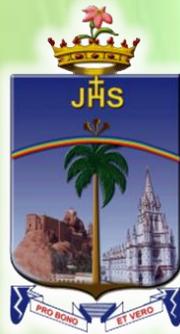


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RETELL

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

Vol. 17, April 2017



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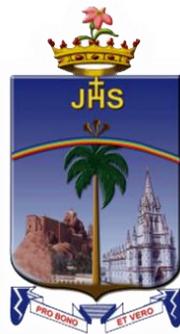
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From the Editorial Team

Intellectuals and scientists are calling on the youth to create a world where everyone has a sense of purpose by looking beyond their own needs. For, it is time for this generation to define a 'social contract', something in which everybody believes in giving everyone the freedom to pursue a purpose. To keep our society moving forward, we need to have a generational challenge to create a renewed sense of purpose. Scholarly youth announce their arrival on the altar of research armed with intellectual superiority and hard work. This is the bedrock of accreditation objectives of higher educational institutions animated by assessing bodies such as NIFR and NAAC. In their criteria of accreditation there are two cardinal principles that stand out – graduation outcome and research outcome. Together the two give out a measure of the torch bearers of an institution in the work place and research arena.

The prevailing structures of personal reputation and career advancement mean the biggest rewards often follow the quality of one's publications. The standards of an article must be underpinned by the quality of research input rather than the flashiness of the publishing journal. The incentives might be rational, yet, we do not always best serve our profession's interests, let alone those of humanity and society. This is where the so-called yardsticks such as impact factor, h-index and the like are increasingly coming under attack. Prestigious luxury journals that are supposed to be the epitome of quality, publishing only the best research – chiefly *Nature*, *Cell* and *Science* - have in the recent past retracted high-profile papers on one or the other grounds of plagiarism, unethical conduct of research mean or conflict of interests. "These journals aggressively curate their brands, in ways more conducive to selling subscriptions than to stimulating the most important research" (Randy Schekman, Nobel Laureate for Medicine & Biology 2013). Science is good, but there is bad science!

Leading researchers argue for scientific publications to be available to everyone for free. This open access view caused quite a stir, and has picked up steam since then. I am happy to note that the research products of the student scholars and postgraduates of St Joseph's see the light of the day in the form of RETELL. This augurs well for the beginners and students. How do we make the findings reach the larger society for use? It requires be publishing and indexing, with rewards for the contributors. Passion in scientific research is essential for worthy publication. Science is good!

**Dr L Arockiam,
Chief Editor**

**Dr Melchias Gabriel,
Associate Editor**

Epistle

I take pride in releasing the April 2016 edition of RETELL. It brings joy to the officials of the college and the scholars. I am proud of the young scholars who have contributed articles to this issue. Among a host of other things, publication is an art of telling the world the arrival of the scholar on the world stage of research. We encourage them to cultivate the habit of writing; and writing scholarly is a notch higher than doing research. The college on its part has come forward to publish their articles free of charge. At this juncture, I must also thank all the research advisors who motivated and embellished the articles of their scholars patiently. St. Joseph's feels proud to state that it has a very good team of researchers in almost all the disciplines. I gratefully recollect the team work put in by Dr G. Melchias, Dean - School of Biological Sciences for his dedicated service in bringing out this journal, inspite of his poor health. Along with a team of committed Editorial Board, he managed to bring out this issue within four months of the previous issue. I thank him for his hard labour. He is a great inspiration to me - a man who thinks creatively and works to achieve it tirelessly. In his tenure as the Dean, he has contributed a lot to the growth of the college. I thank him for all his contributions.

With all good wishes to the scholars and authors.

Rev. Dr. F. Andrew SJ
Principal

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What a Text is, is What it Does: A Critical Study of Rita Joe's "I Lost My Talk"

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Abstract

The paper admonishes the readers not to cultivate either Cain or Caliban complexes while reading Aboriginal literatures. The paper renders a critical appreciation of Rita Joe's "I Lost My Talk", and enables the readers to become aware of the issues the Indigenous people face in general and the Natives of Canada in particular. In the paper, the terms such as "Indians", "Aboriginal," "Indigenous", and First Nations" are used interchangeably with "Native".

Key Words

Aboriginal, Indigenous, Indians, Native, Half-breed, Cain and Caliban complexes, etc.

