older persons (1969) and inventory to assess social supports (Ramamurthi and Jamuna, 1991) elder abuse suspicion index (Yaffe et.al. 2008) and actual abuse tool (Bass et.al. 2001) were administrated after pretest and found appropriate.

Results and discussion:

The results show that a little above half of the elderly i.e., 55.5 percent are males and the remaining 44.5 percent female. A little above half of the respondents i.e. 56.5 percent are in the age group of 60 to 68 years. A majority i.e. 68.0 percent of the elderly are not having any formal education and same percent were not engaged in any gainful job at present and pension is their main source of income. A little above three-fifths of the elderly i.e. 66.2 percent have 'moderate' health status when compared to last five years and 69 percent of the respondents received 'moderate' social support.

The study revealed that a majority of the respondents i.e. 66.2 percent came across some abusive experiences. One fifth of the respondents i.e. 25 percent are facing neglect in providing food, clothing, shelter, denying recreation and the son is the abuser of the elderly. Further 22.5 percent stated that the reasons for elder abuse is economic dependence. It is also noticed from the results that 17.3 percent approached extended family members when they were confronted with elder abuse and 25.2 percent felt that the effective mechanism is to increase economic independence of the abused.

The study also revealed that frequency of problems are more among the respondents who are in 60- 68 years age group, among male respondents and the respondents who are not having any formal education were having more frequency of problems. Frequency of problems were more among the respondents whose monthly previous income is less than Rs 5,000 and respondents from disorganized families. The respondents who receiving high social support were not experienced any abuse. High social support was indicated among those respondents who didn't face any elder abuse. There is no significant age difference with regarding to incidence of elder abuse. The male respondents experienced abuse more than female. Low educated respondents experienced elder abuse than other. The respondents with less than Rs:5,000 monthly previous income were experiencing elder abuse. The respondents who received low social support are having more incidence of elder abuse. The respondents who are having more frequency of problems experienced more incidence of elder abuse.

Social Work Intervention: Geriatric social work is the fastest growing segment of social work. Further these professionals locate or provide resources, services and opportunities for the elderly and their families; enhance the problem-solving and coping skills of the elderly and their caregivers; help develop social policy. The geriatric social workers worked directly with the elderly and their families to deal with social support factors that create or exacerbate problems in

the prevalence and incidence of elder abuse. Social support (eg. family, friends, and community resources) can maximize the elderly ability to adapt and cope, enhance self-esteem and self-control. Self-developed interventional manual which includes various spheres of elderly life i.e. health, nutrition, family, economic problem, social life, religious life, personality betterment, adjustment to old age, enhancement of social support, welfare legal education and community sensitization at individual and familial level. In this regard total 12 intervention sessions were provided to the groups on 11 themes during group work.

It is found from the results that, nearly three fifths of the respondents i.e. 65 percent had more frequency of problems at pre- intervention phase and 69 percent had less frequency of problems at post- intervention phase. Above half the respondents i.e. 52 percent were getting support from children and spouse always, rarely from relatives. A little above half of the respondents i.e. 52 percent had low social support at pre- intervention phase and more than four fifths i.e. 85 percent had high social support at post intervention phase. A majority of the respondents i.e. 87.5 percent came across some abusive experiences in their life at pre- interventional phase whereas results indicate that the intervention had an impact on minimizing the incidence of elder abuse at certain extent.

It has been observed from the results that a low mean score for the frequency of Problems experienced by elderly (93.8125) is indicated in the case of respondents in pre- intervention stage. The mean scores of the frequency of Problems experienced by elderly for pre and post intervention stage groups of respondents differ significantly ($t = 26.496, P < .001$). So, we conclude that the intervention received by respondents reduces their frequency of problems. Further it has been noticed that a low mean score for the incidence of elder abuse (1.1250) is indicated in the case of pre-intervention respondents. The mean scores of the incidence of elder abuse for pre and post intervention stage group of respondents differ significantly ($t = 8.433, P < .001$). The incidence of elder abuse determines the intervention they received and concluded that due to interventions received the incidence of elder abuse has minimized. In addition it is found from the study that a low mean score for the social support received by elderly (75.9583) was indicated in the case of pre-intervention stage respondents. The mean scores for the social support received by the elderly of pre and post intervention groups of the respondents differ significantly ($t = 18.856, P < .001$). The social support received by the respondents determined by the intervention they received and conclude that due to the interventions received the elderly received positive social support.

Conclusion: There is an imperative need of intervention to address the elderly abuse issues which are multifaceted and the intervention provided to the elderly has a positive and visible impact in the areas such as health behaviors (preventive care), social and religious life, accommodating themselves to changed roles, welfare support, community sensitization and willingness to extend positive support. The study revealed that there is a significant difference between pre and post intervention scores in frequency of problems, adjustment and social support. Hence this could be concluded that the suitable interventions which are tailored according to the needs of elderly will have an impact on elderly problems and they can be minimized in a significant manner.

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12. A study on Psycho-social Problems of Women Workers in Construction sites : Special reference to Nellore town

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Abstract: The area of work affects the person's ability and the performance. The study exploring some of the facts and insights about women workers, who are working at construction sites, to fulfil their basic needs of their families. In this study primarily focus was on psycho-social problems of women workers in construction sites. Construction Industry provides job opportunities to large number of skilled as well as unskilled workforce. The workforce employed in the construction sites have to face several difficulties at the work place. Several issues related to health, stress, and injuries at work place are the major concern of the research among researchers. The present study attempts to study the problems of women work force employed in construction sites in Nellore. The major focus of the study is to identify the key factors related to the women workers in the construction sites. Women work as unskilled labour and face several other difficulties in comparison to males. Sexual Harassment, gender bias, wage discrimination are the major factors due to which the working environment becomes difficult for them and women's are remains at the same level of skill even after working few number of years.

Key words: *Construction sites, women workers, health problems, stress*

Introduction:

India's three crore construction workers are literally the builders of modern India. Construction workers are the backbone of the economy as they create the infrastructure necessary for industrial growth. The Construction Industry in India is an important indicator of the development as it creates investment opportunities across various related sectors. The construction industry has contributed an estimated 6,708 billion to the national GDP in 2011-12 (a share of around 9%). Modernization and industrialization have paved a good way to the construction industry. Small towns and cities become more urbanized and, the construction sector too has got a boost. Expanding and fast growing construction sector and, in general, lack of greater employment opportunity elsewhere has drawn large numbers of workers in this sector. Around 16% of the India's working population depends on building construction for its livelihood .The Indian construction industry today employs about 35million people and creates assets worth over Rs 200,000 million (India Infra Guru, 2008) annually . These construction labourers are one of the most vulnerable segments of the unorganized sector as there is no permanent job opportunity for them. The construction industry has an annual turnover of Rs 2, 10,000 crores.

Types of works in construction industry: a) Construction workers contribute in infrastructural development of India by building; b) Roads and highways; c) Railway tracks; d) Airports and ports; Dams & bridges Information and Technology (IT) cities; e) Call centre's ; f) Mega malls and g) Resident apartments etc.,

Need and importance of the study

Construction workers, who are creating the base of the new economy, themselves live in a time warp, trapped in low skilled, low paid, insecure working conditions, bound by feudal working

relationships, often literally in bondage. About one-third of these workers are women and children. Women work as unskilled labour and face several other difficulties in comparison to males. They perform various unskilled jobs in the industry like cleaning building sites, carrying bricks, gravel, mortar and water up to the skilled carpenters and masons, irrespective of the number of years they worked, they are not upgraded from unskilled to skilled as males (Jhabvala & Kanbur, 2002; Baruah, 2008). Their skills are always at the same level and are not upgraded as they assist only the male work force at the workplace. There is gender discrimination in paying of wages, and in employment of women. There is a dearth of studies on women working at construction sites; this study is a humble attempt to find out the problems of women working at construction sites.

Objectives of the study:

- The present study attempts to study the problems of women work force employed in construction sites in Nellore.
- To study the socio-demographic details of the respondents
- To identify the key factors and problems related to the women workers in the construction sites.

Methodology:**Research Design:**

A descriptive research design was utilized to obtain quantitative data to meet research objectives of the researcher. Interview techniques and observation methods are used while collecting data.

Sampling Design:

The researcher by using simple random sampling method 60 women workers were selected from various construction sites of Nellore.

Tools for Data Collection:

The researcher used semi structured interview schedule to collect the information regarding socio-economic and demographic details, and problems of women workers at construction sites, which was validated by the field experts. The researcher approached respondents and explains the purpose of the study and taken their consent to elicit information regarding study objectives and who were not willing to participate were excluded from the study. Respondents extended their co-operation and they provided the details which are necessary for the research. The researcher used observation method and interviewed the women workers who were comes under inclusion criteria and collect data with semi- structured interview schedule, which took about 30-40 minutes. In this way, about 5-6 members were interviewed on each day.

Analysis of Data: The data collected was coded and frequencies, percentages were calculated. The researcher used appropriate statistical techniques and inferences were drawn based on those results.

Results: Overall 60 respondents were participated in the study. Out of 60 respondents 65% of respondents are in the age group of 25-30 years, 90 % of respondents have no formal education, 81.67% are belongs to Hindu religion, 70% of respondents have income of Rs.5000/- to 7000/- per month and belongs to nuclear family, and 90% of respondents are from Scheduled caste/ scheduled tribe community and 70% of respondents were married.

Table-1: Socio-demographic variables of the Respondents

Variable	Description	Frequency	Percentage
Age in years	15-20	5	8.33
	20-25	16	26.67
	25-30	39	65
	Total	60	100
Education of the women worker at construction sites	No formal Education	54	90
	Primary Education	06	10
	Secondary education	0	0
	Total	60	100
Religion	Hindu	49	81.67
	Muslim	2	3.33
	Christian	9	15
	Total	60	100
Income per month	Below 3000/-	5	8.33
	3000/- to 5000/-	11	18.34
	5000/- to 7000/-	42	70
	7000/- to 9000/-	2	3.33
	Total	60	100
Type of Family	Nuclear family	42	70
	Joint family	3	5
	Extended family	15	25
	Total	60	100
Caste	OC	2	3.33
	BC	4	6.67
	SC/ST	54	90
	Total	60	100
Marital status	Married	42	70
	Unmarried	18	30
	Total	60	100

All the respondents (100%) reported that feeling of unsatisfactory life, stress, workload, burnout (90%), feeling of helplessness (90%), worried about low wages & irregular employment (90%), depression and demotivation in the work (90%), lack of toilet facilities (100%), lack of educational facilities for their children (65%), lack of social security measures (compensation for accidents) (85%), low wages even though they have 10 years of experience (90%), sexual harassment by contractors and other male workers (68%), worried about abusive language used by the supervisors (72%), Lack of time to look after their children (65%), elder siblings forced to look after the younger siblings (50%) and 43% of respondents expressed menstrual problems etc. were reported by the respondents in the study.

Discussion:

The current study highlights the important psycho-social problems of women workers in construction sites of Nellore town. 90% of respondents expressed that stress and mild depression, 43% of respondents reported that facing gynaecological problems during menstruation and also almost all the respondents facing the chronic health issues like headache, body pains, vomiting

sensation, insomnia (sleeplessness) due to heavy workload and also carrying of 9-12 bricks (each weighing 2.5 kg) on their head for each time. In the study, it is observed that poverty leads the respondents to migrate from Srikakulam (native place) to Nellore along with their husband or father. Continuous work stress and irregular work hours affect the duration of sleeping hours and affect their self and their health status. 90% of respondents reported that they are not paid minimum wages and wage discrimination even though they have 10 years of experience. All these psychological issues lead to head ache, body pains, vomiting sensation, insomnia, fever and injuries etc. It was observed that problems directly affect the family and social life. Child care, No extended family support, forced the elder siblings to look after the younger one, no school facilities due to migration from one area to another area, feel difficult to send their children to nearby schools, no time to look after their children's psychological conditions and behaviour, partner's satisfaction, domestic activities were affected. Therefore they suffered from various family conflicts and psychological disorders, not able to take or provide nutritious food to their children due to their irregular and uncertain duty hours and location. Sexual Harassment, gender bias, wage discrimination are the major factors due to which the working environment becomes difficult for them and women's are remains at the same level of skill even after working few number of years. Same results were observed in other studies also (Jhabvala & Kanbur, 2002; Baruah, 2008).

Conclusions:

- All the women are from poor, migrated families.
- All the women came along with their either with husband or with father.
- Majority of the women have no formal education
- All the women suffering with heavy workload along with household chores.
- They are live in slums where one does not get proper (at all) civic amenities viz.. no proper facilities for drainage, toilet, potable water, electricity, recreation etc.
- The surroundings are totally unhygienic.
- There are no local medical facilities, hospital, school, no ration shops.
- No social security measures were taken.
- Gender-based discrimination, proneness to different health hazards, physical problems, psychological problems like insomnia, nausea, headache, and other adverse outcomes. And health problems of their children suffered women working at construction sites more.

Suggestions are as follows: a) Government of India must take care about the facilities and problems of women and children working at construction sites; b) The Building and Other Construction Workers (Regulation of Employment and conditions of Service) Act, 1996 must implement strictly and immediately and provide social security & labour welfare measures; c) Attitudes of society must change against gender discrimination; d) Literacy levels of women working at construction sites must be increased; e) Regulate the employment, conditions of work and services; f) To provide minimum employment guarantee; g) To provide health and safety measures; h) Social workers need to develop appropriate intervention programme for women workers and must create awareness among the women workers about their rights and how to protect themselves and their children. By providing counselling, emotional support, and through interventions, we can assure the quality of life to the women workers at construction sites.

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Dr. SUMALATHA DONIPATI



SOCIAL SCIENCE, EDUCATION & HUMANITIES

*A Cross Section of Articles for
Discussion and Evaluation*

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(A Cross Section of Articles for Discussion and Evaluation)

Edited By

Dr. Donipati Sumalatha

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Pride of Hagar in *The Stone Angel* of Margaret Laurence

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Abstract

Margaret Laurence, a well-known writer for her Manawaka novels, is a distinguished Canadian writer who is conscious of a personal need for the imaginative revision of history. Her works can be broadly divided into African and Canadian fiction. Laurence's Manawaka, a fictional town, novels are to be read together to constitute a remarkable gallery of varied individuals, a composite portrayal of women's experience and imaginative recreation of a society during her times. The main trait of Laurence's fiction is that giving symbolic form to social or collective life that gleaned her familiarity and distinction. Laurence's Canadian fiction is also known as the 'Manawaka fiction'. Manawaka, the small prairie town in Manitoba, has evolved through row of five novels. The linchpin of the Manawaka fiction is the search for Canadian identity (political freedom) and women's search for inner freedom (women's liberation.) The notion of Manawaka enabled Laurence to recreate her regional roots. *The Stone Angel*, the maiden Manawaka novel of Laurence, clearly glimpses the flora and fauna of Canada. Hagar character has been portrayed as a farmer's wife. Laurence has explored a few themes in the *The Stone Angel* are national identity, personal identity, redemption, lack of communication or miscommunication. Besides, the sin of pride and its repercussions, fear of loss of image, loss of family connections, loss of dynasty; fear of losing culture and independence, fear of losing material possessions that make Hagar, the pride woman, fearful which eventually led to her downfall are also dealt with by Laurence in this novel. The central and core theme is the survival with dignity. *The Stone Angel* is a novel which deals with middle-class desires and shortcomings. This middle-class life has cleverly carved out in the character of Hagar Shipley. She seems to be proud as she hails from an opulent family. The novel also explores the doom as an amalgamation of character and circumstance, the forces interacting

complexly. The individual is certainly the victim. In the case of Hagar it is an swaying hither and thither between order and disorder, passion and respectability, individual need and dynastic pride and that dictate the unveiling of her life and characterize her 'blindness'.

Keywords: Pride, arrogance, identity, redemption, blind, survival, identity.

INTRODUCTION

Margaret Laurence, a well-known writer for her Manawaka novels, is a distinguished Canadian writer who is conscious of a personal need for the imaginative revision of history. Her works can be broadly divided into African and Canadian fiction. Human complexity and the quest for inner liberation in her Canadian fiction came out in her writing with the influence and impact of her African writings and personal exposure to the dire African conditions. "I learned so much from that experience". (Donnalu Wignore. p.6). Her works are neither autobiographical nor confessional, but from the deep wells of remembered experience. Laurence's own self experience and her own culture took a great leap forward because of her exposure to the different peoples and cultures in Africa. Laurence learned in Africa to peep at herself. Human complexity, and search for inner freedom are the themes that shape her Manawaka fiction. These are first surfaced in her African writings. Her African works examined the issues of tribalism, colonialism, racial intolerance, betrayal, and independence, the clash of generations, self-sacrifice, and survival in harsh land in detail. "Africa was catalyst and crucible for much of Laurence's work". (Ivory Tower or Grassroots. Pp 18-19). All the above issues recurred in the Canadian novels. These themes were explored in her non-fiction: "I began to write out of my own background only after I had lived some years away" (Adele Wiseman. p.3).

Laurence's Manawaka, fictional town, novels are to be read together to constitute a remarkable gallery of varied individuals, a composite portrayal of women's experience and imaginative recreation of a society during her times. The main trait of Laurence's fiction is that giving symbolic form to social or collective life that gleaned her familiarity and distinction. Such a kind of ability has brought for Laurence a comparison with Tolstoy, not in terms of "literary gigantism" but rather "in such terms as a writer relevance to his time and place, the versatility of his perception, the breadth of his understanding, the imaginative power with which he personifies and gives symbolic form to the collective life he interprets and in which he takes part" (Woodcock. P. 134-135).

The issue of colonialism rarely appears politically or openly in her Canadian fiction. The colonial attitude lead to a new trouble that became clear when Laurence started

to write *The Stone Angel*. This was her "growing awareness of the dilemma and powerlessness of women, the tendency of women to accept male definitions of 'themselves', to be self-deprecating and uncertain, and to range inwardly". This is a type of colonialism that leads to the issues of independence and existence particularly acute for women. She observed this condition in its starkest form in Somaliland, where women's lives are strictly scrutinized and directed by men, yet are romanticized elaborately in literature. The status of women in tribal and religious tradition is infinitely inferior to that of men: "The double standard is extremely strong".