Introduction

Readers' reaction to literature is vital to interpreting the meaning of the text. But the readers need to approach the text of the Aboriginal writers with a sense of caution. Therefore, the readers of the poem "I Lost My Talk" should not try to belittle the pivotal plea of the poet by taking an indifferent stance as Cain towards his brother Abel. For example, the following words portray a complex characterized by rivalry, competition and extreme envy or jealousy which leads Cain to hate and kill his brother Abel. "And the LORD said unto Cain, Where *is* Abel thy brother? And he said, I know not: *Am* I my brother's keeper?" (<http://www.kingjamesbibleonline.org/>, "Genesis" 4: 9). Similarly, the readers should not try to find fault with the poet who takes the stance of Caliban towards Prospero who is an alien and has coveted his native land. Caliban is the original inhabitant of the island where Prospero, the former Duke of Milan and a learned magician, has been shipwrecked with his daughter, Miranda, for 12 years. Caliban says that Prospero teaches him language, and all he can do with it is that he damns Prospero for teaching him the colonizer's language! "You taught me language, and my profit on 't / Is I know how to curse. The red plague rid you / For learning me your language!" (*The Tempest*, Act 1, Scene 2, Lines: 368-370). In *The Tempest*, Caliban is depicted to be an uncivilized halfbreed from the colonizer's (Prospero) stance. But the fact is that coveting/colonizing the Natives' land is truly a dehumanizing brutal act.

What Prospero had done in the island of Caliban, England had done in India and in its former colonies through the British East India Company. In 1600, Queen Elizabeth I granted permission to the British East India Company to trade with India. William Shakespeare wrote *The Tempest* around 1610-1611. The European powers came to India initially with trading interest. They soon realized that political strength in India would easily help them amass wealth rather than just trade (Alam 1). In due course, they studied the political situation that prevailed in India and took advantage of it and started capturing territories. By adopting various means like war and treaties, the British consolidated their right to rule over the Indian territories (Grover 59). Thus, like Prospero in *The Tempest*, the British ultimately built a political empire on the soil of India.

Like the island of Caliban, Canada is the land of origin for Aboriginal peoples, and the history of Canada begins with them. As the first people of Canada, the Aboriginals' contributions to Canada's mosaic are unique. Thus, understanding of the First Nations societies of Canada is central to an understanding of the social fabric of this country. In the context of published Indians' literatures in English, the Indigenous voices are not noticed and listened to.

The readers lack knowledge of First Nations literatures. The readings of literatures from different Aboriginal cultures characterize a nation. The knowledge of the Aboriginals' past and present existence is enfolded in their oral traditions. The oral traditions of the Natives can also greatly influence Aboriginal literatures written in English. There has been no generally accepted standardization of (oral) Aboriginal languages. Sometimes several variants of the same names have been used in the Aboriginal literatures. Therefore, the readers should listen to or read the authors' commentaries as authoritative texts on Aboriginal literatures in culture-specific contexts of Canadian Native Literatures in English. The narrative comments along with the explanations, interpretations, and suggestions are meant to encourage the readers to fine tune to the frequency of the voice of the Aboriginals through the medium of their literatures, and engage themselves in a dialogue with these texts. For example, the telling title of a preface by Métis scholar and poet Emma LaRocque to an anthology of literature by Native women of Western Canada is "Here Are Our Voices - Who Will Hear?" An earlier autobiography *Halfbreed* written by Métis author Maria Campbell, published in 1973, is the seminal text drawing attention to Aboriginal writing in Canada (Jeanne Perreault and Sylvia Vance xv-xxx).

Aboriginal Literatures in Canada

In the history of every nation in general and Canada in particular, Aboriginal literatures remain untold for decades—even centuries—for all the wrong reasons of racism, marginalization, dishonesty, even censorship and all manner of media manipulation. Aboriginal authors write from the heart about the truth of living as a nation within a nation. Such literatures of First Nations transcend the psychological, geographical and linguistic borders and are universally accepted.

There is a variety of native literatures such as Mohawk, Okanagan, Métis, Cree, etc., because as writers move around, so do Aboriginal writers. Aboriginal writers cannot be pigeonholed because when one talks to the Aboriginals, the question where one is from is the most important in introductory identifications.

Language is a linguistic as well as a cultural entity of an ethnic group. Literature is one of the fundamental phenomena of identity which is embedded in language and culture. The use of the common denominator “Indian” for all Aboriginal peoples often overshadows the fact that the Aboriginal peoples of Canada are culturally diverse and that each cultural group produces its own literature.

All literatures are culture-specific, region-specific, language-specific, history-specific, and at the same time universal. The Aboriginal literatures are also pertinent to all Aboriginal cultures in Canada and around the world. They are also pertinent to all peoples universally. Indigenous writing emphasizes commonalities because the writers come from diverse regions, cultures and histories. What the entire galaxy of Aboriginal writers share is their connections to their homelands, their histories of colonization, genocide and displacement, and their will to survive and pass the treasures of their cultures to future generations.

Critical Study of Rita Joe’s “I Lost My Talk”

The poem “I Lost My Talk” which is penned by Rita Joe addresses one of the challenges the readers and the Natives face on the road to reading and comprehending Aboriginal literatures published in English. The poem acts as a medium for the poet to register her protest against the colonizers through their language. The poem may be considered an introduction to Aboriginal writing, as the central theme is about loss of language/culture/identity and voice in residential schools which pertains to all indigenous cultures of the world.

I lost my talk
The talk you took away.
When I was a little girl
At Shubenacadie school.
You snatched it away:
I speak like you
I think like you
I create like you
The scrambled ballad, about my word.
Two ways I talk
Both ways I say,
Your way is more powerful.
So gently I offer my hand and ask,
Let me find my talk
So, I can teach you about me.

This poem records the gentle but firm revolt of the poet against the disempowering effects of the Shubenacadie residential school in Nova Scotia, which creates a double danger: the school is run by the colonizers, who take away the Aboriginal language of the poet and they teach the settlers' language. The mentioning of the spoken language ("talk") should be read metonymically as referring to a way of life vastly different from that of a written culture. The oral traditions are "taken away" with the intension of silencing the medium of talking in their own language and making the Natives incapable of communicating their emotions, feelings and thoughts not only through their mother tongue but also through the language of the colonizer. The first statement brings the readers face-to-face with the colonizers' attempt to destroy the Natives and their rich and varied cultures, including their mother tongues. It echoes the angst and the poignant plea of the unborn child in Louis Macneice's "Prayer Before Birth", lines: 13-14: "... , my words, /when they speak me, / my thoughts when they think me, ... " (Green, 1974, p. 200).

The Natives are isolated from their families, and forced to undergo physical and sexual abuse, and punishment for any other kind of cultural expression, during their education in the settler-owned educational institutions which results in "a scrambled ballad." Native writers emerge to find their language and make it survive. It is worth-noting that Rita Joe repeats the word "talk" four times, though she refers to the term several times in the poem. But at the end of the poem, she herself does not talk but does write. It seems that she wants to make a point about the continuation of talk in the written word and thereby a statement about the continuation of her culture despite major disruptions. The readers need to be aware that the poem emphasizes the irreparable loss done to the spoken form of the poet's mother tongue. The speaker seems to be ashamed of the ideas that the colonizers speak through her in their language. Though the poem is composed in the colonizers' language, the humble gesture with which the poet reclaims her voice at the end: "Let me find my talk/ So I can teach you about me". These words can be considered an evidence that the poet genuinely takes efforts to reclaim her lost mother tongue. Though the poem does not fail to emphasize the loss, disempowerment, and victimization, the tone of the poem is self-assertive which indicates the angst of the poet to retrieve and restore her lost mother tongue.

Conclusion

Thus, the paper admonishes the readers not to cultivate Cain and Caliban complexes while reading Aboriginal literature. The critical appreciation of Rita Joe's poem "I Lost My Talk", increases the readers' awareness and understanding of one of the inevitable issues of the indigenous people.

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Lessons *of* Literature and the Lessons *in* Literature

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Abstract

The purpose of this article is to identify the reasons for the declining number of literature students in Singapore schools. Mirroring *The Straights Times* report which highlights that fewer students choose literature, this article questions the methodology of teaching literature in schools. Adapting language-teaching methodology to teach literature happens to be the major cause for this downfall. This article also attempts to show the reality of how English literature is taught in Singapore schools and why it is irrelevant to students today. Distinguishing the English language teaching from the English literature teaching, this article recommends some techniques as a corrective measure for holistic teaching of literature in schools.

Key Words

English language teaching, English literature teaching, techniques, corrective measures, appreciation of literature, etc.

Introduction

The method of teaching literature in Singapore secondary schools has changed dramatically over the years, from engaging the students with dramatic aspects of plays and dramas to making them learn the language through literary works. The treatment of literature has also differed from school to school. Some, like the secondary schools, have treated literature much like General English, while others, like the universities and Junior colleges, have allowed critical analysis of literature to have great joy and learning experience. This article will illustrate the present scenario of literature and explore their changing trends through time. While drawing parallel to English language and English literature teaching, it also proposes many different methods to teach literature to the young minds.

Literature that flourished in Shakespeare's England centuries ago might still enjoy its glory at least in some commonwealth countries today, but not in Singapore, a tiny city-state that finds its place in the list of countries that offer the best education in the world.

An article entitled "Fewer Lit students a worrying trend" in *The Straights Times* on August 24th 2015 detailed the pathetic state of English literature in Singapore schools.

First of all, one would argue how the subject English literature is taught in Singapore schools. Secondly, there is a question behind the reason why English literature is irrelevant to many students on this tiny island of five million people. One would wonder if there could be any ways to overcome this issue at all.

Today, the primary school English curriculum is fundamentally grammar based, and it prepares pupils to do well in their Second language exams, which is not an unacceptable practice. The focus is very much on LRSW - Listening, Reading, Speaking, and Writing skills, the usual norms and conventions in General English classes. But, what is really lacking here is creativity and innovation.