Laurence's Canadian fiction is also known as the 'Manawaka fiction'. Manawaka, the small prairie town in Manitoba, has evolved through a row of five novels. The linchpin of the Manawaka fiction is the search for Canadian identity (political freedom) and women's search for inner freedom (women's liberation.). The notion of Manawaka enabled Laurence to recreate her regional roots. By celebrating her region, she helped us better understand our own. Like R.K. Narayan, Laurence also carved out a fictional setting, Manawaka, for the fiction she wrote out of her Canadian background. Laurence calls it "a town of the mind", but its particularities are typically Canadian.

Place means land and people and Laurence writes of the ambiguity she felt towards both. She spoke to Cameron about the stultifying features of local culture which helped to develop her love of freedom. The land was lonely, isolated, yet very beautiful. Its inhabitation evoked similarly complex emotions:

"How difficult they were to live with, how authoritarian how unbending, how afraid to show love. . . and how willing to sow anger. And yet they had inherited a wilderness and made it fruitful. They were in the end great survivors and for that I love and value them" (Margaret Laurence. HR. p. 16).

Laurence fits her female heroines from the Manawaka cycle into her thematic pattern and reemphasizes that freedom and survival are simultaneously social and spiritual states. Her political development towards a greater self-consciousness of the rights of individuals, nations and groups to possess their heritage and work out their own destiny seems inevitable.

Laurence describes history and fiction as twin disciplines: implicit here is the corollary that the interpretation of history is a political act. Manawaka of Laurence is a 'mind'. Manawaka incorporates the general geographical and physical features of the town of Neepawa. But Manawaka is not Neepawa. She creates a strong sense of place and tries her best to bring her fictional characters to life. She attempts to place these individuals within the historical context of their time and place. Yet

certain profound characteristics are noted. First there is the desire to draw near the past and through the workings of memory to locate it in a familiar place. Marco Polo feels, 'Every time I am describing a city, I am saying something about Venice' (Italo Calvino, P. 69). Manawaka has the 'elements of Neepawa' the small plain town wherein Laurence was brought up, 'especially in some of the descriptions of places, such as the cemetery on the hill or the Wachakwa valley through which ran the small brown river of childhood' (Margaret Laurence, 'Sources'. P. 130). The city itself is 'woman, past moments, doctrines, jokes, things'.

Manawaka is based on Laurence's hometown of Neepawa, yet it not Neepawa for the real town has been remembered and reinvented in fiction. Manawaka is a fictional world structured through the stories the characters tell. For them, Manawaka has become a place of mind. Her protagonists are aware of the discontinuity in their relation to the past and also of their strong need for connection with that lost community and its history. The novelist 'must be involved emotionally with the world he inhabits' (The Other Side of Hugh. P.270), and Laurence does just that. Through the five fictional works, Manawaka, geographically authentic, is a vivid world setting for the predicaments and sufferings of its unique people.

Laurence's fictional world, Manawaka, is Everyman's and Everywoman's, but its particularities are emphatically Canadian. Grounded in a small western town, her people scatter into wide world, but they carry the hangover of Manawaka with them, its limitations and inhibitions, and achievements.

Analysis of *The Stone Angel*:

Manawaka canon consists of four novels: *The Stone Angel* (1969), *A Jest of God* (1966), *The Fire-Dwellers* (1969), and *The Diviners* (1974). All these novels explore and examine the 'quest for identity, self-actualization, self-assertion, survival, and acceptance of heritage. The theme of survival is the dominant in all the Manawaka fiction, each of Laurence's protagonists have to travel through sufferings, diverse dilemmas within and without. Laurence, perhaps, understands women better than men because the protagonists of Laurence are all women. She explores the problems of identity and tries to discover in fictional terms to reckon with women's problems. Her support to feminism is not the man-hating verity. Survival becomes something of an inner awakening which leads to a miraculous realization that one is not a victim and perhaps has never really been one. The inner awakening in each case necessitates reconciliation with the past and an acknowledgement of the inherent bond between the past and the present. All the protagonists of Laurence are self-reflective, sensitive, dispossessed, and suffer from a sense of inadequacy in their identity. They try to acquire an adequate self-perception in fictional works.

The Stone Angel, the maiden Manawaka novel of Laurence, clearly glimpses the flora and fauna of Canada. Hagar character has been portrayed as a farmer's wife. Laurence has explored a few themes in the *The Stone Angel* are national identity, personal identity, redemption, lack of communication or miscommunication. Besides, the sin of pride and its repercussions, fear of loss of image, loss of family connections, loss of dynasty; fear of losing culture and independence, fear of losing material possessions that make Hagar, the pride woman, fearful which eventually led to her downfall are also dealt with by Laurence in this novel. The central and core theme is the survival with dignity. *The Stone Angel* is a novel which deals with middle-class desires and shortcomings. This middle-class life has cleverly carved out in the character of Hagar Shipley. She seems to be proud as she hails from an opulent family. The novel also explores the doom as an amalgamation of character and circumstance, the forces interacting complexly. The individual is certainly the victim. In the case of Hagar it is an swaying hither and thither between order and disorder, passion and respectability, individual need and dynastic pride and that dictate the unveiling of her life and characterize her 'blindness'.

Many of the characters in the novel, *The Stone Angel*, have large amounts of pride in themselves and their belongings. Characters such as Hagar, John, Bram, Jason, and Lottie have pride in themselves, their accomplishments and their families. Throughout the novel you see many instances where pride is found; Hagar's pride in her heritage, Bram's pride in his horses, Jason's pride in his store and his daughter etc. Pride is one of the major themes in *The Stone Angel* and is one worth discussion.

Pride... feeling of pleasure or satisfaction which one gets from doing the well, from owning the excellent or widely admires, etc... unjustifiably high opinion of oneself or one's achievements; arrogance" (Oxford Advanced Learner's Dictionary)

The Stone Angel is a novel about a ninety year old woman, Hagar, who tells her life based on her recollections from her past. Hagar, a 90 years old woman, is the 'I' narrator of the novel. The structure of the novels runs in two parallel strands of narrative: Hagar's confrontation with the brutal facts of her old age and a series of flashbacks. Laurence cleverly managed the flashback method:

"I'm not at all sure that flashbacks ought to be in chronological order, as I placed them in order to make easier for the reader to follow Hagar's life" (William New . p. 21).

As she recollects the clear details of the past, she tells about the series of events that took place in her life which have influenced her life significantly.

The dominant theme of *The Stone Angel* is that of pride. For Hagar, pride is the redeemer from her vulnerability, but ironically it makes Hagar doubly blind. She is unable to understand herself and fellow human being. The pride is a curse and death in life for Hagar. Laurence carved out the character of Hagar, a pride woman, with the influence of the African experience. As Hagar understands of her insight at the end, "Pride was my wilderness and the demon that led me there was fear" (Margaret Laurence, *The Stone Angel*, P. 292). Pride of Hagar leads to stubbornness, rebelliousness, and a refusal simply to respond naturally to her own feelings. Pride paved a way to Hagar to cover up her real emotions to people... She was always too concerned with what others would think. In old age she says, "What do I care now what people say? I cared too long."

Each character has pride in something. Hagar is the main character of the novel and shows us the most pride. At the beginning of the novel she tells us how proud she was of her heritage, how that "the Highlanders must [have been] the most fortunate of all men on earth" (15) and "How bitterly [she] regretted that [Jason had] sired [them in Manawaka]" (15). She was extremely proud of her history and she tried to force it upon her favorite son, John.

Hagar appears to be the symbol of *The Stone Angel*. She is the protagonist in Margaret Laurence's *The Stone Angel*. In '*The Stone Angel*', Hagar invites deep complexities in her life from childhood. Hagar is emotionally ignorant and undeveloped towards her emotions because she was raised up only by her father, the rigid personality, and the maid, Auntie Doll. In Laurence's novel *The Stone Angel* introduced at the beginning, is a strong symbol of Hagar's personality and traits in many aspects. *The Stone Angel* is a direct symbol of the family pride of Currie, Hagar's pride and her rigidity, as the angel was bought in pride to mark [Hagar's deceased mother's] bones..." (3). The angel was placed at the highest point in Manawaka, for all to see the wealth and prestige of the Currie family. As the stone angel her father bought had "the eyeballs [left] blank." (3), and was therefore blinded, incapable to see the town below; Hagar appeared to be blind to understand the feelings of others. Hagar's pride oscillates between her decisions to continuously ignore the emotions of the people around her. Hagar neither shows compassion, nor shows any emotions, as she believes in that emotion shows weakness. The stone angel erected on the tomb of the protagonist's mother is doubly blind - because of being a statue and because of the sculptor left the eyeballs blank. "She was doubly blind, not only stone but unendowed with even a pretense of sight. Whoever carved her had left the eyeballs blank" (3). The stone angel erected on the tomb is symbolical to the Hagar's character. Hagar is, in other perception, *The Stone Angel* because, as is the stone angel on the tomb, she is doubly blind. On the one hand, she is unable to understand the situations and herself and on the other hand, she is unable to understand the love and affection of human beings.

She knows all is Pride. Through the death of her husband, her brother, and her son Hagar comes to terms with herself and realizes that she has been transformed to stone" (81).

"The stone angel placed in the cemetery of Manawaka was placed by Jason Currie in pride to mark [His deceased wife's] bones and to proclaim his dynasty, as he fancied, forever and a day." (3). The angel brought from Italy to Manawaka, it was the first of its kind and the costliest stone angel in the burial ground. The angel was arranged in the cemetery on tomb of her mother to as the symbol of the Currie family's wealth, as well as Hagar's pride and rigidity of mind. Hagar inherited self pride from her Currie, her father; this unwanted quality has caused her many problems in her life. When she was sent to college, she thinks as if Matt deserved to go in her place. Proud that she was given an opportunity to attend the College, and feared that the decision of her may change, "[Hagar] said nothing until [her] trunk was packed and all the arrangements made. Then [Hagar] spoke." (42). On the train to the East, Hagar reveals the signs of regret, that the opportunity has been taken from Matt, but defends it by comforting herself that he wouldn't know. "... [Hagar] cried thinking of him, but, of course, he never knew that, and [she would] have been the last to tell him." (42). Hagar seems to be the symbol and replica of her father, one of the similarities is they both disapprove of their children's marriage. Father of Hagar does not approve of her marrying Bram. "'There's not a decent girl in this town would wed without her family's consent,' he said. 'It's not done.'" (49) The trait of pride has been bequeathed by her father Currie. Her father, a self-made man, is proud of doing little service to his community who has established businesses on his own. The pride of Hagar has damaged her relationship with her father, her husband, and her children. The qualities that she inherits from Currie family and which she inherits from her father have become barriers to express her true emotions. Hagar never reveals her true feelings in the novel Hagar are always worried about weakening her status by other people's judgments.

Hagar lives in a four-bedroom apartment along with her son, Marvin, and daughter-in-law, Doris. The house is her pride because it was constructed by her own earned money. She very much enjoys smoking which she addicted to a 10 years ago merely out of boredom.

It's my enjoyment, that and the cigarettes, a habit I acquired only ten years ago, out of boredom. Marvin thinks it disgraceful of me to smoke, at my age. To him there is something distressing in the sight of Hagar Shipley, who by some mischance happens to be his mother, with a little white burning tube held saucily between arthritic fingers. (5 -4)

She also feels that "Privacy is a privilege" (6). Hagar's pride is that she was brought up in a big house, which was the second brick house to be built in Manawaka. She hates her mother's meek and docile behavior besides her brothers because she was brought up by her stubborn and strong-willed father, Currie. The father's love with Lottie Drieser's mother is wonder for Hagar. Probably, the action of her rigid father might have given freedom to her to love Bram Shipley, who was already got married. Despite her father's wishes, Hagar, pride driven proceeds to marry Bram. "It'll be done by me," [Hagar] said... (49) Hagar loses relation with her brother Matt, Currie, her father, because of her stubbornness.

The stone angel is blind with "the eyeballs [left] blank." (3). She cannot grasp and see. Hagar is symbolically blind with her rigid mind towards other's emotions and feelings. The arrogance of Hagar thwarts her from comforting her suffering brother. At the last moments of his life, Dan desires to be comforted by his mother, Matt requests "'Hagar put [on the shawl] and hold [Dan] a while.'" (25). Hagar, cannot surpass her innate pride and arrogance to resemble such a "...meek woman [she'd] never seen...from whom [Dan] inherited such a frailty..." (25). She completely rejects Dan's final desire, and is unable to empathize with Matt, as well as her dying brother. After marriage and begetting children of her own, she behaves like her father. Hagar likes John more than Marvin, although Marvin serves and fulfills her desires and needs as a truthful son, she is recognized his service because she is arrogant and blind to efforts of Marvin. She is unable to recognize Marvin until John disobeys Hagar, with his relation and proposal of marriage to Arlene, that he truly unveils her blind eyes to how she has maltreated Marvin; "'always bet on the wrong horse,' John said gently. 'Marv was your boy, but you never saw that, did you?'" (237). It is not until after the passing of her favored son, John, that Hagar lies on her death bed and she can tell Marvin "'you've not been cranky, Marvin. You've been good to me, always. A better son than John.'" (305). Hagar, akin to her father, is incapable of giving priority to her children's emotions into consideration when they desire to marry. Hagar and Lottie have tried their best to divide John and Arlene, dishonoring their children's emotions and feelings, similar to her father. It is noted that Hagar's father disowned her for marrying "' [someone] common as dirt.'" (48), although she loved Bram. Hagar never maintained close relation with Doris, Marvin's wife, either. Through Hagar living along with them in her old age, she keeps on mistreating them both, showing dishonor and criticizing Marvin and Doris. Hagar's pride, even at ninety years, prevents her from caring about her negative mentality towards the marriage of her son, and rejects to be put in the nursing home called, Silverthreads.

Hagar's behavior that is inability to reveal her true emotion is symbolized by the stone angel's rigid heart of stone. Even at her young age, Hagar believed that showing emotion was a symbol of weakness. "[Hagar] wouldn't let [her father] see

[her] cry, [Hagar] was so enraged. He used a foot ruler and when [she] jerked [her] smarting palms back he made [her] hold them out again." (9) The character of Hagar, in this novel, does not cry before of any one. After the passing of her dearest son, John, at his funeral she does allow to fall a single tear from her eyes. In the hospital after the death of John, Hagar does not permit herself to be comforted: [the nurse] put a well meaning arm around [Hagar]. "Cry. Let yourself. It's the best thing." But [Hagar] shoved her arm away. [She] straightened [her] spine and it was the hardest thing [she has] ever had to do in [her] entire life, to stand straight then. [She] wouldn't cry in front of strangers, whatever it cost [her]. (242) Hagar's immeasurable ability to curtain her emotions and save face finally avoids her from exchanging her feelings all together. She was incapable of crying after the funeral, once she returned home. She maintained a strong and arrogant character with pride, as well as cold and distant. She does not reveal any feeling, not just sadness. Hagar conceals and hides her feelings and emotions of enjoyment while making love to her husband Bram. "[Hagar] never let him know. [She] never spoke aloud, and [she] made certain the trembling was all inner" (81). After her husband died, Hagar still maintained such a kind of rigidity and did not permit herself to cry or weep. It was only later in life after the array of the deaths of both Bram and John, she realizes that she was "transformed to stone" (243).

Pride was not only Bram's economic downfall and Jason's prize's downfall. It, the pride: the flaw was also Hagar's ultimate demise. At the end, Hagar comes to know of her life that she has made too many mistakes due to her pride. Hagar was never emotional because it would ruin her image which she took so much pride in. By not being emotional, none of her relationships ever deepened. The one time she showed emotion to Bram "[he] looked up at [her] with such a look of surprise" (87), as she had never done that before. She never comes close with anyone in her family except for John, who bitterly rejected her. Hagar was also too proud to have gone to the Doctor earlier when it mattered and she could have been saved. When she died, she died dignified and proud. She wouldn't let anyone help her with her water and perhaps died from the exertion.

Bram could also be seen to have died from his pride. He was too proud to admit that he needed and loved Hagar and wanted her back. If he had asked her to stay or to come back, he probably wouldn't have become a raving alcoholic, thus ruining his liver, killing him.

Conclusion:

The pride these characters have connects them and separates them at the same time. The discussion of pride in *The Stone Angel* could go on forever. There are so many aspects to pride; it is difficult to discuss them all. However, the definition would be

one thing to change. The definition mentions nothing of the difficulties pride causes. The characters of *The Stone Angel* found this out the hard way, by giving up or losing their lives and loves.

The Stone Angel is the first of the Manawaka sequence by placing at its centre ninety year old Hagar Shipley. Hagar's great flaw is her pride, her instinct to rebel, and her refusal to give or accept love, her inability to communicate. Hagar's problems are universal and as such she stands for 'Everyman'. Freedom, survival, pride as isolating wilderness and redemption are brought out through the character of Hagar Shipley.

Manawaka is indeed Laurence's vision of human nature. As a symbol of human divisiveness whose inhabitants are separated by pride and greed, Manawaka is an inner and out world and an inescapable one. The achievement of each of Laurence's protagonists is that finally she stands and faces and so triumphs over the Manawakas within.

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Protest and Compromise in the Two Novels of Shashi Deshpande: *The Dark Holds No Terror, and That Long Silence: A Study*

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Abstract

Shashi Deshpande depicts her own unique style in her novels written in a simple and clear language with a pleasant literary style, readers are mesmerised towards her novels. Many awards reached her doorstep in her journey as a writer. Women of all kinds are found in the female characters of Deshpande's novels. Those women are so capable of maintaining a clear balance between the age-old customs and their personal requisites that they no longer remain submissive and passive. Her characters are shaped in accordance to her needs. Her versatility to study a female psyche, her marital strains, thoughts and responsibilities clearly depict all those faces of a woman in Deshpande's novels. Deshpande believes that women should have a meaning to their lives – aimless attempts can never liberate them. The fictional works of Shashi Deshpande provide us a true picture of Indian womanhood – who finds out her true self even while being attached to her family. The distinctive feature of her fiction is that women can strive and achieve their dignity and identity without deviating from family life. Deshpande's fictional work proposes that women must have determination to transcend social diktats and establish their own identity and defeat their weaknesses. This paper deals with protest and compromise of women characters in the two novels of Shashi Deshpande: *The Dark Holds No Terror, and That Long Silence*.