Because of the absence of a substantial focus on the appreciation of literature in the current English curriculum, the students are handicapped with the lack of appreciation of art, which results in a diminished view of the world and everyday life.

Shakespeare, as you know well, wrote his plays to be performed on stage so that the common people of that age would enjoy the theatre. No one, even Shakespeare himself, would have dreamt that his plays would be taught in classrooms as they are today in Singaporean schools. So, my concern is whether the teachers of English language or English literature at secondary schools treat his masterpieces, like *The Merchant of Venice*, as mere English textbooks rather than plays meant for theatrical performance.

On the other hand, I am sure that in universities, the works of Shakespeare are well accepted and understood, as the learners are matured enough and that the lecturers rather 'critically analyze' them in class, than just 'teach' them. Therefore, the cause of less interest among secondary schools students could be the way in which literary works are handled in a classroom environment at secondary school level (Ng 2013).

The question to ask here is, 'should we teach English literature in the same way as we teach the English language – looking for vocabulary and grammar? Why does the student in the article groan by saying, "I had to translate each page into modern English?"' (Lee 2015). I wonder if that was what the student was expected to do with the play! Is paraphrasing the text into modern English the objective of teaching Shakespeare in class?

The Merchant of Venice, being a comedy, should have interested this student and made her enjoy the comic elements more. Why hasn't the romantic or comic or tragic aspect of the play amused her? Why has Antonio's willingness to sacrifice his life for Bassanio or the witty Portia's encounter with Bassanio, or the cruel Shylock's demand of a pound of Antonio's flesh – and the disguised Balthasar's defense have all been eaten up by language or exam - oriented pedagogy?

The best possible way to overcome this hitch is to 'teach the teachers at this level to deal with it with literary flavour.' For example, periodical symposiums for literature teachers from commonwealth countries or more forums that facilitate

literary activities are a few of many possible ways that might help rescue these teachers.

The other plausible but long-term solution is to start inculcating the love for literature much earlier than – as early as the primary school level, when the pupils should be provided with short stories, dramas, and numerous creative activities of simple literature as part of their English lessons. Will they not enable pupils to think out of the box—on their own? Will they not help young ones fall in love with English literature—not merely for an exam, but for life? (Leow 2016).

Instead, right from the primary school, we focus on vocabulary, we drill on synthesizing, emphasize synonyms and antonyms, reading comprehension, essay writing, etc. – all of which will lead only to students doing well on their language exams. And that is precisely what both students and teachers aim for. Work sheet after work sheet is given to students right from Primary 1 to Primary 6 and beyond only to make them skilled in the language (Shipley 2015).

Such practice, undoubtedly, helps them pass the English language tests/exams, which is not all that bad, but it is so obvious that the purpose behind teaching English literature is lost to the overemphasis on English language, structure, grammar and vocabulary. If the same lesson, on the other hand, makes use of literature and exposes the grandeur of the English language (through literature), it will have a much better impact. Perhaps literature lessons should be the most enjoyable lessons, above all other lessons.

Once we introduce the young ones with this whole new world of literature, the children will start enjoying it. Besides, they will learn to appreciate nature—trees, animals, humans and all that coexists as part of their living experience. Have we not started our own lives with our grandmas’ faery tales and folklore? Will children ever forget the faeries and comic elements that are part and parcel of literary works? Will they not love them, instead of hating literature, even after they grow up? This love of theirs, I vouch, will surely be transformed into happiness, self-satisfaction and continue throughout their life.

Once children learn to appreciate things, they will learn to love them. Once they are tuned to do things they love, no one will feel stressed about whatever unfortunate events that may happen to them in their lifetime. Instead, they will only learn to accept them. Therefore, there should be utmost emphasis on literature at an early age! English, to them, must not mean just the English language or grammar, but English literature—so is it with the Tamil language, the Chinese language or the Malay language in Singapore or any other language in the world.

Through such works of art, the teachers can teach vocabulary, grammar, LRSW skills and much more. To quote Shakespeare, “Brevity is the soul of wit,” numerous political leaders such as Abraham Lincoln (“Gettysburg address”), Martin Luther King Jr (“I have a dream”), and Barrack Obama (“Change we need”) have made their speeches brief and they did serve their purpose – a simple

advice they adopted from Shakespeare. Many others like this mastermind, numerous dramatists, playwrights, novelists, poets, and other literary artists have been teaching the world from time to time through enchanting literary works.

The transformation that we are aiming at in Singapore may take a few years, but surely, they will yield better fruits in time to come. Our teachers may not be ready yet for such a literature-oriented teaching. They themselves would have been taught in the same grammar-focused way when they were young, as how they are teaching now, as professionals.

So, if we put more emphasis on simplified literature, (English Literature, Tamil Literature, Malay and Chinese Literatures) at primary level, students in the future will be both creative and innovative for sure. “But Singapore continues to lag behind its peers in innovation. Progress there will require schools that develop initiative and teamwork” (Bloomberg August 6, 2015).

Furthermore, the government should take steps to make literature relevant even after the pupils leave their schools by helping them access art programmes such as the plays and operas, which, at the moment, are available only to the elite. Any plays or art works or literary shows are unaffordable for a common man to watch.

So, on one hand, due to its alienation, the public has no clue about what literature is, or its use in society. On the other hand, one wonders why one should invest his or her time and money when they know well that they will only be dancing to the tunes of the elite minority.

Therefore, our society should be able to access shows of literary value, like plays, and the public should be able to afford them. In other words, everyone should be invited to taste literature in some way or another so that the public understands the value of it.

No stalwart in literature can define what literature is nor will they be able to give a clear definition for it. Perhaps that indeed is the nature of literature - it cannot be defined like mathematics or science, but it can be felt, cherished, enjoyed and carried along throughout life if it is fed rightly at the right time. If the Ministry of Education takes these suggestions seriously, not only will the future students alone enjoy literature, but also the whole of Singapore will be creative, innovative, imaginative, and the people will live happily ever after, as they say (Ng 2013).

Conclusion

Firstly, the method of teaching the subject of English literature in Singapore schools must change. Secondly, the students should find English literature relevant as the focus shifts from language to literature in class. The other solutions include inculcating love for literature at a young age by providing pupils with simple literature as part of their English lessons. Such practice not only helps them improve the English language, but also enables to be both creative and innovative. The government too has a role to play by making arts affordable to common man so that he understands the need and the value of literature.

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Thirumular's *Tirumandiram*: A Spiritual Treasure Trove

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Abstract

Tirumandiram, the seminal Saiva Siddhanta work by Tirumular is a Spiritual Treasure Trove. It contains information as to how one might live a divine life amidst worldly affinities. It beautifully blends the spiritual life and the mundane dimension of life and expresses a thread of unity that exists beyond the many differences of time, county, country, language, caste, religion, social status and emotional experiences. The aim of this research paper is to probe into the Spiritual treasures hidden in Tirumular's *Tirumandiram* and to highlight guidelines that *Tirumandiram* offers to human beings that they might have a healthy and constructive understanding of the human 'Self', its relationship with God and the created world i.e. Nature.

Keywords

Tirumular; *Tirumandiram*; Saiva Siddhanta; spiritual life; human 'Self'; God, Man and Nature.

Introduction

Thirumular's *Tirumandiram* is a seminal work in the Saiva Tradition of Tamil Nadu. It is also popularly known as the refined Tamil Agama (*Centamil Agamam*). Saiva tradition in Tamil Nadu has twelve *Tirumurais*.

Dr. R. Jegadeesan in the chapter titled "Tirumandiram kurum Valkkai Nerigal" in *Ilakkiya Pudupunal* states that The *Twelve Tirumurais* are called *tottirams* (stotras – devotional literature). They constituted the Bakthi Literature of Tamil Saivism. The philosophical literature of Tamil Saivism is called *cattiram* (sastras – philosophical treatises). Tirumular's *Tirumandiram* which constituted the Tenth *Tirumurai* enjoys the unique status of being both *tottirams* (stotras – devotional literature) and *cattiram* (sastras – philosophical treatises) (1).

The Form and Structure of Tirumandiram

Tirumular's *Tirumandiram* is voluminous with little more than three thousand stanzas written in Kaliviruttam metre, which is close to speech rhythm.

Dr. T. B. Siddalingaiah, in *Saiva Siddhanta in Historic Perspective* states that *Tirumandiram* is unique in its form and content. He also adds that the language

of Tirumandiram is simple but at the same time more difficult to follow because it uses symbolic language (50). Tirumular's *Tirumandiram* contains nine sections titled *tantiram*s. The length of the *tantiram*s varies and so do the subject matter. It is to be noted that the naming of the different sections of a work as *tantiram*s is not found in any other classical Tamil work other than Tirumular's *Tirumandiram*.