Keywords: Family, gender discrimination, exploitation, liberation, suffering

INTRODUCTION

Shashi Deshpande was born into an orthodox family to a renowned Kannada dramatist, writer and Sanskrit scholar, Sriranga, on 19th August, 1938 in Dharwad. Shashi Deshpande depicts her own unique style in her novels written in a simple and clear language with a pleasant literary style, readers are mesmerised towards her novels. Many awards reached her doorstep in her journey as a writer. She received the prestigious *Padma Bhushan Award* by Indian Government in 2006. Many Universities in India and abroad prescribe her novels and short stories in their curriculum. Many national and international writers have also shown interest in translating her works.

Deshpande fights for the subjugated women and her novels show how, for centuries, women's minds have been indoctrinated by the Indian society. Her women are rarely vociferous feminists. Most of them prefer living within their family besides breaking silence.

In an interview to Geetha Gangadharan, she states:

Undoubtedly my novels are all about family relationships.... It is like Solzhenitsyn's *One Day in the Life of Ivan Denisovich*. The work depicts just 24 hours in the life of a man. It is so limited and yet so universal... On the contrary, that is where everything begins (*Sunday Magazine*, p. 252).

Shashi Deshpande relates her portrayals to what she actually sees in the world around her. Her stories are not about unusual, heroic or exceptional people but the average, common ones who look for workable solutions, not iconoclastic ones. A close study of Shashi Deshpande's novel reveals her enormous sympathy for women and their travails. She has a significant insight. As a woman writer, she explores the inferior position of women and also their humiliation and ill-treatment, in the patriarchal society. She peeps into the position of woman who is intelligent, and fully aware of her strength, but neglected under the male chauvinism.

Women of all kinds are found in the female characters of Deshpande's novels. Those women are so capable of maintaining a clear balance between the age-old customs and their personal requisites that they no longer remain submissive and passive. Her characters are shaped in accordance to her needs. Her versatility to study a female psyche, her marital strains, thoughts and responsibilities clearly depict all those faces of a woman in Deshpande's novels.

Deshpande believes that economic freedom helps women to estimate their difficulties and liberate them from exploitation regarding social and economic

suppressions. Shashi Deshpande is always in quest of creating 'new woman' out of her protagonists who hail from varied kinds of cultural, social, and religious backgrounds. Deshpande is opposite to the male domination, which undermines creative capacity and talent of women. In Deshpande's novels, the women characters like Saru, protagonist, in *The Dark Holds No Terrors*, Jaya, protagonist, in *That Long Silence* are compelled to move out of the romanticized idea of love and marriage into a much realistic situation where they have to fight for their existence.

Her novels have been inspirational and life-enhancing. Nearly all of her novels have dealt with a domestic disharmony, ultimately arriving at a peaceful conclusion in most cases. Never has there been a mention of crude fights between the man and the wife nor has she ever advocated separation from spouse or the family as the only solution to the problems that have arisen. Or has she advocated the success of relationships outside marriage. The value and importance given to the institution of marriage in India is always proven in almost every one of her works.

Deshpande never sees men as the cause of all troubles; instead, she deals with the inner mind of women. She has projected her first-hand experience of the suffering, submission and adjustments of women in a traditional Indian set up with more sensitivity and instinctive understanding. Shashi Deshpande is born, lived and experienced in a traditional Indian family, educated in Indian soil. She is fully known about the Indian social setup, and wrote about India. The portrayal of women's situation in her novels is very realistic. Deshpande knows very well the pulse of Indian women. She never wanted to be categorized with other writers of women, and holds a unique place among Indian novelists in English.

A realistic depiction of gender issues is one of the chief concerns of Shashi Deshpande as a writer of human emotions and relationships. Though Shashi Deshpande depicts multiple relationships that exist in a family, yet man-woman dyad is the most central to her writings. The healthiest man-woman relationship, according to the novelist, is the one which vouchsafes mutual growth. Cordial relationship, love, trust, compassion pave away to good relationship and thus concretize it. Chaos and problems plethora overflow when they are biased and it diminishes and destroys a relationship.

Shashi Deshpande's fictional world swivels around the quest for woman's identity - a discovery of female psyche. Her major women characters undergo a difficult journey to discover their self identity.

The novels of Deshpande have examined various factors, which are responsible for women's loss of identity, humiliation, and subjugation. They are brought up and injected a feeling of inferiority as a second sex, feminine traits, and traditional system of marriage that lead to quest for self.

Analysis of the Two Novels *The Dark Holds No Terrors*, and *That Long Silence*.

The women characters, Saritha aka Saru, protagonist in the novel, *The Dark Holds No Terrors*, Jaya in the novel *That Long Silence* show highest accord of self-analysis as the novel progresses. They have portrayed immense courage, self-criticism, and examination of inner self, assertiveness and self-justification.

The two fictional works of Shashi Deshpande, *The Dark Holds No Terrors*, and *That Long Silence* can be considered as the most inspirational, in terms of female quest for identity and also in the molding of the women characters for the betterment of their lives. Hence, the two novels have been selected, amongst all other novels of Shashi Deshpande, for the purpose of this study. These two novels explore a woman's predicament from childhood to old age in which she realises relationships as 'binding vines' which are fostered by women through 'that long silence'. 'Roots' of self-renunciation 'and shadows' of archetypes play vital roles in her social conditioning. The predicaments and pains of life and womanly roles confuse her but after self analysis she manages to find an answer in 'a matter of time'.

It has been observed and analysed that women, in order to continue and save relationships from disruption, suffer and compromise. They adapt even to battering relationships without raising their voices. Tara in *That Long Silence*; Sulu in *The Binding Vine*; Madhav's mother in *The Dark Holds No Terrors* and Kalyani in *A Matter of Time* are Shashi Deshpande's portrayals in this regard.

Saru in *The Dark Hold No Terrors* is a wronged child, who faces neglect for being born as a girl. Saru gets a chance for higher education after her brother's death - that too facing her mother's displeasure, disagreement and wrath. Her education aids her in understanding the equality of man and woman and how much she has been wronged by her parents all those years. She began hating her mother's obsession towards her brother. An aversion to her own femininity is slowly and deliberately encouraged in the child till she cries out in horror, "If you're a woman, I don't want to be one" (Shashi Deshpande, *The Dark Holds No Terrors*, p. 63). The physical development appears to be a terrible experience for her. She begins dislike her femininity and hates the people for making her aware of her femininity.

This realization motivated Saru to attain success in her studies and she leaves home in pursuit of a medical career. Her anger turns into obsession on a successful career and she tops in medical college. It is here that she falls in love with Manohar (Manu), a man from a lower caste and marries him with the disapproval of her parents. Saru feels victorious on marrying Manu, even at the cost of running away from her parents. It was her victory over the many years of loveless solitude she has suffered with her parents. She is triumphant to have sought all the love and

care she has missed all those years by marrying the 'dream hero', the 'ideal man', who has come as a saviour to lift her from her solitude and caress in his arms.

Saru rises as a renowned doctor and at the same time her marital bliss begins to fall. All the happiness and love she enjoyed till her practice has begun suddenly disappear. The success, popularity and financial ascent of Saru are taken by Manu as an insult and a humiliation. Although he showcases a gentleman's face and nature during the day, he becomes a beast at nights. He tries to portray his superiority and his authority upon her by acting upon Saru like a rapist. Saru is perplexed, horrified and she is left in a situation where she cannot even express her pain in a cry - as she does not want her children sleeping in the next room to know about her suffering: "...and each time it happened and I don't speak I put another brick on the wall of silence between us. Maybe one day I will be walled alive within it and die a slow, painful death." (Shashi Deshpande, *The Dark Holds No Terrors*, p. 88).

This results in her neglect of her children. She comes home late only to find her children lacking mother's love and her husband waiting to pounce: "I came home late that night.... I found him sitting with a brooding expression on his face that made my heart give painful, quivering little jumps." (Shashi Deshpande, *The Dark Holds No Terrors*, p. 22). Unable to bear the daily sexual assault, Saru comes back to her father, expecting his solace. The novel opens with Saritha aka Saru returning to her maternal home fifteen years after her vow never to come back. Now shattered and dejected in the marriage of her choice, she is back, no longer able to bear the sexual sadism of her husband. This stay at her parents' house provides an ambience for Saru to revive her relationship with her father and the mother, who no longer existed.

The escape from all her daily circumambulations gave her a sense of relief and a prime opportunity to think back about all her past life and retrospect. This kind of process needs true attempt. She craves so much to regain what she has lost over the years - her self-respect. She strives to overcome her psychological fears: "The Dark Holds No Terrors. The terrors are inside us all the time... and like traitors they spring out, when we least expect them, to scratch and maul" (Shashi Deshpande, *The Dark Holds No Terrors*, p. 85). This is the time she gets to think back about how she used to hate her brother and pine for all the importance given to him.

It is through the timely guidance and counselling by her father that she is able to stop running away from the terrors of the dark and stand up to face them boldly, finally introspecting herself and changing for the better. Here discussed the gender discrimination practiced by parents towards their children. The turmoil and the terrors of Saru in the dark, her conflict with her conscience about her brother's death, her self-analysis about how tragically she crushed her husband's identity to

create her own and her ultimate emancipation to face the truth and stop escaping are dealt with. She realizes: "the terrors are inside us all the time" (Shashi Deshpande - *The Dark Holds No Terrors*, p. 85). She admits her shortcomings and weaknesses and comes to a conclusion to maintain her independence in her bond with Manu.

Saru slowly gathered confidence. She now seemed confident enough to face Manu. When the knock is heard, 'Instantly she moved, her feet taking her swiftly across the hall and to the front door.' (Shashi Deshpande, *The Dark Holds No Terrors*, p. 221). Ultimately, Saru gets out of her terrors and realizes that she is now able enough to face her husband and speak to him boldly about what is wrong. She finally develops the confidence to reconcile with her husband and balance her life, personally and professionally. Betty Freidan asserts:

For woman, as for man, the need for self-fulfilment, autonomy, self-realization, independence, individuality, self-actualization is as important as the sexual need, with as serious consequences, when it is thwarted (*The Feminine Mystique*, p. 282).

In spite of all her shortcomings, Saru stands up as a universal figure, being able to identify and empathize with her situations. Despite her faults, she reaches the deepness of self-actualization and she comes to a stage where she no longer reacts and remorse about the rebukes of the people around her. The actual point is that she develops into an open personality, broadening her narrow outlook, making herself flexible to the situations she is going to be in, expanding her horizon, and continuing her path on the road of self-actualization.

Simone de Beauvoir clearly states: "From infancy to puberty the girl has grown: day after day her body was always a present fact, definite, complete, but now she is 'developing'. The very word seems horrifying" (*The Second Sex*, p. 42).

In the course of scrutinizing beliefs of others facilitates, Saru knows the reason behind her plight. She determines to break silence and work out the obstacles of her life for improvement. She comes to the conclusion that, "All right, so I'm alone. But so is everyone else. Human beings...they're going to fail you. But because there's just us, because there's no one else, we have to go on trying" (Shashi Deshpande, *The Dark Holds No Terrors*, p. 220).

Deshpande estimates in her novels that the true self of women can proliferate only in such relationships in which they are liberated from the dominant and dictating and illogical rule of men. The novel successfully presents that the social conditioning is responsible for the marginalisation of a girl-child. It moulds her to fit into the conventional roles of daughter, wife and mother with complacence.

That Long Silence, the novel, is the silent story of Jaya. Jaya is a rebellious child and always questioned for the reasons behind every strange practice. Constant admonitions and corrections that it was improper for a female to question became the thorny path for her future. She has been tutored on her wedding day that a wife is only a watering tree that needed to keep the family tree alive even at the cost of feeding it with lies and deceit. She learns soon enough that her husband needed a mute mirror on the pretext of a wedding and she becomes thus. Just in order to please him, she gives up writing her favourite column in a magazine and takes up writing lifeless pieces of work, due to which she is ultimately asked to quit supplying articles. It is only after her husband is caught in a fraud and they are forced to move to their old and small apartment that she relives her past and understands how silent she has become, indeed. She thus breaks her silence and laughs aloud when sought for an agreement to his word by her husband.

That Long Silence showcases a host of women characters who are unaware of their inherent skills and live and die as mute sufferers to their husbands' irresponsible, undutiful, neglecting and un-empathetic behaviour. Jaya realizes that women are never really appreciated for their servility. Members in the family do not even notice their existence. Jaya discovers that she has no place in her parental family tree because after her marriage, she is no longer a part of it. She shockingly discovers that neither her Ajji, nor Kakis have their names in the family tree. Such custom is due to the fact that the society considers men to be the carriers of the family name. Women who bear sons secure high place in the Indian society. Amur observes:

Women's struggle in the context of contemporary Indian society to find and preserve their identity as wife, mother and most important of all as human being, is Shashi Deshpande's major concern as a creative writer (*Indian Women Novelists*, p. 125).

The novel talks about Jaya's nostalgia and how she breaks her silence after undergoing severe self-criticism in *That Long Silence*. It reveals the trauma of an ostensibly contented housewife who is smothered under the weight of male domination. The mental turmoil of Jaya and her struggle in oscillating between her desire to open up her mind in front of her husband, Mohan and the actuality where she remains a mute follower of his commands. Jaya slowly emerges as a self assured and convinced individual with a great control and repudiates to be led by noose.

Jaya was held back from writing due to her fear of failing. It was not Mohan alone who she had to fight with, it was her own fear that she needed to get rid of. She could attain her true independence only when her mind would be free from fear. She confesses that she hasn't stopped writing with the admonition from Mohan, and he cannot be considered the scapegoat for her failures. Jaya seems to be

confident and her fears disappear. The novel concludes with her resolution to break her epic silence. She learns to give up the feeling of superiority and separateness, embodied in her image of herself as a mother sparrow safely cushioned within the home. She begins to acknowledge her kinship with various women not related to her by blood.

Initially anxious and needing support, a stereotypical house wife, she realises that she also has added to her oppression and victimization and that she has to open her voice and struggle, and work out her own plan. The coaxing of her friend, Kamat, bears fruit and in the end, one finds Jaya a more emancipated and assertive woman. It also depicts how with this new self-reliance, Jaya becomes liberated without denouncing the cultural and social backgrounds. Shashi Deshpande's women question the existing traditions and customs and critically examine the patriarchal values of the Indian society.

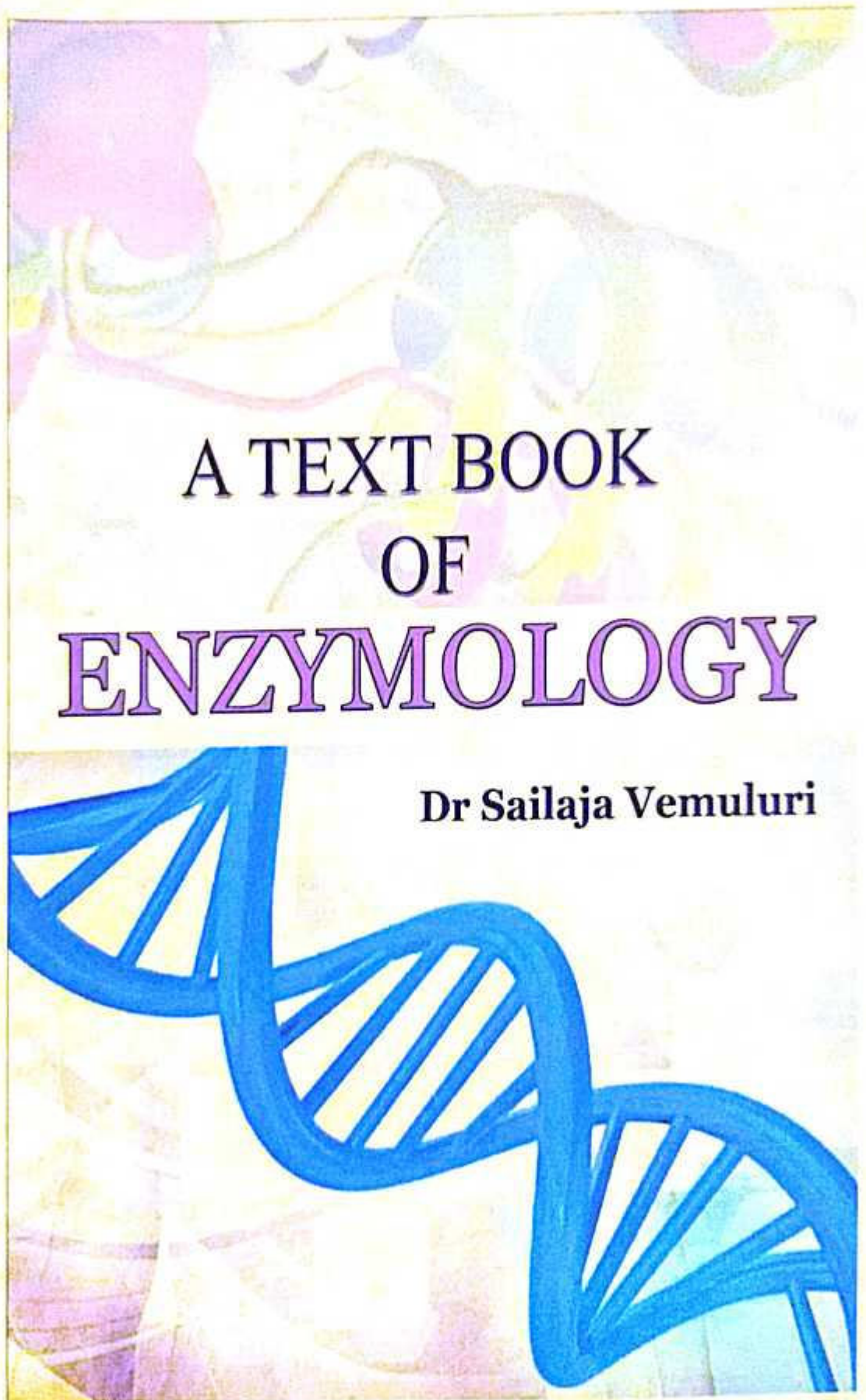
Conclusion:

Deshpande believes that women should have a meaning to their lives - aimless attempts can never liberate them. The fictional works of Shashi Deshpande provide us a true picture of Indian womanhood - who finds out her true self even while being attached to her family. The distinctive feature of her fiction is that women can strive and achieve their dignity and identity without deviating from family life. Deshpande's fictional work proposes that women must have determination to transcend social diktats and establish their own identity and defeat their weaknesses.