Tirumular: The Author of *Tirumandiram*

The biographical account of Tirumular is found in Cekkilar's *Periya-Puranam*, which give the life stories of all sixty- three Nayanmars (Saints of Saivism). Cekkilar's *Periya-Puranam* speaks of the life story of Tirumular under the title "Tirumula-deva Nayanar Puranam". Another account on the life of Tirumular is found in Nambi's *Tiruthondar Tiruvanandhi*. There is no much difference between the life history of Tirumular as stated in Nambi-yandar Nambi's *Tiruthondar Tiruvanandhi* Nambi-yandar and Cekkilar's *Periyapuram*. Nambi-yandar Nambi's *Tiruthondar Tiruvanandhi* precedes *Periyapuram*. *Agattiyar Vaittiya rattina curukkam – 300* presents the life history of Tirumular with variation. *Caturagiri tala Puranam* has many more additions to what is being stated about Tirumular in *Agattiyar Vaittiya rattina curukkam – 300*. All these biographical accounts on Tirumular has one thing in common that is the name 'Tirumular' was not the original name but a name that was give because of the act of the Siddha entering into the body of Mulan, a herdsman who died. Cundaran, the disciple of Nandi Devar transmigrated into the body of Mular, a resident of a village called Cattanur (Tiruvavaduthurai), in order to console the herd that was mourning the death of its herdsman. The rest of the legend is attributed to the play of Siva. The name of the Yogin in the body of Mulan became Tirumular. *Tiru*, the prefix in Tamil language means 'Holy'. The change in the name of the Yogin from Mount Kailash to Mulan denotes a transformation from one's mortal self into self which is detached from this world in all its aspects.

Tirumular's Purpose in writing *Tirumandiram*

Tirumular poured out his divine knowledge (Siddha-vidya) for the well being of all the people in the world. This idea is found in *Special Introduction* (In Praise of God), Verse 85) of *Tirumandiram*:

All the world may well attain the Bliss I have
Received
If the name of the lord chanted by the great ones
is repeated ... (14)

So, it may be deduced from the above verse that the ultimate purpose of Tirumular in writing this monumental work is Bliss to Humanity at large. It also proposes means to attain Bliss or Realization which is to chant the name of the Lord with utmost devotion, as done by the realised beings [*Special Introduction* (In Praise of God, Verse 85) of *Tirumandiram*] (14). The verses that were uttered by

Tirumular were considered to be a garland of holy hymns which in Tamil language meant “Mandira Maalai” (*Special Introduction* (In Praise of God), Verse 86) of *Tirumandiram* (14).

***Tirumandiram* in its essence is ‘Divine’**

Devanathan, the author of the book *Tirumularin Tirumandiram* which is subtitled *Kalladavarkaluku arivaiyum, katrvarkaluku thelivayum valangakudiya karuthu karuvulam* (A Knowledge Treasure that would impart knowledge to the illiterates and wisdom to the literates) states that Tirumular was a blessing to Tamil Language but Tirumular was humble enough to state that God blessed him to sing his praise in Tamil Language. This virtue ‘humility’ is a sure sign of Sainthood. In this line, one can state without any doubt that Tirumular is a Saint (13). According to Devanathan, the author of the book *Tirumularin Tirumandiram*, the nature of *Tirumandiram* is Divine. If one chants the verses of *Tirumandiram* meaningfully with full awareness, one is sure to reach God (13). *Special Introduction* (In Praise of God), Verse 99 of *Tirumandiram* has been cited by Devanathan to affirm his claim.

Three Thousand Holy Hymns, Mula in Tamil
composed,
Did he, Nandi, reveal for all the world to know,
Those who wake early at dawn and sing
understanding the meaning
Will win the splendid soft repose
Of the Bosom of the Lord. (15)

Thus, *Special Introduction* (In Praise of God), Verse 99 of *Tirumandiram* stands as a clear example for the altruistic spirit of Tirumular. Tirumular is ‘other’ centered in his approach. His Mysticism delves deep into his inner self and drinks deep into the realms of spirituality and surfaces to reach out to alleviate the sufferings of fellow human beings, which is mainly due to avidya or ignorance.

Uniqueness of *Tirumandiram*

Tirumandiram is philosophic and is called *Agamantam* in Saiva Siddhanta tradition. In Saiva Siddhanta tradition, Siva can be reached through two ways. The first way is theistic or the method of Bakthi which believes in personal god and devotion as a means to reach god, the second way is the method of Tantric which believes is yoga tantra as means to reach God.

T. N. Ganapathy, the author of the book *The Yoga of Siddah Tirumular* in his Preface to the book states that that *Tirumandiram* can be viewed in two ways: theistic and absolutist. Theistic way of looking at *Tirumandiram* would mean that it can be seen as a sacred work that deals with a personal or devotional relationship to God based on the method of bhakti and absolutist way of looking at *Tirumandiram* would mean that it can be seen as a work that deals with Tantric form of reaching God based on Kundalini-Yoga and jnana Yoga (xvii).

The word 'tantiram' in Sanskrit meant elaborate statement. It meant Agama or Scripture that has come down from tradition. Each *tantiram* contains several adhikarams (sections) which show the method of attaining the state of Bliss. There are 232 adhikarams in all. The whole work has been classified into three parts namely – *tantra*, *mantra*, and *upadesa*. The first three *tantirams* of *Tirumandiram* deal with Karma; the second three *tantirams* deal with *upasana* or worship; and the last three tantirams deal with jnana.