All of them undergo suffering caused by physical and psychological violence in marriage. It is purely because of their conditioning to the Indian ideal of womanhood that they don't give voice to their grievances. They suffer at the hands of brutal male members mutely, for the Indian tradition, idealizing the myths of Sita and Savitri - which expects and emphasizes passivity in women. They efface their very 'being' to serve their 'masters'. Deshpande's women characters ultimately undergo a change for the betterment of their personal lives.

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(Biology of Non-Chordates)

(I-B.Sc (Zoology) / I-Semester)



డా॥ వి. శైలజ

రావీరాల నరేష్



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OF MEDICINAL PLANTS**

Volume 2

AAP Focus on Medicinal Plants

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T. Pullaiah, PhD, is a former Professor at the Department of Botany at Sri Krishnadevaraya University in Andhra Pradesh, India, where he has taught for more than 35 years. He has held several positions at the university, including Dean, Faculty of Biosciences, Head of the Department of Botany, Head of the Department of Biotechnology, and Member of Academic Senate. He was the President of the Indian Botanical Society (2014), President of the Indian Association for Angiosperm Taxonomy (2013), and Fellow of the Andhra Pradesh Academy of Sciences. He was awarded the Panchanan Maheshwari Gold Medal, the Prof. P. C. Trivedi Medal, the Dr. G. Panigrahi Memorial Lecture Award of the Indian Botanical Society, and Prof. Y. D. Tyagi Gold Medal of the Indian Association for Angiosperm Taxonomy, and the Best Teacher Award from Government of Andhra Pradesh. Under his guidance, 54 students obtained their doctoral degrees. He has authored 52 books, edited 23 books, and published over 330 research papers, including reviews and book chapters. His books include *Advances in Cell and Molecular Diagnostics* (published by Elsevier), *Camptothecin*, and *Camptothecin producing Plants* (Elsevier) *Ethnobotany of India* (5 volumes published by Apple Academic Press), *Global Biodiversity* (4 volumes, Apple Academic Press), *Red Sanders: Silviculture and Conservation* (Springer), *Genetically Modified Crops* (2 volumes, Springer), *Monograph on Brachystelma and Ceropegia in India* (CRC Press), *Flora of Andhra Pradesh* (5 volumes), *Flora of Eastern Ghats* (4 volumes), *Flora of Telangana* (3 volumes), *Encyclopedia of World Medicinal Plants* (7 volumes, 2nd edition), and *Encyclopedia of Herbal Antioxidants* (3 volumes). He was also a member of the Species Survival Commission of the International Union for Conservation of Nature (IUCN). Professor Pullaiah received his PhD from Andhra University, India, attended Moscow State University, Russia, and worked as Post-Doctoral Fellow during 1976–1978.

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ABBREVIATIONS

ACB	acarbose
ACC	complement-mediated cytotoxicity
AchE	acetylcholine esterase
ADCC	antibody-dependent cytotoxicity
AETP	alcoholic extract of <i>Talimumportulacifolium</i>
ALP	alkaline phosphatase
ALT	alanine transaminase
AR	arbutin
AST	aspartate aminotransferase
AST	aspartate transaminase
BHT	butylated hydroxytoluene
CA	caffeic acid
CAT	catalase
CH	catechin hydrate
CK	creatine kinase
CNS	central nervous system
CTGF	connective tissue growth factor
DCM	dichloromethane
DOX	doxorubicin
DPPH	diphenyl-1-picrylhydrazyl radical
DSSC	dye-sensitized solar cell
DV	direct vasodilatation
EAC	Ehrlich ascites carcinoma
EBV	Epstein Barr virus
ECA	epicatechin
EETP	ethanolic extract of <i>Talimumportulacifolium</i>
EF	ejaculation frequency
EFTO	ethanolic fraction
EFTT	ethanolic fraction of <i>T. Tomentosa</i>
EL	ejaculation latency
ESR	erythrocyte sedimentation rate
FA	trans-ferulic acid
FAS	fatty acid syntheses
FBG	fasting blood glucose

FRAP	ferric reducing antioxidant power
FST	Forced Swim Test
GA	gallic acid
GAE	gallic acid equivalents
GCCL	gastrointestinal cancer cell line
GGT	gamma-glutamyl transferase
GM-CSF	granulocyte-macrophage colony stimulating factor
GOT	glutamate oxaloacetate transaminase
GPT	glutamate pyruvate transaminase
GR	glutathione reductase
GSHpx	glutathione peroxidase
GST	glutathione-s-transferase
GTT	glucose tolerance test
G6Pase	glucose-6-phosphatase
HA	humoral antibody
HCC	Hepatocellular carcinoma
HCA	hydroxy citric acid
HDL	high-density lipoprotein
HRBC	human red blood corpuscles
IBD	inflammatory bowel disease
IF	intromission frequency
IL	intromission latency
LDH	lactate dehydrogenase
LDL	low-density lipoprotein
LPS	lipopolysaccharides
LTA	lipoteichoic acid
MDA	malondialdehyde
MDCK	Madin-Darby Canine Kidney
MES	maximal electric shock
METP	methanolic extract of <i>Talinumportulacifolium</i>
MF	mounting frequency
MIC	minimum inhibitory concentration
ML	mount latency
MS	mass spectrometry
NK	natural killer
ODC	ornithine decarboxylase
OFO	oxidized frying oil
PAF	platelet-activating factor
PCA	p-coumaric acid

PEI	post-ejaculatory interval
PKC	protein kinase C
PTZ	pentylenetetrazole
RH	rutin hydrate
RdRp	RNA-dependent RNA polymerase
RIP	ribosome-inactivating protein
ROS	reactive oxygen species
SA	syringic acid
SALP	serum alkaline phosphatase
SARS	anti-severe acute respiratory syndrome
SGOT	serum glutamyl oxalacetic acid transaminase
SGPT	serum glutamyl pyruvate transaminase
SOD	superoxide dismutase
SPAs	stem barks proanthocyanidins ⁵
ST	sympathetic tone
STZ	streptozotocin
SWA	scratch wound measure
TBARS	thiobarbituric acid reactive substances
TIMP	tissue inhibitor of metalloproteinases, glycoprotein
TPS	Thuja polysaccharides
TNBS	trinitrobenzene sulfonic acid
VA	vanillic acid
VL	vanillin
WB	wheat bran

PREFACE

Many young researchers used to approach me with a question "Can you suggest a medicinal plant on which I can work?" For answering this question, I had to dig out the literature on the bioactives and pharmacology. During this search I found that a comprehensive review of biomolecules and pharmacology for many medicinal plants is not available. With a view to fill this gap we started this series of 10 volume book series on bioactives/ biomolecules and pharmacology of medicinal plants. This is the second book in this series. A comprehensive review of more than 80 plant species is given in this two-volume book.

In each chapter a brief introduction about the species is given. Bioactive phytochemicals from the plant are then listed and their chemical structures are given. This is followed by pharmacological activities. All the published literature on pharmacological activities on that species is reviewed. A wide array of biological activities and potential health benefits of the medicinal plant, which include antiviral, antimicrobial, antioxidant, anticancer, anti-inflammatory, and antidiabetic properties as well as protective effects on liver, kidney, heart, and nervous system, are given.

Many contributors of this book are young researchers, mostly research scholars. In many cases, the manuscripts have been revised three to four times. Publishers insisted on bringing down the plagiarism to 5%, which was a tough task because chemical names, disease names, and the methods can't be modified. In spite of this, plagiarism was brought down to nearly 5%. I thank both publishers and the contributors for the same.

I hope that this will be a source book for the development of new drugs. I request that readers give their suggestions for improvement of the coming volumes.

I wish to express my grateful thanks to all the authors who contributed the review chapters. I thank them for their cooperation and erudition.

PHYTOCHEMICAL AND BIOACTIVE POTENTIAL OF *GLORIOSA SUPERBA* L.

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ABSTRACT

Gloriosa superba L. is a flowering plant in the family colchicaceae. It is a perennial climber commonly called as flame lily. The plant is used as an ayurvedic medicinal herb due to its potential bioactive compounds. The bioactive compounds present in whole plant parts such as tuber, flower, stem and roots are widely used for its biological activities. The toxic alkaloids present in the plant are colchicine and gloriosine. It is used for treating various diseases such as gout, arthritis, infertility, sexually transmitted diseases, leprosy, kidney problems, typhus, open wounds and snake bite. This chapter provides updated information related to phytochemical classes of bioactive compounds and pharmacological activities of *G. superba*.

67.1 INTRODUCTION

Gloriosa superba L. is called as Malabar glory lily and belongs to Liliaceae family. It is also called as Flame Lily (Kavina et al., 2011). It is a native plant in the African continent and is now growing in tropical countries of Asia including India, Bangladesh, and Sri Lanka. These plants grow in sandy loam soil in deciduous forests of the tropical region (Jana and Shekhawat, 2011). In Southern parts of India, it is widely cultivated for its high colchicine content. Due to overexploitation, it is entered in IUCN red data book as one of the endangered medicinal plants (Chatterjee and Ghosh, 2015; Vaishnavi et al., 2019). It has a wide range of uses mostly associated with tuber, root, stem, flower, and fruit. It is used for the treatment of wounds, antibacterial, haemorrhoids, gonorrhoea, leprosy, purgative, vomiting, and asthma in the traditional system of medicine (Umavathi et al., 2020). The glory lily plant is an herbaceous perennial climber that reaches at a height of 6 m in length. The tubers are L-shaped or V-shaped, white in color when they are young and become brown color with age. The leaves are dark green in color and glossy in nature equipped with tendril with which it clings to other plants. Leaves are 6–20 cm in length, 1.5–4 cm wide, simple, alternate, sessile, and ovate to lanceolate in nature. The flowers are borne on long stalks with six erect petals, red and yellow in color. The fruits are capsular in nature and consist of red seeds (Jana and Shekhawat, 2011; Umavathi et al., 2020).

67.2 BIOCHEMICAL COMPOUNDS

The phytochemicals present in the plant are alkaloids, saponins, flavonoids, glycosides, steroids, phenolics, tannins, and carbohydrates (Banu and Nagarajan, 2012; Muthukrishnan and Annapoorani, 2012). The secondary metabolites present in whole plants are colchicines and gloriosine alkaloids. The other phytochemical constituents are 3-demethyl-*N*-formyl-*N*-deacetyl- β -luminocolchicine, 3-demethyl colchicine, luminocolchicine, *N*-formyl-deacetyl colchicine, tannins, colchicoside, comigerine, superbine, β -sitosterol, chelidonic acid, and salicylic acid (Ashok Kumar, 2015) (Table 67.1). The root tubers and rhizomes of this plant have world market due to rich source of colchicines and gloriosine alkaloids (Jana and Shekhawat, 2011). Colchicine is used to treat various disorders. It is the first drug used for treating gout which was reported in ayurvedic medicine. It is used for antiparasitic, antitumor, and anti-inflammatory. The polymerization of microtubules is inhibited by colchicine binds to tubulin and inhibits the mitotic spindle formation. It inhibits

TABLE 67.1 Bioactive Compounds and Pharmacological Activities.

Name of the phytochemical	Molecular formula	Phytochemical class	Pharmacological activity	References
Colchicine	$C_{27}H_{25}NO_6$	Alkaloid	Anticancer, Antigo ut disease	Balkrishna et al. (2019); Keith et al. (2009)
Colchicoside	$C_{27}H_{25}NO_{11}$	Alkaloid	Anti-inflammatory	Joshi et al. (2010)
Colchicine amid	$C_{27}H_{28}N_2O_5$	Alkaloid	Anticancer activity	Shen et al. (2011)
Gloriosine	$C_{27}H_{25}NO_6$	Cyclic ketone	Gout, Rheumatism	Jana and Shekawat (2011)
β -sitosterol—Phytosterols	$C_{28}H_{48}O$	Steroids and steroid derivative	Can reduce bad LDL cholesterol used to treat hyperlipidaemia	Ansari et al. (2020)
Thiocolchicoside	$C_{27}H_{33}NO_{10}$	Semisynthetic derivative of colchicine-Glycoside	Muscle relaxant, Anti-inflammatory, Analgesic	Reuter et al. (2012)
2-Hydroxy-6-methoxybenzoic acid	$C_8H_8O_4$	Benzene and substituted derivatives	Plant metabolite derived from salicylic acid	Senthil Kumar (2013)
Cornigerine	$C_{21}H_{21}NO_6$	Alkaloid	Antimitotic	Maroyi and Van der Maesen (2011)
Stigmastern	$C_{28}H_{46}O$	Steroid derivative	Phytosterols	Rishi and Sneh (2013)
Chelidonic acid	$C_7H_4O_6$	Heterocyclic organic acid	Inhibition of IL-6 production	Shin et al. (2011)
N-deacetyl colchicine	$C_{26}H_{23}NO_5$	Alkaloid	Antimitotic agent	Ko et al. (1990)
3-O-demethylcolchicine -3-O- α -D-glucopyranoside	$C_{27}H_{33}NO_{11}$	Phenolic glycoside	Colchicine analogue	Suri et al. (2001)

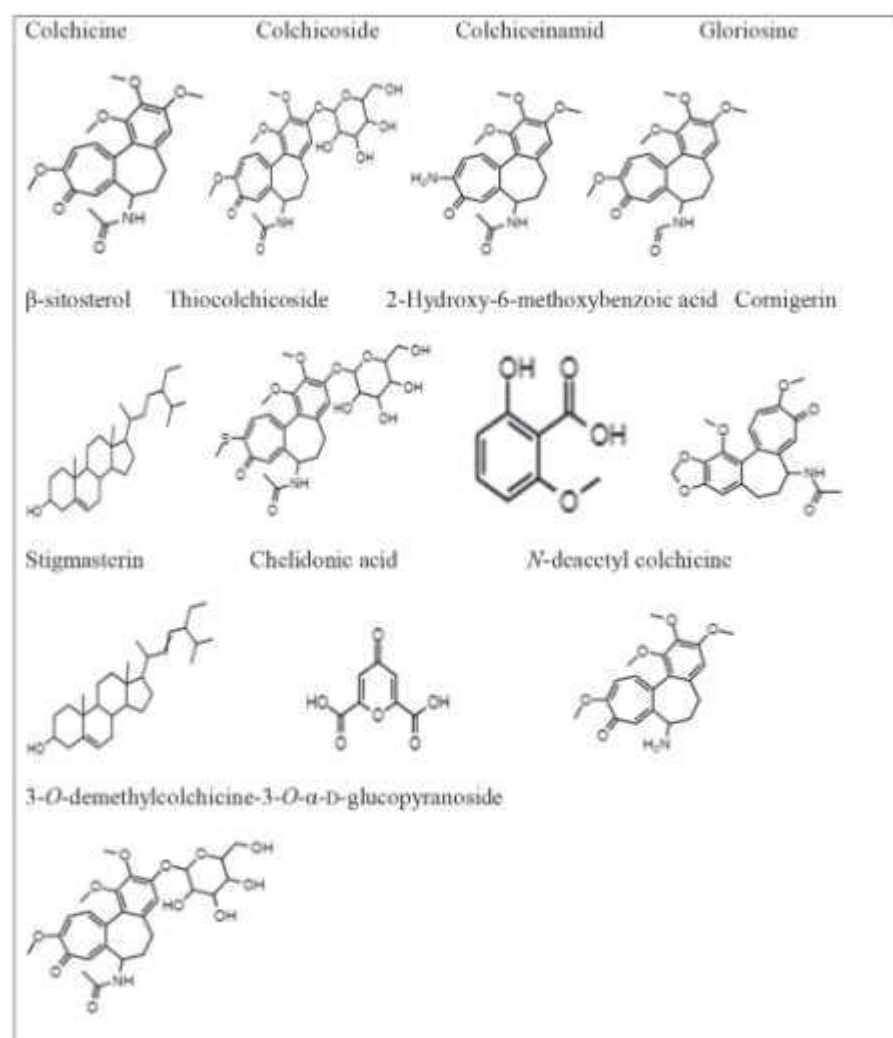
the cancer cell proliferation compared with normal cells. It also inhibits the inflammation in rats (Maroyi and Van der Maesen, 2011).

The root tubers are toxic in nature and consist of tropone alkaloids which include colchicines, 3-demethyl colchicines, luminocolchicine, and 3-demethyl-*N*-deformyl-*N*-deacetyl colchicines. The other constituents are sterols, *N*-deacetyl colchicines, colchicoside, gloriosine, salicylic acid, benzoic acid, tannins, and superbine (Jana and Shekhawat, 2011). The seeds are a good source for colchicine and colchicoside and the colchicine content is 2–5 times higher than in tubers. The other compound present in seeds is thiocolchicoside which is a muscle relaxant used for treating traumatic, rheumatic disorders, and orthopaedic diseases. The other constituents are 2-demethyl colchicines, 3-demethyl colchicines, and *N*-formyl-*N*-deacetyl colchicine (Jana and Shekhawat, 2011; Umavathi et al., 2020). The leaves consist of colchicines, superbine, gloriosine, phytosterols, gloriosol, and stigmaterin. In addition, the leaves also consist of tannins, β -sitosterol glucoside, and 2-hydroxy 6-methoxy benzoic acid. The leaf extract has anticoagulant property or antithrombotic property and asthma (Kee et al., 2008). *G. superba* extracts contain monoethyl ester 2,6-dihydroxy benzoic acids that are used as potential antidote candidates against snake bite (Samy et al., 2012).