The usage of the term 'Tantiram' in *Tirumandiram* is unique as no work earlier to *Tirumandiram* had used it. Tantra is all-inclusive term in the sense that it is meant for all human beings. There is no discrimination on the basis of gender, caste or race. While Brahmanical and Vedic religions believe in social stratification on the basis of castes and their respective pursuits, Tirumandiram does not do so.

Treasures embedded in *Tirumandiram*

Tirumular's Tirumantiram which is divided into nine chapters, 9 tantras (tantirams) communicates the following information to the believers:

1. Philosophical views and divine experience, impermanency of the physical body, love, education etc.
2. Shiva's glory, His divine acts, classification of souls etc.
3. Yoga practices according to the eight-angled way of Patanjali.
4. Mantra, tantra, etc.
5. Various branches of Saiva religion; the four elements of Shaiva Siddhanta.
6. Shiva as *guru* bestowing grace and the devotee's responsibility.
7. Shiva Linga, Shiva worship, self-control
8. The stages of soul experience.
9. *Panchadsara manthiram*, Shiva's dance, the state of Samadhi, etc.
10. "Our body is temple, the breath is Siva, Nanthi, Natha and all" (Ganapathy 36-40). The Verses in *Tirumandiram* have a unique metrical structure, each line consisting of 11 or 12 syllables depending on the initial syllable.

Three Mahavakias enunciated in *Tirumandiram*

In a single reading of *Tirumandiram*, a reader can arrive at the following three great statements:

- The first great sentence is that *Love is God* (Verse 270, Tantra 1).
- The second great statement is the desire of Tirumular that all the beings in the world attain the bliss that he has received (*Special Introduction* (In Praise of God), Verse 85) of *Tirumandiram*).
- The third great statement is that the whole mankind is but one family and that there is only one God (Verse 2104, Tantra 7).

All these three statements seem to center on Love which is nothing but Bliss. This Love or Bliss can be attained by anyone irrespective of any segregating aspects. Bliss or Oneness with God can be attained through Yogic practice which demands doing away with egoism. To curb egoism, one must embrace all human beings as one's own kith and kin. The basis of union or yoga is Love. Tirumular is firm in stating that Siva can be attained only through Love. Thus, Tirumular's *Tirumandiram* can be seen as Siva Yoga. It is a process by which the jiva identifies itself with the Supreme Being i.e. Siva.

Tirumular is a God Mystic

Tirumular is a Mystic who sees God as a being which encompasses all beings. God pervades in all beings, henceforth, he is fully present in Nature and Human Beings. Verse 31 in the section Special Introduction (In Praise of God) of *Tirumandiram* affirms the presence of God in all created beings. Thus it asserts the mysticism of Tirumular to be God Mysticism.

The Earth is He, the sky is He! Well He be!
The Heaven is He, truest gold is He! Well He be!
Sweetest song's inmost rapture is He!
Him my love besought, from heart's central core. (07)

'God' according to *Tirumandiram*

Tirumular's *Tirumandiram* is considered to be a Saiva Siddhanta Classic. It is a pioneer work on Saiva Siddhanta tradition too. The four Saivite saints, Appar, Cambandar, Cundarar and Manikavachagar may be considered as religious men, Tirumular may be called the man of spirituality (philosophy). The four Saivite saints worshipped God as Siva in various temples situated in Tamil Nadu. They have sung poems in praise of gods and goddesses of various temples. They fell in line with Nayanmars and Alvars. They believed in personal god and intimacy with god whereas Tirumular is different from the above said religious men in this aspect. He believed that that god is abstraction. For him Sivam is "It" or "Adu" or "Thatness" or "Suchness" or "Paraparam". So Tirumular believed in impersonal god.

Non-dual concept of 'Soul' in *Tirumandiram*

Tirumular's *Tirumandiram* insists on the non-duality of human soul and supreme soul. Tirumular in the opening verse in Tanta One of *Tirumandiram* speaks of Non-duality of the Soul. He tells that the God descended into human body and helped the human soul which was a part of his self to face the dictates of karma by showering grace. The intimacy experienced by the encounter of the supreme soul and the human soul in the deep recess of human heart is termed as Bliss or Rapture (Verse 113 Tantra 1) (18).

Relationship between God and Man in *Tirumandiram*

Tirumandiram speaks of the relationship that exists between God and man. Verse 432 and 433, Tantra 2 of *Tirumandiram* states that Siva is the Primal One, the

architect who fashioned a framework and clothed human beings flesh and skin and blessed them with sweet life. The sense organs were subtly inbuilt and the body was endowed with mind and the power of cognition and wisdom to discriminate between good and bad. Thus human beings and human body was the artefact of God, well fashioned and executed. Thus, ever human being is precious and has moral responsibility to preserve the physical body because it has treasures unfathomable that God has enshrined. (67)