67.3 PHARMACOLOGICAL ACTIVITIES

67.3.1 ANTI-INFLAMMATORY AND ANALGESIC ACTIVITIES

The hydroalcoholic extracts of aerial parts of *G. superba* were evaluated for anti-inflammatory and analgesic activity in Wistar rats and albino mice, respectively. The anti-inflammatory activity observed by percentage inhibition of paw edema was increased with time at a dose of 400 mg/kg weight of extract to the rats for analgesic activity, acetic acid induced writhing method was used and found that there is an inhibition of writhes and found to be 64.09% (100 mg/kg), 78.56% (200 mg/kg), and 81.45% (400 mg/kg) in albino mice. In Eddy's method, the percentage inhibition is 21.02%, 79.96%, and 158.05% when compared with control (John et al., 2009). In another study, Abhishek et al. (2011) investigated the ethanolic and methanolic extract of *G. superba* for anti-inflammatory activity in carrageenan-induced edema in male albino rat model and found that the activity was observed in a dose-dependent manner from 100 to 200 mg/kg.



67.3.2 ANTIMICROBIAL ACTIVITY

The antimicrobial activity was investigated for rhizome extracts of *G. superba*. The *n*-Butanol (28%) fraction has high antibacterial activity against *Staphylococcus aureus* followed by crude extract (59%), chloroform (52%), and ethyl acetate. Further, the antibacterial activity was observed for *Shigella flexneri* and *Bacillus subtilis*. There is no inhibition against *Salmonella typhi*, *Pseudomonas aeruginosa*, *Escherichia coli*, and *Klebsiella pneumoniae*.

In the fungal assay, the *n*-butanol (90%) fraction showed high antifungal activity against *Candida albicans* followed by ethyl acetate (80%), chloroform (75%), and crude extract (65%). The *Candida glabrata* also inhibited by *n*-butanol (90%), ethyl acetate (90%), chloroform (80%), and aqueous (30%) while the fungal strains *Aspergillus flavus* and *Fusarium solani* were inhibited by solvent extracts of *G. superba* (Khan et al., 2008).

Bhatnagar and Rishi (2012) evaluated the antimicrobial activity of *G. superba* against *E. coli*, *S. aureus*, *A. flavus*, and *Aspergillus niger* compared with ampicillin and fluconazole, respectively, and found that the acetone extract has more antimicrobial activity against *E. coli*. In another study, Naika et al. (2015) evaluated antibacterial activity for copper oxide nanoparticles of *G. superba* extract. The CuO nanoparticles exhibited antibacterial activity against *E. coli*, *Pseudomonas desmolyticum*, *S. aureus*, and *Klebsiella aerogenes*. In a recent study, Chimahali et al. (2019) evaluated antibacterial activity of *G. superba*. The tuber showed high antibacterial and antifungal activity against *P. aeruginosa*, *S. aureus*, *E. coli*, *M. luteus*, and *Salmonella abony* when compared with other flower and shoot extracts. The antifungal activity was also observed for tuber extract against *Rhizobium oryzae*, *Mucor* spp., *A. niger*, *Candida krusei*, and *C. albicans* compared with flower and shoot extracts. Banu and Nagarajan (2011) also investigated the antimicrobial activity of *G. superba* extract against bacterial organisms. The acetone extract showed high antimicrobial activity against *Enterococcus faecalis* and *Streptococcus faecalis*. The other solvents dichloromethane, chloroform, and methanol also showed activity against indicator organisms.

67.3.3 ANTIHELMINTHIC ACTIVITY

The aqueous and ethanolic extracts of *G. superba* plant were evaluated for antihelmintic activity and found the concentration ranges from 20 to 60 mg/mL resulting in paralysis and death of the *Pheretima posthuma* earthworms compared with the control drug piperazine citrate (Pawar et al., 2010). Bhushan et al. (2010) investigated antihelmintic activity of ethanol and water extract of *G. superba*. The extract at a dose range from 20 to 60 mg/mL showed good antihelmintic activity against *P. posthuman* earthworm. The antihelmintic activity of *G. superba* extract was studied by Suryavanshi et al. (2012) against *Eisonia fatida*. The alcoholic extract of the plant at a concentration of 25, 50, and 100 mg/mL was used for antihelmintic activity and found dose-dependent paralysis, loss of motility, and finally death of the worms.

67.3.4 ANTICOAGULANT ACTIVITY

Kee et al. (2008) evaluated anticoagulant activity of *G. superba* leaf extract and found that the leaf extract showed anticoagulant activity of 2.97 mg/mL (IC_{50} value) and inhibited thrombin-induced clotting.

67.3.5 ANTIDIABETIC ACTIVITY

Thakur et al. (2015) investigated the leaf extract for its antidiabetic activity in rat models. The rats were fed with leaf extract at a dose of 150 and 300 mg/kg to streptomycin-induced diabetic rats and glucose-fed rats. After 21 days, the levels of high-density lipoproteins, cholesterol, triglycerides, low-density lipoproteins, creatinine, alkaline phosphatase, urea, SGOT, and SGPT were evaluated. There is an increase in body weight and HDL levels were observed. The LDL, cholesterol, urea, triglycerides, SGPT, and SGOT levels were decreased. Further, a reduction in blood glucose levels was observed for leaf extract in both streptomycin and glucose-fed diabetic rats.

67.3.6 ANTICANCER AGENT

Medhi et al. (2021) evaluated anticancer activity for thiocolchicoside using in-silico approaches and in-vitro activity of TNBS cell lines. The receptor activator of NF- κ B ligand binds to the receptor activator of NF- κ B and activates NF- κ B signaling pathway. The gene products of this pathway linked to the cancer. The TRAF6-RANK protein complex was selected as a target protein and docking was performed. The drug thiocolchicoside showed a significant effect on the proteins. The in-silico results were further evaluated by in vitro analysis using MDA-MB-231 triple antigen breast cancer cell line and found a negative effect on the proliferation and cell growth that led to cell apoptosis.

67.3.7 OSTEOCLASTOGENESIS

Reuter et al. (2012) evaluated osteoclastogenesis activity induced by receptor activator of NF- κ B ligand and the cancer cells. The in-vitro experiment was performed by taking murine macrophage cells RAW 264.7 and evaluated for osteoclastogenesis activity and found that the thiocolchicoside showed

activity on NF- κ B signaling. In this study, the thiocolchicoside suppressed the osteoclastogenesis induced by the cancer cells.

67.3.8 OXYTOMIC ACTIVITY

The oxytomic activity was evaluated on female Wistar rats and found no increase in decidual weight of the uterus was observed. The standard drug oxytocin and the root aqueous extract produced contractions in experimental rat models (Malpani et al., 2011).

67.3.9 MUTAGENIC PROPERTY

The tubers of *G. superba* were evaluated for its mutagenic property by Ames Salmonella mutagenicity test and found that the tuber extract has mutagenic properties due to alkaloid colchicine (Hemaiswarya et al., 2009).

67.3.10 ANTIOXIDANT AND ANTICANCER ACTIVITY

Jagtap and Satpute (2014) evaluated the antioxidant potential of *G. superba* using organic solvents. It was found that the DPPH antiscavenging activity was 87.69%—methanol, 77.58%—acetone, 71.07%—water, and 43.91%—chloroform extracts of *G. superba*. Moteriya et al. (2014) evaluated the antioxidant potential of leaf and stem extract of *G. superba* using superoxide radical scavenging assay, reducing capacity assessment, and ferric reducing antioxidant power. The methanolic extract of stem and leaf showed the highest reducing capacity and highest FRAP activity, respectively.

The DPPH assay was used to evaluate the methanolic extract of the plant tubers. The methanolic extract showed 91.04% of antiscavenging activity which is an important factor to prevent cancer and cardiac diseases. Further, the anticancer activity was evaluated using Hep-G2 cells by MTT assay. The 100 μ g concentration of methanolic extract showed 54.3% of higher inhibition rate of Hep-G2 human liver cell lines (Simon and Jayakumar, 2016).

67.3.11 ANTIVENOM ACTIVITY

Kumarappan et al. (2011) investigated the snake venom neutralizing activity of alcoholic extract of *G. superba* against *Naja nigricollis*. The

venom neutralizing activity was observed in Swiss albino mice at a minimum lethal dose of snake venom 900 µg/kg. The *G. superba* extract showed 90% of protection and alleviated the toxicity of *N. nigricollis* venom. The plant extract showed antihaemolytic activity when exposed to hyposaline-induced haemolysis.

67.3.12 ANTIFERTILITY ACTIVITY

Latha et al. (2013) evaluated the antifertility activity of *G. superba* in female albino rats using an anti-implantation model. The female rats were fed orally at a dose of 30 and 60 mg/kg of extract for a period of 7. On day 10th, autopsy results indicated that the extract has anti-implantation activity compared with the control. In the case of the control group, the activity was reversible and found the delivery of normal litters after one gestation period (21–23 days).

67.3.13 ANTIANXIETY ACTIVITY

The antianxiety activity was evaluated using elevated plus-maze model in albino mice. The mice are fed orally with ethanolic extract of *G. superba* at a dose of 300 mg/kg of the extract and the behavior of the animals was observed in elevated plus maze apparatus. The antianxiety activity was observed in animal models compared with the control Diazepam (Sundara-ganapathy et al., 2013).

KEYWORDS

- alkaloids
- antimicrobial
- antioxidant
- colchicine
- *Gloriosa superba*
- phytochemicals
- medicinal plant

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Optimization Study of Cadmium Biosorption on Sea Urchin Test: Application of Response Surface Methodology

D. John Babu, Y. Prasanna Kumar, Pulipati King and
K. Vidya Prabhakar

1 Introduction

Rapid industrialization has led to increased discarding of wastewater into the environment which caused the deposition of hazardous metal ions in water bodies. These metal ions present in the waste waters became precarious pollutants due to their nondestructive nature, high toxicity, accumulation through food chain and subsequent biomagnifications (Iynengar and Venkobachar 2000). Cadmium (Cd (II)) is one of the metals that are extremely toxic to organisms even at low concentration. Exposures to Cd cause severe health problems such as renal failure, liver diseases, bone degradation and hypertension (Nordberg et al. 1992). Due to this, Department of Environment, UK has included Cd in red list of priority pollutants (UK Red List Substances: 1991) and in List I (the “black list”) of Directive 76/464/EEC (Council Directive 1976). USEPA has also classified Cd as group B1 carcinogen (US Environmental Protection Agency 1999).

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EMERSON AND THE VEDANTIC PERSPECTIVE

B.S. Shyam Bhagavan

ABSTRACT

The present study is concerned with the examination of Emerson's Transcendentalism in relation to Advaita Vedanta – the non-dualistic school of Indian thought in which Emerson showed considerable interest. Transcendentalism was a radical reaction against the New England religious tradition. The absolute monism of Vedantic type embodied in Emerson's transcendental thought, which broke down barrier between man and God, had no precedent in the religious history of New England; and his monism led to certain metaphysical and epistemological implications which found a close parallel in *Advaita Vedanta*.

During his Harvard years Emerson regarded India as a land of gross ignorance; but in the forties when he took to the study of Vedantic literature, his negative attitude towards India gave way to admiration. He was fascinated by Vedantic ideas, and this led him to draw copiously upon them. This, however, does not mean that Advaita Vedanta in any way determined his transcendental thought, for ample evidence can be adduced from his work to show that the ideas central to his Transcendentalism were already clearly defined before he became acquainted with the Indian system. The latter only confirmed him in these ideas. Emerson felt deep affinity for Advaita Vedanta, and it was this sense of affinity which led him to incorporate Vedantic ideas in the structure of his thought. Advaita Vedanta thus provides us with an illuminating perspective on Emerson's ideas which otherwise appear ambiguous and can be misconstrued.

Emerson also encountered ideas from non-Vedantic sources, but he accepted them only to the extent they could be accommodated to the nature of his thought. Nonetheless, in the present study these ideas have been used as a measure to assess the degree of relevance Advaita Vedanta bears to Emerson's thought.

The present study is concerned with the examination of Emerson's Transcendentalism in relation to Advaita Vedanta the non-dualistic school of Indian thought with which Emerson became familiar in the forties, and in which he continued to show keen interest ever after. Emerson drew profusely upon Vedantic sources, but this, however, should not be understood to mean that Advaita Vedanta exercised any determining influence on his thought; for, as we shall see in the course of this study, the basic structure of Emerson's thought was already clearly defined before he took to the study of Advaita Vedanta. He found in the latter an affinity with his own ideas and used into reinforce and illustrate them.

Advaita Vedanta advocates religious liberalism. It is characterized by the catholicity of outlook and largeness of spirit which repudiate sectarian rigidity and exclusiveness (Mundaka Upanishad 3.2.8). It affirms that truth, being one and universal, cannot be the exclusive legacy of any party or person, but belongs to all (Mundaka Upanishad 1.1.6; Chandogya Upanishad 6.8.7) Truth, it further emphasizes, should be actively realized rather than taken on the authority of others (Kausitaki Upanishad 4.18; 4.20), and this means respect for the integrity of the individual and his right to free inquiry into a doctrine before he could accept or reject it (The Bhagavad-Gita 18.63). Spiritual realization of truth, according to Advaita Vedanta, entails a process of spiritual development; and the dogmatic imposition of a doctrine by an external authority, or the conventional acceptance of it by an individual, seriously impedes this development, and thereby frustrates the very purpose of religion.

These ideas are quite in accord with the general drift of Emerson's transcendental thought. His Transcendentalism, like Advaita Vedanta, rejects sectarianism. It states that "it is not wise, not being natural, to belong to any religious party" (The journals and miscellaneous Notebooks, III, 259). Emerson maintains that the Ultimate Reality being universal lies beyond the confines of a denominational church, and is critical of those who try to mould it "into some neat and plausible system, as Calvinism, Romanticism or Swedenborgism" (The complete works of Ralph Waldo Emerson, VIII, 329). The only church it would associate itself with is one which has "heaven and earth for its beams and rafters" (The complete works of Ralph Waldo Emerson, VI, 241). Emerson's Transcendentalism, like Advaita Vedanta, emphasizes the spirit rather than the form of religion; it holds that each individual must realize that spirit rather than stay content with paying formal allegiance to it. It thus involves the rejection of all "reliance on institution" and external authority (the complete Works of Ralph Waldo Emerson I, 321). Emerson observes that it is "the depth of the thought, and never, who said it? And so be (a Transcendentalist) resists all attempts to palm other rules and measures on the spirit. Than it is won" (The complete works of Ralph Waldo Emerson" 336). The similarity between Advaita Vedanta and Transcendentalism, and the interest Emerson showed in the Former on that account, is pointed out by Dale Riepe in a general but.

Meaningful observation:

Emerson's receptivity to non-dualistic Vedanta ... is a remarkable testimony to the fact that even though men may be separated by a dozen cultures and then thousand miles, yet strikingly similar thoughts and allegiances seem to Penetrate them. And if it is the duty of intellect not only to analyze and dissect, but also to discover.

Unity, Parallelism, analogies, and similarities then Emerson found these in Indian Philosophy. The historical back grounds against which Emerson's Transcendentalism and the non-dualistic school of Vedanta emerged were to a large extent similar, and this may to a certain degree of the congruence that exists between them. Advaita Vedanta, which is systematized in Uttara (Later) *Mimamsa*, was the result spiritual dissatisfaction with Purva (earlier) *Mimamsa* which laid exclusive emphasis on the practice of rituals as a Mode of Worship. Broadly speaking, these rituals were either supplicatory, supposed to move a deity to grant a favour, or expiation, and supposed to win his forgiveness for the transgression of a divine commandment. In either case, this ceremonial worship made God an external object and therefore lost touch with the spirit. Its Mundane character gave rise to sceptical Materialism embodied in the system of Charvaka dated around sixth century B.C. The system is known as the "Lokayata" or that which has a basis (ayata) in the world of sense (Loka). Charvaka's system was one of the out and out Materialism. It denied reality of anything which was not the object of sensuous perception and discarded ritualism as a humbug practised by imposters to impress the naïve to promote their worldly ends. The system also alleged that there was no soul "or" God. The so-called source of life and that consciousness results from the interaction of Material elements which constitute the body.

Advaita Vedanta was much a reaction against the gross Materialism of Charvaka as against the spiritless ritualism of the sacrificial school. It contended that God is not an external object but is inherent in one's very being. It also contended that God is an all - pervading principle, uniform and immutable in its operation, which cannot therefore be swayed from its course by the performance of rituals. The idea is expressed in Advaita Vedanta by a satirical treatment of ritualistic practices. We read in one of the Upanishads which form an important part of Vedantic Literature, that a priest is approached by a god accompanied by a hungry pack, and is asked to produce food for its companions by the exercise of his ritualistic lore. The priest agrees and is then joined by the gods in the performance of his ritual to supplicate the "Lord of Food" to bring food to them (Chandogya Upanishad) 1.12.15) Advaita Vedanta contends that it is the spiritual perception, and not the observance of rituals, which leads to the realization of the ultimate principle (The Vedanta Sutras with the commentary by Sankaracharya 3.3. 47-48): 3:4.8): it therefore places a man of knowledge much higher than it does a performer of rituals (The Vedanta Sutras with the commentary by Sankaracharya, Principal, Part-I, Cvii, Pat-11, 4.1.18, 262). The recurring burden of the "Brihadaranyaka Upanishad" is *ya evam veda* or "he who knows this" (Brinhadaranyaka Upanishad 1.4.5-7; 1.4.17: 2.24: 2.3.6) meaning he who has gained the active realization of Brahma. The unitary principle superficialities of a ritualistic creed, wins his way to spiritual emancipation. Advaita Vedanta also, pointed out the short sight endless of the "Lokayata" which alleged that sensuous perception alone is the measure of reality. Senses it contends, are only the instruments of Mind and fail to function without the late, therefore no knowledge of reality can be gained through them (Brihadaranyaka Upanishad 1.5.3; Prasana Upanishad 4.9). Advaita Vedanta further maintains that all existence presupposes the potential essence (The Vedanta Sutras 2.1. 16-17) which is not subject to empirical verification (Mundaka Upanishad 3.1.8; Katha Upanishad) 1.2.6) It also denied Charvaka's contention that consciousness is the product of the interaction of material elements in the boy. Since such a theory does not explain the process of the organization of those elements leading to consciousness: this, it argues, necessitates the postulation of a vital principle denied by the materialistic thinker to govern that process (The Vedanta Sutras 3.3.53-54).

Emerson's position in the context of New England religious tradition offers an interesting parallel to that of a Vendatist in Ancient India. Unitarism, which based itself on the Lockian premise that all knowledge including that of religious truth - was empirically derived. Made external evidence the essential basis of religious faith. Thus worship, like that of an Indian ritualist, became a Matter of ceremonial observance and lost its spiritual content. Unitarianism, with its insistence upon the external evidence of God, contained an element of scepticism which was exploited by Materialities like "David Hume". Hume, Like Charvaka, denied the existence of anything which was not the object of immediate sensuous experience, and therefore had little reason to believe in the existence of God.

Emerson could not accept the Unitarian externalism which starved the spirit. He felt that Unitarianism with its cold Lockian premise was as chilling to the soul as Calvinism with its doctrine of the inherent depravity of man was repugnant to its dignity (Journals of Ralph Waldo Emerson 424). Emerson also rejected the Humean scepticism which he considered the subjection of Mind to the despotism of sense, and Therefore a limitation of vision which

loses sight of a transempirical fact. Like a Vedantist, Emerson counters sceptical Materialism with spiritual perception or moral sentiment which goes beyond senses and therefore can apprehend the potential essence of being. Emerson calls this spiritual Faculty "ground (of) My faith" (The journals and Miscellaneous note books of Ralph Waldo Emerson 11.83) and else where states that "The final solution in which scepticism is lost is the moral sentiment" (The complete works of Ralph Waldo Emerson, IV, 183). He calls Locke and Hume "Reasoning Machines" (Journals of Ralph Waldo Emerson 1.361) who were unaware of deeper spiritual insight, and makes it his business to "celebrate the spiritual powers in their infinite contrast to the Mechanical powers and the mechanical philosophy of this time" (Journals, V 288-289). Emerson, like Advaita Vedanta, Postulates an inner principle or the soul which is the Microcosm of the universal principle or the over-soul; and this constituted a departure from the New England religious tradition with its personal and localised God. He affirms that "God is in every man" (Journals of Ralph Waldo Emerson, 201). In his sermon "Trust Yourself", he states that it contains a divine principle" (Young Emerson Speaks, 110) and this inner Principle, Emerson believed, spares one the need to seek empirical evidence to support his religious faith, or to conform to a ritualistic mode of worship. In one his editorial notes on the sermon, MC Giffert observes that "Emerson Was speaking in a violent reaction against a philosophy or religion that interpreted the difference or relation between God and Man in such an extreme way as to make contact or union between them almost impossible" (Young Emerson speaks 237) MC Giffert in these lines has unconsciously underlined the very vedantic spirit of Emerson's thought.

Emerson's principle of Divine immanence, which bridged the distance between Man and God interposed by Formal religion, became the basis of his doctrine of intuition which May be roughly defined as spiritual perception. Emerson's doctrine of intuition, as the present work intends to show, bears a close resemblance with the vedantic concept of "Aprokshanubhuti" which implies direct realization of the spiritual principle, and which closed the gap between man God interposed by the sacrificial school. The doctrine of intuition is crucial to both Emerson's "Transcendentalism" and Advaita Vedanta, both prize knowledge as experiential and not merely of theoretical content; they think that knowing is being. A Vedantic verse reads; The Veda is not to be called Veda, for there is no Veda (knowledge of the supreme) in the Veda. That is truly the Veda by which the supreme is known" Emerson states in a similar vein: "Neither Metaphysics nor ethics are more than outside sciences. They give me no insight into the nature and design of my being and the profoundest scholar in them both is as far from any clue to the being and the work behind the scenes, as the Scythian or the Mohawk" (Journals of Ralph Waldo Emerson, I, 379). The ultimate Reality being all comprehending negates the empirical distinction between subject and object: it cannot therefore be apprehended through rational inquiry which works on the basis of this distinction. Moreover, the intuitive fact is self vouching and therefore needs no rational evidence to warrant its validity.

In his belief in intuition as the organ of supreme Reality Emerson Marked a departure from the popular tradition of New England in the profession of his faith in the over soul. Western philosophy, in general places emphasis on reason and regards truth not only as rationality comprehensible, but also experimentally demonstrable. It is mostly distrustful of intuition as a mode of cognition since it is apprehensive that intuition might lead to the confusion of a mere subjective belief with the objective fact. It thus prefers the more dependable method of ratiocination to arrive at a theoretical conception of a transcendent fact. F.S.C. Northrop observes that "The doctrine that there is a divine reason which is the creative origin of the universe, the unseen God the Father, is ... obviously not a direct deliverance of bare fact apart from any postulationaly proposed hypothesis, Northrop's statement can be paralleled with the following observation by E.A. Burt:

"The educated western mind has come to trust the rules of logical and empirical reasoning the former when dealing with formal relations and the latter when seeking to explain given facts and its is suspicious of any direct or intuitive route to truth".

"So, if we ask the philosophers of the occident under what conditions an assertion can be self vouching or intuitively warrantable, the answer characteristically given is that there are no such conditions except in the case of logical tauto – logies. These carry their own justification but the truth of relationship which intuition is powerless to apprehend. Emerson's concept of intuition, because of its oriental character, remained incomprehensible to his western critics and was therefore summarily dismissed by them as nothing more than an idle fancy on the other hand, when seen in the perspective of Advaita Vedanta it not only becomes comprehensible as a logical corollary of his doctrine of the over-soul, but also acquires a valid epistemological character.

Emerson felt quite at home with Advaita Vedanta because of the similarities he found therein with his own ideas and the strength it lent to them. "Actually", as Stuart Gerry Brown appropriately observes, "Emerson seems

to have drawn more freely and comfortably upon the religious wisdom of the orient than upon the tradition to which he belonged". Charles Malloy, one of Emerson's close acquaintances who shared his interest in the orient, on reading the Gita, a vedantic work which Emerson had lent him, reportedly said that "he found in it the whole of Emerson's philosophy". The statement, no doubt, sounds over enthusiastic, but nonetheless it draws our attention to the similarity which exists between Emerson's thought and Advaita Vedanta. It is thus reasonable to assume that Advaita Vedanta can be profitably used as a point of reference to reach a better understanding of Emerson's ideas, and to view them in an organized context.

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EMPLOYMENT GENERATION AND POVERTY ALLEVIATION



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EMPLOYMENT GENERATION THROUGH A.P INNOVATION SOCIETY

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ABSTRACT

Globally, the United States of America has been in the forefront in research and development in the recent past while Israel has been the leading spender in R&D and Innovation (in terms of % of GDP). In the last decade, India spent less than 1% of the GDP for R&D and Innovation. R&D in India is still largely financed by the government sources. Out of over 5,000 Incubators across the world, India has only 65. Countries like Netherlands, Singapore, Sweden, etc. have been giving more importance to R&D and Innovation. Science, Technology and Innovation (STI) have emerged as the major drivers of National Development globally. India has declared 2010-20 as the "Decade of Innovation". The GOI has stressed the need to enunciate a policy to synergize science, technology and innovation. In 2013, GOI came up with Science, Technology & Innovation Policy, in order to create robust innovation culture and ecosystem. The Government of India proposes to increase the expenditure in Innovation R&D to 2% of the GDP.

For the development of the Innovation culture in the country, the policy envisages creation of Conducive eco-system for the venture capital in the MSME sector with the initial corpus of Rs. 10,000 cr. The Constitution of India along with our fundamental rights has given every citizen 10 fundamental duties of which two are: a. To develop the scientific temper, humanism and the spirit of inquiry and reform; b. To strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of Endeavour and achievement. A state needs world class scientific and technology ecosystems that would empower and enable its youth to carry out this fundamental duty to our beloved nation. For the development of Innovation, entrepreneurship and Start-up culture in the State, Andhra Pradesh proposes to set up an Innovation & Capacity Building Mission as envisaged in the Blueprint Document "Re-

Imagining Andhra Pradesh – role of e-Governance, Electronics and IT".

Keywords: MSME, E-governance, Ecosystems.

INTRODUCTION

After the bifurcation of Andhra Pradesh, a big challenge lies ahead in rebuilding the state from scratch. Under the visionary leadership, inspiring dynamism and encouraging guidance of the Hon'ble Chief Minister Sri Nara Chandrababu Naidu, the Sunrise State of Andhra Pradesh is making rapid progress in all developmental dimensions. The State of Andhra Pradesh shares a collective dream of a new India where new generation software products would be manufactured creating multiplier effects in growth of the state and nation, employment creation, social transformation.

OBJECTIVES

1. To explain the AP Innovation Society facilities,
2. To discuss the Centers of excellence and R&D facilities.

AP Innovation Society –Vision: To create a world class technology start-up ecosystem by fostering entrepreneurship and a culture of innovation this contributes to increased knowledge, wealth and employment in our society.

AP Innovation Society- Aim & Objective: Through the Innovation and Start-up Policy, the government intends to create an ecosystem that produces an entrepreneur in every family. The targets laid out for the Andhra Pradesh through this Policy by June 30 2019 are: 100 Incubators / Accelerators to be established, 5,000 Companies & Start Ups to be incubated, 1 million sq ft of Incubation Space to be developed, Venture Capital of Rs 1000 Cr to be mobilized for Innovation, Foster Innovation Culture, Create at least one home grown billion dollar technology start-up

AP Innovation Society: ITE&C Department is the nodal department for supporting the

development of startup innovation ecosystem in the state of Andhra Pradesh. AP Innovation Society is the dedicated agency within ITE&C department which has a dedicated team of 18 staff and a CEO exclusively overseeing the implementation of the Innovation and Startup Policy.

AP INNOVATION SOCIETY- FACILITIES

Incubators: AP Innovation society was established with the sole objective of creating home grown entrepreneurs through Innovations. With a robust infrastructure of 4 Technology Business Incubators and Technology Business Accelerator across the State of Andhra Pradesh, it provides a platform for budding entrepreneurs in scaling up their businesses. For Startups and Entrepreneurs, services consist of Mentorship support, provision of Co-Working spaces, Accounting as well as help with IP rights, Patent filing. AP Innovation Society formed strategic partnerships with the best institutions to provide world-class facilities in collaboration with an esteemed list of strategic partners such as NASSCOM, Gastro tope, Govin Capital, FICCI, IC2 Institute of Technology (University of Texas, Austin), NRDC, IB Hubs with many more coming onboard in the future. Our vision is to create at least one entrepreneur in every household of Andhra Pradesh through an ecosystem of Academia, Industries and Government of Andhra Pradesh.

10k Warehouse: NASSCOM in association with AP Innovation Society setup '10,000 Startup Warehouse' in the Sunrise Incubation Hub, Vizag to create a world-class technology startup ecosystem in the state. Space for startups to be housed for 6 month incubation period and extend for a further 12 months upon review. A well-equipped community events space available for meet-ups & workshops. 21 startups from various sectors like IoT, Healthcare, agriculture, Data science, FinTech, etc, have been incubated till date creating 77 full-time jobs and 95 part-time jobs. A funding of Rs 1, 05, 00,000 has been raised for the startups with revenue of Rs. 2, 99, 00,000 being generated till date.

Startup Accelerators of India: Govin Capital of Singapore established SAI in collaboration with APIS and started a pilot incubator facility in Sunrise Tower to incubate 100 startups and nurture 1000 students as first generation technocrat entrepreneurs over

the next 5 years. 14 Startups have already been incubated in this facility resulting in the creation of 67 full-time jobs and 83 part-time jobs. A funding amount of Rs. 2, 00, 00,000 has been raised generating revenue of Rs. 10, 00,000.

Accelerators: XLr8API In support of the initiative of the State of Andhra Pradesh to create a world-class technology innovation ecosystem, the Global Commercialization Group of the IC2 Institute at The University of Texas at Austin, in concert with FICCI, established a world-class technology business accelerator in the temple town of Tirupati. The primary objective of the accelerator is to foster a culture of innovation in the Sunrise State of Andhra Pradesh. The accelerator will aim to increase knowledge, wealth and employment in the State and beyond. The initiative is multi-faceted, and includes training, advanced capacity-building for innovators and entrepreneurs, incubation and acceleration of tech companies into the global marketplace, mobilization of venture capital and access to the extensive global commercial development networks of both FICCI and the University of Texas at Austin.

Co-Working Space: Sunrise Startup Factory: Sunrise Startup Factory is an inclusive state-of-the-art Co-Working Space focused on providing mature startups with an ideal atmosphere to enhance productivity and cultivating collaboration. Co-Working Spaces are located in all 4 Incubation Centers at Vizag, Kakinada, Anantapur, Tirupati and will be operational in Amravati soon. These spaces provide a culturally diverse community that is perfect for entrepreneurs and startups, to innovate and create strong networking opportunities.

World class amenities will be an integral part of these co-working spaces which can be availed for free:

- High-speed Wi-Fi
- Power outlets
- Power backup
- Meeting Rooms
- Digital Infrastructure
- Company registration/document support

IP Facilitation Center: In association with National Research Development Corporation (NRDC) under Ministry of Science and

Technology, GoI, AP Innovation Society facilitated an Intellectual Property Facilitation Center to help startups, MSMEs, industrial and academia across the state with facilities related to IP Services in various domains of science and technology such as Patent filing, copy right, trademark registration and Technology Transfer and Commercialization services. Recently, United Nations-WIPO-Technology Innovation Service Centre (TISC) has been approved by Department of Industrial Policy and Promotion (DIPP), GoI at Sunrise Incubation Hub, Visakhapatnam, which will be a 3rd of its kind in India. The objective of this centre is to provide global access to online patent and non-patent resources, industrial property related publications, assistance in searching and retrieving technology information.

CENTERS OF EXCELLENCE & R&D FACILITIES

Drones Center: Drone Manufacturing & Innovation Center: This center will facilitate manufacturing of drones and also provision is made for R&D in Reverse Engineering Lab. Startups with innovations in video and image analytics, big data and IOT through drone can be incubated in this facility. Research fellowships and internships are also made available on merit basis.

IOT: Andhra Pradesh Innovation Society in Collaboration with NASSCOM established a state-of-the-art IoT Centre of Excellence, which will host physical lab and incubation facility to create prototypes for addressing the needs in the fields of health, agriculture, water, transportation and energy and validating solutions for horizontal scenarios like smart cities, smart manufacturing, privacy, security and standardization of protocols.

Incubation Programs: AP Innovation society was established with the sole objective of creating home grown entrepreneurs through Innovations. With a robust infrastructure of 4 Technology Business Incubators and 1 Technology Business Accelerator across the State of Andhra Pradesh, it provides a platform for budding entrepreneurs in scaling up their businesses. For Startups and Entrepreneurs, services consist of Mentorship support, provision of Co-Working spaces, Accounting as well as help with IP rights, Patent

filing. AP Innovation Society formed strategic partnerships with the best institutions to provide world-class facilities in collaboration with an esteemed list of strategic partners such as NASSCOM, Gastro tope, Govin Capital, FICCI, IC2 Institute of technology (University of Texas, Austin), NRDC, and IT Hubs with many more coming onboard in the future. Our vision is to create at least one entrepreneur in every household of Andhra Pradesh through an ecosystem of Academia, Industries and Government of Andhra Pradesh.

Fortissimo by AP Innovation Society & Gastro tope: The agreement between AP innovation society (APIS) and Gastro tope Private Limited is to have started jointly start FORTISSIMO acceleration program. The main aim of this FORTISSIMO acceleration program is to create a World-Leading farm to Fork Tech Ecosystem in Andhra Pradesh Agriculture/Food processing sectors.

Benefits: Accommodate the selected Agriculture/Food processing startups at Sunrise incubation centre at Vizag Effectively implemented the acceleration program for selected startups. Funding support to AP registered startups as per APIS startup policy & fund provide through venture capitalists/Angle investors from govt. of A.P. Authoring pilot programs through relevant departments. Identifying and selecting the potential startups and including them in to acceleration programs. For more details click here

AP Innovation Society- Activities: Boot camps, Hackathons, Exhibitions and fairs, Summits, Entrepreneurial Development Cell, Investor Meet-ups, Startup Meet-ups

CONCLUSION

The world countries and especially the emerging markets are thriving for employment generation and throwing out of poverty. It is been said that employment is one of the effective tool in poverty eradication and to bring balance in the distribution of income among the different classes of people. It is proud enough that Andhra Pradesh Government has designed a wonderful platform for employee generation in the field of Information Technology that could enhance the various business industries.

This platform is not only meant for IT, it is useful application of IT thoughts in various field of business such as Agriculture, Logistics, Petroleum, Mining and so on. It is great opportunity for the youngsters who have noble ideas to bring up an entrepreneurial activity.

It is also worth mentioning that our young talent has many ideas to build business entities but however lack of financial support the ideas are not materialized in venturing. Hence the young people can utilize this opportunity by joining the AP

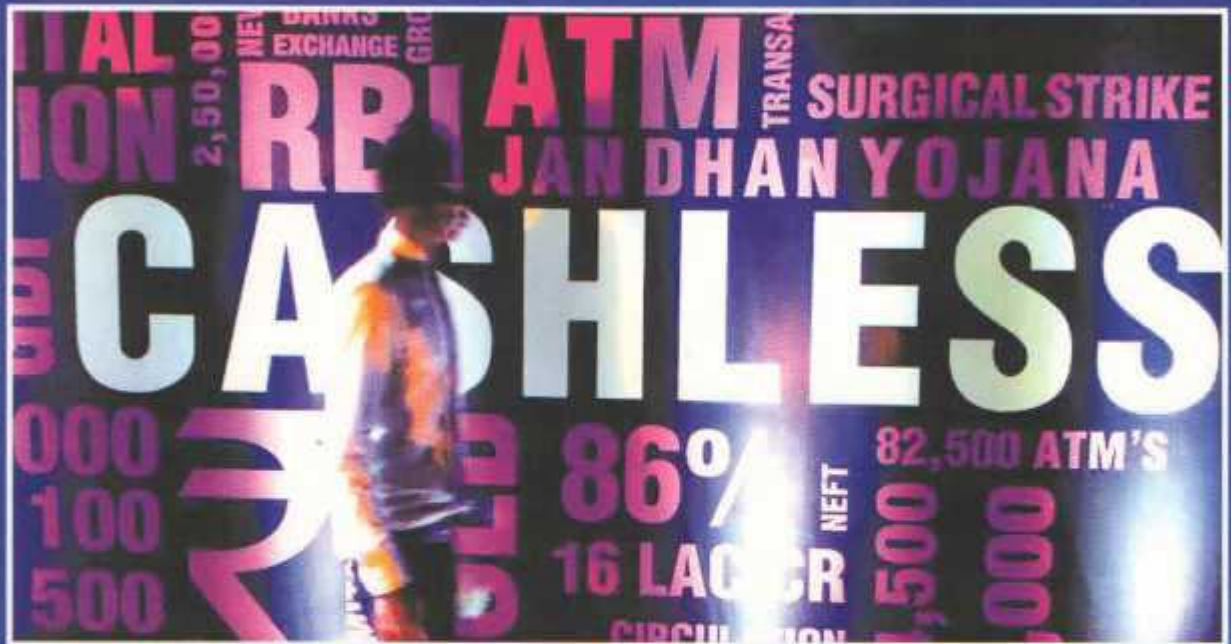
Innovation Society for presenting their ideas and to get financial support for venturing into new business. This way AP Innovation Society can eradicate poverty through generation of employment and growth in economy by increased business activities.

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2. <http://xlr8ap.com>

DEMONETISATION

Impact and Prospects



Editor

Dr.Chilumuri Srinivasa Rao

DEMONETISATION
IMPACT AND PROSPECTS

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Jyoti Granthamala
Hyderabad

DEMONETISATION IMPACT AND PROSPECTS

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IMPACT OF DEMONETISATION IN INDIA WITH SPECIAL REFERENCE TO PAYMENT SYSTEM OF INDIA

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ABSTRACT

Demonetisation had a wide impact. It has affected the withdrawal of nearly 86% of the currency in circulation in India. The monetary action of banning Rs 1000 and Rs 500 notes produced several direct and indirect effects on transaction behaviour as well as on illegal money. Demonetisation has provided the invaluable service of giving mass awareness campaign against black money. It has promoted the digitalization of transactions and digital payments.

The government had called this situation bringing of "short-term pain for long-term gain". Demonetisation has affected the common people and created panic among the poor and common masses. This will change the history of India and bring a digital transaction revolution to the country.

The objective of the research paper is to estimate the impact of Demonetization on payment and settlement system of Indian banks in India in volume and in value. This research study depends on secondary data from various sources. For the purpose of analysis the concept and impact of demonetization has been discussed in the first part. In second part the impact of demonetization on payment system of Indian banks in volume in million transactions was evaluated. In third part, evaluation of demonetization impact on payment system in value in billion rupees. It concluded with findings, suggestions and conclusion

Keywords: *Demonetisation, RTGS, Cards, Payment System, CCIL, Mobile Banking.*

INTRODUCTION

Indian banking structure is very different from that of other countries. Banking is considered as the backbone of the country. Finance is the vital element for a country's trade, commerce and industry.

Banks are core part of any economy. They channelized the money to the smooth functioning of different sectors. Banks are not exceptional from the influence of demonetization and it made vibrations in the operations as well as products and services of banks. It created greater demand to digital banking services where cashless transactions are prioritized.

Money is the life blood of every economy. Money exchange facilitates ease of doing business, facilitates taxation and national integration. All activities such as production, exchange, distribution, services etc., are form an economy.

DEMONETISATION IN INDIA

The demonetisation of the 500 rupee note and the 1,000 rupee note in India had hit the economy hard in the short-term. The service sector, which dominates economic activity and involves a sizable chunk of cash transactions had the hardest hit.

India is not new to demonetisation because it has implemented first currency ban in 1946, second time currency ban in 1978 and third time currency demonetised in 2016.

The Central Government states that, the demonetisation policy is trying to make India corruption free; to curb black money; to control escalating price rise; to stop funds flow to illegal activity; to make people accountable for every rupee they have and pay income tax return. Finally, it is trying to make a cashless society and create a digital India.

According to the RBI the value of the currency notes at the end of March 2016 was 16.42 trillion Indian rupees. The 500 rupee and 1,000 rupee currency notes formed 86.4% of the value. In terms of volume, the currency notes of these two denominations formed 24.4% of a total 90.27 billion pieces. There were 17,165 million pieces of Rs 500 notes and 6,858 million pieces of Rs 1,000 notes in circulation, amounting to Rs 15.44 lakh crore in value. The demonetisation relates to replacing 86% of Indian currency; the growth of Indian economy; the development of every sector and the growth of banking sector.

IMPACT OF DEMONETISATION

Demonetisation produced several direct and indirect effects on transaction behavior. Demonetisation has provided the invaluable service of giving mass awareness campaign against black money. It has promoted the digitalization of transactions and digital payments.

Demonetisation also led to a significant increase in financial intermediation, with increase of deposits in PMJDY accounts. The latest data indicate that 50 million new accounts were opened since demonetisation until October, 2017.

Demonetisation has resulted in a rise in deposit growth at a time when banks have reduced interest rates on term deposits. Deposits rose 13.9% or Rs 12.7 lakh crore to Rs 105 lakh crore against a 10% rise last year, according data released by the Reserve Bank of India.

OBJECTIVES

The objective of the research paper is to estimate the impact of demonetization on payment and settlement system of India in volume and in value.

METHODOLOGY

This research paper depends on secondary data from various sources. The secondary data was collected from RBI Bulletin, annual reports and from other websites. For the purpose of analysis the concept and impact of demonetization has been discussed in the first part. In second part, the impact of demonetization on payment system of India in volume in million transactions was evaluated. In third part, evaluation of demonetization impact on payment system in value in billion rupees was discussed.

MODES OF PAYMENT SYSTEM IN INDIA

The Indian banking sector has been growing successfully, innovating and trying to adopt and implement electronic payments to enhance the banking system. Though the Indian payment systems have always been dominated by paper-based transactions, e-payments are not far behind. Ever since the introduction of e-payments in India, the banking sector has witnessed growth like never before.

India has multiple payments and settlement systems, both gross and net settlement systems. For gross settlement India has a Real Time Gross Settlement (RTGS) system called by the same name and net settlement systems include Electronic Clearing Services (ECS Credit), Electronic Clearing Services (ECS Debit), Credit cards, Debit cards, the National Electronic Fund Transfer (NEFT) system and Immediate Payment Service. An efficient national payment system reduces the cost of exchanging goods and services, and is indispensable to the functioning of the interbank, money and capital markets.

TREND AND PROGRESS IN PAYMENT SYSTEMS IMPACT OF DEMONETISATION

Different Payment System Indicators in India

RTGS: Real-Time Gross Settlement are specialist funds transfer systems where the transfer of money or securities takes place from one bank to another on a "real time" and on a "gross" basis. RTGS systems are typically used for high-value transactions that require and receive immediate clearing. RTGS payments typically incur higher transaction costs and usually operated by a country's central bank. It lowers settlement risk, besides giving an accurate picture of an institution's account at any point of time. The best RTGS national payment system cover up to 95% of high-value transactions within the national monetary market.

CCIL: *Clearing Corporation of India Ltd (CCIL)* is to provide clearing and settlement for transactions in Government securities, foreign exchange and money markets in the country. CCIL provides non-guaranteed settlement in the rupee denominated interest rate derivatives like Interest Rate Swaps/Forward Rate Agreement market.

Paper Clearing: The central bank played a pioneering role in automating the paper-based clearing system in the 1980s. It introduced an electronic funds transfer system and electronic clearing services (ECS Credit and Debit) in the 1990s. The RBI introduced the NEFT system in November 2005.

Retail Electronic Clearing

1. Electronic Clearing Service (ECS Credit): This is used mainly for large-value or bulk payments where the receiver's account is credited with the payment from the institution making the payment.

2. Electronic Clearing Services (ECS Debit): This is used mainly for small value payments from consumers to big organizations or companies. It eliminates the need for paper and instead makes the payment through banks/ corporates or government departments. It facilitates individual payments like telephone bills, electricity bills, online and card payments and insurance payments.

Cards: India is one of the fastest growing countries in the plastic money segment. Already there are 130 million cards in circulation, which is likely to increase at a very fast pace due to rampant consumerism. India's card market has been recording a growth rate of 30% in the last 5 years. Card payments form an integral part of e-payments in India because customers make many payments on their card-paying their bills, transferring funds and shopping.

Debit cards entered India, in 1998 they have been growing in number and today they consist of nearly 3/4th of the total number of cards in circulation.

Credit cards have shown a relatively slower growth even though they entered the market one decade before debit cards. It is expected to grow at a rate of about 60% considering levels of employment and disposable income. Majority of credit card purchases come from expenses on jewellery, dining and shopping. They are used not only in ATM's but also at Point of sale (POS) terminals and while making payments on the net.

PPI's: Prepaid payment instruments are facilitating purchase of goods and services against the value stored on such instruments. The value stored on such instruments represents the value paid for by the holder, by cash, by debit to a bank account, or by credit card. The prepaid instruments can be issued as smart cards, magnetic stripe cards, internet accounts, online wallets, mobile accounts, mobile wallets, paper vouchers and any such instruments used to access the prepaid amount.

Mobile Banking: It is a service provided by a bank or other financial institution that allows its customers to conduct financial transactions remotely using a mobile device such as a smart phone. Unlike the related internet banking it uses software, usually called an app, provided by the financial institution for the purpose. Mobile banking is usually available on a 24-hour basis. Mobile banking reduces the cost of handling transactions by reducing the need for customers to visit a bank branch for non-cash withdrawal and deposit transactions.

DEMONETISATION IMPACT ON MODES OF PAYMENT SYSTEM IN INDIA IN VOLUME

The payment system of Indian banks is the combination of RTGS, CCIL operated system, Paper clearing, retail Electronic Clearing, Cards, Prepaid Payment Instruments and Mobile banking payments. Among this, cards payments transaction 61.41% is in first place, Retail Electronic clearing is in Second (20.61%) and PPI's(7.55%) is in third place in total payments transactions in millions.

Table shows that, the payments transaction (in volume) in between October 2016 and September 2017. It explains the changes or the impact on payments transaction in million during this period. The table denotes that

RTGS: In RTGS payments customers transactions, interbank transactions and interbank clearings are main activities. The RTGS total transaction in October 2016 is 9.01 millions and they increases to 12.54 million transaction in March 2017 and decreases to 9.61 million transaction in Sep 2017. In October 2016 the RTGS transaction is 0.54 percent and it decreases to 0.45 percent in Jan 17 and increases to 0.59 percent in March 2017 and finally it decreased to 0.48% in Sep 2017 when compare to the total payment transactions.

CCIL Operated Systems: In CCIL the main players are CBLO, Govt., securities clearing and forex clearing, among these the forex clearing is key player. The CCIL operated payments transactions in Oct 2016 is 0.27 million and increases to 0.30 in Sep 2017. The CCIL payments transaction in Oct 2016 is 0.016 percent, in Nov 2016 is increased to 0.022% in Nov 2016 and it decreases to 0.015 percent in Sept 2017.

Paper Clearing: In this, the important areas are cheque transactions system (CTS) and home MICR clearing. The paper clearing transactions are 87.78 millions in Oct 2016. They increases to 138.82 million transactions in Dec 2016 and in Sept 2017 they are 94.37 million transactions.

Retails Electronic Clearing: In this, important key payment factors are ECS DR, ECS CR, EFT/NEFT, IMPS and NACH. In this NEFT and NACH are playing major role. The REC payment transactions are 346.36 millions in Oct 2016 and increases to 427.72 million transactions in Sept 2017. The REC transactions are contains 20.61% in Oct 2016 and increases 21.58% in Sept 2017, when compare to total payments transactions.

Cards: This category payment is the combination of credit and debit cards including usage of this card at ATMs and usage at POS. In this Debit card payments are very high when compare to the credit cards. The credit cards usage at POS and debit cards Usage at ATM's is high. The cards payment transaction are 1031.93 million in Oct 2016 and they increases to 1096.45 million transactions in Sept 2017. The cards payment transaction are 61.41% in Oct 2016 and they decreases to 55.31% in Sept 2017 when compare to the total payment transactions.

PPI's: In PPI's payments M-Wallet, PPI cards, PPI voucher are players, in this M-Wallet is leading factors of instrument. The PPIs total payment transaction are 126.9 millions in Oct 2016 and they increases to 240.29 million transactions in Sept 2017. The PPI have 7.55% share in Oct 2016 and it increases 12.12% share in the total payment in Sept 2017.

Mobile Banking: The total payment transaction are 78.08 million in Oct 2016 and they increases to 113.69 millions in Sept 2017. The mobile banking have share 4.65% in Oct 2016 and increases to 5.73% in Sept 2017. Finally the total payments transaction (in volume) are 1680.33 million in Oct 2016 and they increases to 1982.43 million transaction in Sept 2017.

Table 1: Impact of Demonetization on Payment system indicators of India in volume during October 2016 to September 2017 (in Millions)

System	16-Oct	16-Nov	16-Dec	17-Jan	17-Feb	17-Mar
RTGS	9.01	7.88	8.84	9.33	9.11	12.54
	(0.54)	(0.50)	(0.46)	(0.45)	(0.48)	(0.59)
CCIL Operated Systems	0.27	0.35	0.31	0.32	0.25	0.29
	(0.016)	(0.022)	(0.016)	(0.015)	(0.013)	(0.014)
Paper Clearing	87.78	93.5	138.82	131.17	107.94	127.98
	(5.22)	(5.93)	(7.15)	(6.30)	(5.71)	(6.03)
Retail Electronic Clearing	346.36	312.73	418.54	386.31	359.28	437.39
	(20.61)	(19.85)	(21.54)	(18.54)	(18.99)	(20.61)
Cards	1,031.93	906.78	1,025.48	1,154.21	1,039.67	1,087.98
	(61.41)	(57.55)	(52.79)	(55.40)	(54.96)	(51.27)
PrepaidPayment Instruments (PPIs)	126.9	169.03	261.09	295.8	280.02	342.09
	(7.55)	(10.73)	(13.44)	(14.20)	(14.80)	(16.12)
Mobile Banking	78.08	85.39	89.61	106.13	95.41	113.63
	(4.65)	(5.42)	(4.61)	(5.09)	(5.04)	(5.36)
Total	1680.33	1575.66	1942.69	2083.27	1891.68	2121.9
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Values in brackets is percentage to total

Table Contd.....

**Table 1: Impact of Demonetization on Payment system indicators of India
–volume wise during October 2016 to September 2017 (in Millions)**

System	17-Apr	17-May	17-Jun	17-Jul	17-Aug	17-Sep
RTGS	9.54	10.43	9.83	9.38	9.46	9.61
	(0.47)	(0.53)	(0.51)	(0.47)	(0.47)	(0.48)
CCIL Operated Systems	0.25	0.29	0.3	0.3	0.27	0.3
	(0.012)	(0.015)	(0.016)	(0.015)	(0.013)	(0.015)
Paper Clearing	99.97	101.63	95.47	95.35	94.81	94.37
	(4.91)	(5.16)	(4.95)	(4.81)	(4.72)	(4.76)
Retail Electronic Clearing	431.1	427.36	426.75	432.2	442.79	427.72
	(21.19)	(21.71)	(22.12)	(21.82)	(22.05)	(21.58)
Cards	1,035.38	1,036.07	1,025.60	1,070.91	1,099.84	1,096.45
	(50.89)	(52.64)	(53.16)	(54.07)	(54.77)	(55.31)
Prepaid Payment Instruments (PPIs)	352.23	278.08	255.65	270.24	261.14	240.29
	(17.31)	(14.13)	(13.25)	(13.64)	(13.01)	(12.12)
Mobile Banking	106.27	114.26	115.73	102.4	99.64	113.69
	(5.22)	(5.81)	(6.00)	(5.17)	(4.96)	(5.73)
Total	2034.74	1968.12	1929.33	1980.78	2007.95	1982.43
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Values in brackets is percentage to total

Source: RBI Bulletins

DEMONETISATION IMPACT ON MODES OF PAYMENT SYSTEM IN INDIA IN VALUE

Table-2 explains that, the impact of demonetisation on the modes of payments system of India in billion rupees.

RTGS: The RTGS payments in Oct 2016 are 97,554.34 billion rupees increased to 154,094.85 billion Rs. In March 2017 and they are 127,730.7 billion Rs in Sept 2017. The RTGS payments have 48.51% in Oct 2016; 55.10% in 17 March and 51.78% in Sept 2017 when compared to the total payments.

CCIL: The CCIL payments are 82,322.56 billion Rs. in Oct 2016, increases to 97,225.02 billion Rs. in 2016 Nov and 92,763.82 billion Rs. in Sep 2017. The CCIL payments have 40.93% in Oct 2016; 44.60% in Nov 2016 and 37.61% in Sep 2017.

Paper Clearing: The paper clearing payments are 6473.69 billion Rs. in Oct 2016; 8654.94 billion Rs. in March 2017 and 6429.99 billion Rs in Sept 2017. The paper clearing payment have 3.22% share in Oct 2016 and 2.61% share in Sept 2017 when compared to the total payments.

REC: The REC payments are 10633.29 billion Rs in Oct 2016, 17,699.79 billion Rs. in March 2017 and 15,624.23 billion Rs in Sept 2017. The REC payments share in Oct 2016 is 5.29% and in Sept 2017 the share percent is 6.33% when compared to the total payments.

Card: The card payments in Oct 2016 are 2934.78 billion rupees. In March 2017 it was 2947.56 billion Rs. and in Sept 2017 it was 3163.59 billion rupees. The card payments percentage in the total payment is 1.46 in Oct 2016 and 1.28 in Sept 2017.

PPI's: PPI's payments are 60.22 billions Rs. in Oct 2016, 110.01 billion Rs in Jan 2017 and 109.77 billion in Sept 2017. The PPI's share in the total payments in 0.030% in Oct 2016 and in Sept 2017 it is 0.045.

Mobile banking: Mobile banking payments in Oct 2016 are 1134.93 billion rupees. In March 2017 it was 1730.39 billion and it was 847.82 billion Rs. in Sept 17. The mobile banking payment share in Oct 2016 is 0.56%, 0.95% in May 2017 and 0.34 in Sept 2017.

The total payments are 201113.81 billion Rs. in Oct 2016, 279649.87 billion Rs. in March 2017 and 246,669.92 billion Rs in Sep 2017.

Among all these mode of payment system value in billion Rs the RTGS is in first place 48.51%, CCIL operated system is in second 40.93% and REC is in 5.29 in Oct 2016.

In March 2017 the RTGS share is 55.10%, CCIL share is 33.76% and REC share is 6.33% when compared to the total.

The RTGS Share in Sep. 2017 is 51.78% the CCIL share is 37.61% and REC share is 6.33%.

**Table 2: Impact of Demonetization on Payment system indicators of India
In value during October 2016 to September 2017 (Rs. In Billion)**

System	16-Oct	16-Nov	16-Dec	17-Jan	17-Feb	17-Mar
RTGS	97,554.34	101,894.49	110,980.33	100,602.54	95,266.75	154,094.85
	(48.51)	(46.75)	(48.21)	(47.41)	(49.37)	(55.10)
CCIL Operated Systems	82,322.56	97,225.02	95,947.71	88,068.84	75,377.92	94,415.57
	(40.93)	(44.60)	(41.68)	(41.51)	(39.06)	(33.76)
Paper Clearing	6,473.69	5,845.13	7,289.40	7,281.23	6,406.73	8,654.94
	(3.22)	(2.68)	(3.17)	(3.43)	(3.32)	(3.09)
Retail Electronic Clearing	10,633.29	9,748.25	12,608.01	12,399.63	11,961.49	17,699.79
	(5.29)	(4.47)	(5.48)	(5.84)	(6.20)	(6.33)
Cards	2,934.78	1,833.46	1,801.29	2,335.10	2,575.77	2,947.56
	(1.46)	(0.84)	(0.78)	(1.10)	(1.33)	(1.05)
Prepaid Payment Instruments (PPIs)	60.22	50.1	97.7	110.01	96.28	106.77
	(0.030)	(0.023)	(0.042)	(0.052)	(0.050)	(0.038)
Mobile Banking	1,134.93	1,374.43	1,485.83	1,383.05	1,279.93	1,730.39
	(0.56)	(0.63)	(0.65)	(0.65)	(0.66)	(0.62)
Total	201113.81	217970.88	230210.27	212180.4	192964.87	279649.87
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Values in brackets is percentage to total

Table contd.....

**Table 2: Impact of Demonetization on Payment system indicators of India—value wise during
October 2016 to September 2017 (Rs. In Billion)**

System	17-Apr	17-May	17-Jun	17-Jul	17-Aug	17-Sep
RTGS	111,743.70	113,312.69	116,200.57	110,562.10	113,827.58	127,730.70
	(51.20)	(50.24)	(49.93)	(50.00)	(50.43)	(51.78)
CCIL Operated Systems	80,878.53	86,202.69	90,919.03	86,663.63	87,499.01	92,763.82
	(37.05)	(38.22)	(39.06)	(39.19)	(38.77)	(37.61)
Paper Clearing	7,351.49	7,100.00	6,669.43	6,572.52	6,403.59	6,429.99
	(3.37)	(3.15)	(2.87)	(2.97)	(2.84)	(2.61)
Retail Electronic Clearing	13,700.63	13,768.40	14,113.17	13,471.67	13,988.09	15,624.23
	(6.28)	(6.11)	(6.06)	(6.09)	(6.20)	(6.33)
Cards	2,877.17	2,899.56	2,953.60	2,958.59	3,073.12	3,163.59
	(1.32)	(1.29)	(1.27)	(1.34)	(1.36)	(1.28)

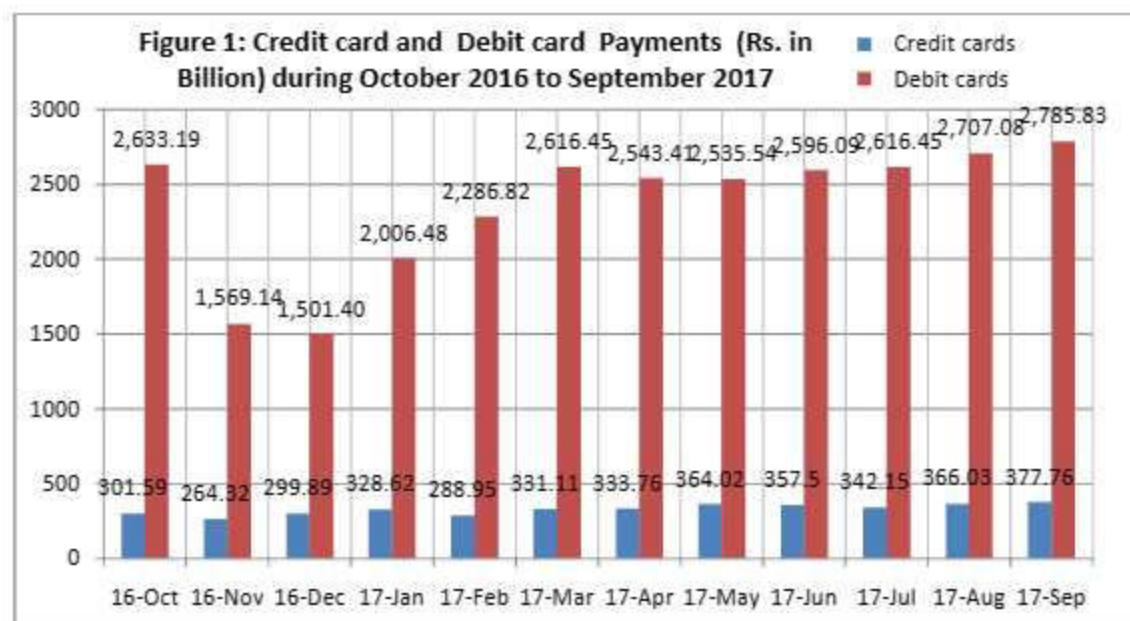
Prepaid Payment Instruments (PPIs)	103.71	106.69	85.07	98.56	102.88	109.77
	(0.048)	(0.047)	(0.037)	(0.045)	(0.046)	(0.045)
Mobile Banking	1,612.65	2,134.20	1,807.65	801.36	799.13	847.82
	(0.74)	(0.95)	(0.78)	(0.36)	(0.35)	(0.34)
Total	218267.88	225524.23	232748.52	221128.43	225693.4	246669.92
	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)	(100.00)

Values in brackets is percentage to total Source : RBI Bulletins

IMPACT OF DEMONETIZATION ON CREDIT CARDS AND DEBIT CARDS PAYMENTS

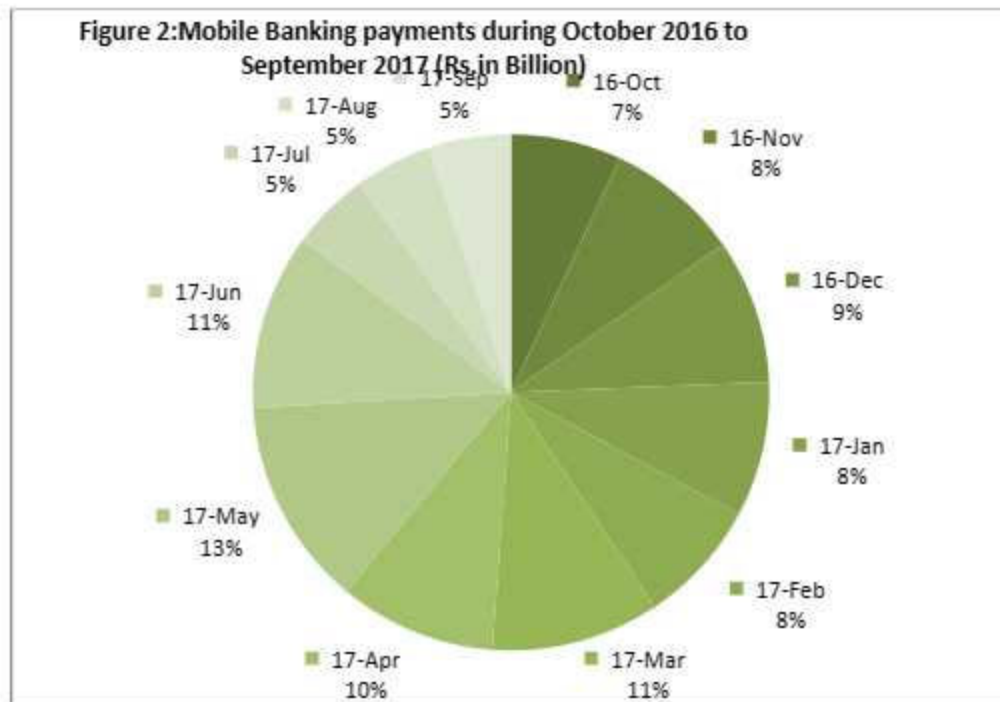
Figure 1 explains that, the credit card and debit cards change in payments during 12 months from Oct 2016 to Sep 2017. The credit cards payments are 301.59 billion Rs in Oct 2016 decreased to 264.32 billion Rs in Nov 2016 and increased to 377.76 billion Rs in Sep 2017. The debit cards payments are 2633.19 billion Rs in Oct 2016 decreased to 1569.14 billion Rs in Nov 2016 and in Sep 2017 it was 2785.83 billion Rs.

The increase of Credit cards Payments in Billion Rs. is 25.25% in Sep 2017 and Debit cards Payments in billion Rs. is 05.80% in Sep 2017 when compare to Oct 2016.



IMPACT OF DEMONETISATION ON MOBILE BANKING PAYMENTS

Figure 2 explains that, the change in the payments of mobile banking during Oct 2016 to Sep 2017. The figure shows the mobile payments in Oct 16 is 7% in 17 March, it was 11% in May 2017, it was 13% in Sep 2017 and it was 5% in between comparison of 12 months of mobile banking payments. The increase of Mobile Banking Payments in billion Rs. is 2.00 % in Sep 2017 when compare to Oct 2016.



FINDINGS

After the announcement of demonetisation, digital activity levels were low in the initial weeks as people were busy depositing/exchanging SBNs. However, in December 2016, digital payment activity increased alongside progressive remonetisation. The findings are mainly focused on impact of demonetisation on payment system of India in volume and value.

Growth of different payment transactions in million between October 2016 to September 2017.

RTGS: The difference of RTGS payments 2017 is increased to 0.60 in million transactions and RTGS payments share is decreased 0.06% in volume in transactions when compare to the total payment.

CCIL: The difference of CCIL operated system payment is increased 0.03 in million transactions and CCIL system payment share is decreased to 0.001% when compare to the total payments transactions.

Paper Clearings: The difference paper clearing payments was increased to 6.59 in million transactions and paper clearing payments share was decreased to 0.46% when compare to the total payments transactions.

REC: The difference REC payments was increased to 81.36 in million transactions and REC payments share was decreased to 0.97% when compare to the total payments transactions in million volume

Cards: The difference Cards payments was increased to 64.52 in million transactions and cards payments share is decreased to 6.1% when compare to the total payments transactions.

PPI: The difference PPI payments was increased to 113.39 in million transactions and PPI payments share is decreased to 4.57% when compare to the total payments transactions.

Mobile Banking: The difference Mobile banking payments was increased to 35.61 in million transactions and Mobile Banking payments share is decreased to 1.08% when compare to the total payments transactions.

The difference total payments were increase to 302.01 in million transactions.

Growth of Different Payments in Value in Billion Rs in between Oct 2016 to Sept 2017.

RTGS: The difference of RTGS Payments was increased 30176.36 Rs in Billions and RTGS payments share is increased 3.27% when compare to the total payments.

CCIL: The difference of CCIL Payments was increased 10,441.26 Rs in Billions and CCIL payments share is increased 23.32% when compare to the total payments.

Paper Clearing: The difference of Paper Clearing Payments was decreased 43.7 Rs in billions and Paper Clearing payments share is decreased 0.61% when compare to the total payments.

REC: The difference of REC Payments was increased 4990.94 Rs in billions and REC payments share is increased 1.04% when compare to the total payments.

Cards: The difference of Cards Payments was increased 228.81 Rs in billions and Cards payments share was decreased 0.18% when compare to the total payments.

PPI's: The difference of PPI Payments was increased 49.55 Rs in billions and PPI payments share is decreased 0.015% when compare to the total payments.

Mobile banking: The difference of Mobile Banking Payments was decreased 287.11 Rs in billions and Mobile Banking payments share is decreased 0.22% when compare to the total payment.

The difference of Total Payments was decreased 45,556.11 Rs in Billions.

Growth of Different Payments transactions in million (volume)

The increase of RTGS Payments was 7% ; CCIL Payments was 11%; Paper Clearings Payments was 07.5%; REC Payments was 23.49%; CARDS Payments was 6.25% PPI's Payments was 89.35%; Mobile banking Payments was 45.61% and The increase of Total Payments transactions was 17.98% in Sep 2017 when compare to Oct 2016.

Growth of Different Payments in billion rupees (value)

The increase of RTGS Payments was 30.93%; CCIL Payments was 12.68%; PC Payments was 0.68%; REC Payments was 46.94%; CARDS Payments was 0.78%; PPI's Payments was 82.28%; Mobile Banking Payments was 25.3% and Total Payments was 22.65% in Sep 2017 when compare to Oct 2016.

SUGGESTIONS

Based on the analysis and overview of the Indian payment system the suggestions are as follows

1. Government should take special care to increase card transactions, because in total transactions 61.41% are card transactions and crores of people are using cards for their payments.
2. The government should concentrate to increase mobile bank's usage mobile transactions increased in 35.61% million but in total transactions, the mobile bank's share decreases to 1.08%. Majority of the educated people of India are not able to use the mobile banking. The government should create mass awareness about mobile banking.
3. The Government of India should take initiation to promote movement from cash to non-cash modes of transactions like reduction in the merchant discount rate, POS fees and service tax relief on MDR for small transactions etc.
4. Providing an environment for development of a robust and easily scalable payment ecosystem from the advancements in technology.
5. Suggested that, make a policy for granting permission to banks for mobile banking and prescribing minimum security standards.
6. Suggested that, take care about removing roadblocks in penetration of payment technology.
7. Should take an action relating to grievance redressals of customers regarding to different payment systems of uniformity in processes.
8. Take measures to bring in behavioural shift of all the customers to maximum use of e-banking services.
9. It is suggested that, to crate confidence to the low level educated customers of in India regarding to safety and security of digital payments to maintain and enhance trust.
10. Suggested that, enhance the BHIM-Aadhaar Pay app services to make digital payments maximum at merchant locations, to all the customers.
11. Finally, the need for enhancing the payments and settlement systems to strengthen the consumer protection framework in digital payments in India is needed.

CONCLUSION

The central government made a bold step through demonetisation. It said cashless society is one of the objectives of the demonetisation is trying to create digital India. It takes care about to improve standards in payment system.

In particular, there is expected to be greater formalization of the economy with increased use of digital payments. The reduced use of cash will also lead to greater intermediation by the formal financial sector of the economy, which should, *inter alia*, help improve monetary transmission.

India already has in place one of the finest payment infrastructures in the world. The central government should take care about issues like connectivity, security and ease of transactions, data protection and user charges to maintain standards in Indian payment system.

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Chapter 14 - Recent developments in nanoencapsulation of bioactive compounds of microbial sources and their biomedical applications

Pitchika Gopi Krishna ^a, S. Kameswaran ^b, T. Sri Ranjani ^c, Y. Gunavathi ^a[Show more](#) [Outline](#) | [Share](#) [Cite](#) <https://doi.org/10.1016/B978-0-12-821406-0.00014-X>[Get rights and content](#)

Abstract

Encapsulation contributes to the protection of the functional properties of bioactive concepts, an improvement in bioavailability, a decrease in instability, and an improvement in chemical and thermal stability. It is achieved by encapsulation, the protection of bioactive concepts from oxygen, light or pH variations, concealment of unpleasant taste/aroma, controlled release, improvement of the solubility of lipophilic compounds in aqueous media, and the absorption of sustained nutrients. Nanoencapsulation is one of the encapsulation techniques that enables the processing of bioactive substances in nanoscale structures, providing protection for bioactive compounds, controlled release from the core, enhanced functionality and food safety, enhancing nutritional value and sensory attributes, and reducing expenses. The efficacy of delivery is affected by particle size and thus has been accomplished in the case of nanoencapsulation, controlled release and targeting of the bioactive compounds as well as better bioavailability than in the case of microencapsulation. In this chapter, we address recent advances in nanoencapsulation of microbial bioactive compounds and their biomedical applications.



Keywords

Nanoencapsulation; Nanoliposomes; Biopolymeric nanocarriers; Bioactive compounds; Enhanced functionality

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