Celebration of human body in *Tirumandiram*

Tirumandiram is a unique Saiva Siddhanta text because it celebrates human body even when it affirms the fact that the nature of human body is transitory. Tirumular speaks of Body as a bag (Kaayapai) which contains many ingredients. Body contains within it another bag that is Maya bag. When the air or jiva leaves the body like a thief the Maya bag becomes like dust. The analogy of air leaving the body bag to a thief secretly entering in the house and leaving swiftly without the knowledge anybody is startling down to earth. It is utilising common day happenings to drive home some great truth, in this context it is teaching the devotee the truth that air or jiva may leave the body anytime. Thus, Tirumular like any other enlightened being disown body in favour of the spirit. (Verse 2122, Tantra 8) (332). The verse quoted above conveys an idea that is communicated by another Siddha song, "Kaayamae Idhu Poiyada/ Verum Kaatradaitha Paiyada" (The human body is just an illusion and it is just an air filled bag, empty and useless), which is often cited by religious leaders to teach their followers to disown their body in favour the spirit stating that the body is transitory.

Tirumular, who like all other Siddhas despised Body initially realising that God resides within, started celebrating the Body because it was the Sacred Vessel that contained the spirit of God and it was the temple that housed the Lord of Life.

Time was when I despised the body;
But then I saw the God within
And the body, I realised, is the Lord's temple
And so, I began preserving it
With care infinite. (Verse 725, Tantra 3) (114)

Tirumular after attaining the supreme realization that the body is the temple of God began to think in this line "Kaayamae Idhu Meiyada/ Adhil Kannum Karuthum Vaiyada" (The body exists in reality, so take the utmost care to maintain it carefully). Tirumular in verse 1785, Tantra 7 of *Tirumandiram* foretells that the people who have realised that their heart is Siva's temple by means of breath control and concentration are the ones who would enjoy the company of the saints who die to this earth and reborn to eternal life, people who lack this awareness are sure to be in the company of ghosts of the dead who are eternally damned. (279)

‘Means to Spiritual Progress’ advocated by *Tirumandiram*

Tirumular presents Yoga and breathing exercise as means to live healthy and live as long as 166 years in verses 727 and verse 728, Tantra 3 of *Tirumandiram* (114). Yoga demand breath control and concentration. The yoga that Tirumular upholds is Kundalini Yoga. God according to Kundalini Yoga is seated on a thousand petals Lotus on the Siras (head) and he could be reached through breath control and concentration (Verse 796, Tantra 3) (125).

God is seen as the breath that human beings inhale and exhale. The process of inhaling and exhaling air happens naturally most of time human beings are completely unaware of the movement of air into their body and movement of air out of body. Concentration and awareness are essential for following the movement of the air inside of one’s body. Tirumular tells that Nandi like the air the air we breathe in and out is subtle. The subtlety of Nandi is compared with the fragrance that is within flower by analogy. Singleness of thought is the means by which one can realise god within oneself and end the cycles of births and deaths (Verse 1460, Tantra 5) (226).

Tirumular considers Yoga Tantra as the supreme means to keep one’s body healthy and realise the God within. Grace of God dawns upon the Yogis when they course the Kundalini through the six centres, sitting immovable, and concentrating on the single aim. “The word kundalini generally refers to that dimension of energy, which is yet to realize its potential. There is a huge volume of energy within you which is yet to find its potential. It is just there waiting, because what you call as a human being is still in the making” says Yogi and mystic, Sadhguru. (<http://isha.sadhguru.org/blog/yoga-meditation/demystifying-yoga/kundalini-awakening/>). The Six Centers through which the kundalini travels are as follows:

Muladhara: coccyx, base of the spine, at the perineum

1. Svadhistana: sacral plexus, genital area
2. Manipura: solar plexus, navel center
3. Anahata: cardiac plexus, heart center
4. Visshuddha: thoracic plexus, throat center
5. Ajna: pituitary center, eyebrow center
6. Sahasrara: crown of the head

In Verse 1462, Tantra 5 of *Tirumandiram*, Tirumular tells that neither mantra, nor song, nor the sixty-four arts can sever birth and its bonds, but Yoga. Yoga is the supreme way to the Sublime and the yogic practices turn a person into a true tapasvin. Yogi realises God in Single-mindedness and becomes one with the heavenly beings.

Wavering in thought while doing yoga will lead one into the world of darkness says Tirumular in Verse 1463, Tantra 5 of *Tirumandiram* (227).

Conclusion

Tirumular's *Tirumandiram* is a Spiritual Treasure Trove that presents ways and means to attain oneness with Siva through Siva Yoga gaining the supreme realisation that one can live a divine life amidst worldly one. It beautifully blends the spiritual life and the mundane dimension of life and expresses a thread of unity that exists beyond the many differences of time, county, country, language, caste, religion, social status and emotional experiences.

Disclaimer: This research paper is not comprehensive but an attempt to give a glimpse of what Thirumular's *Tirumandiram* is all about.

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“As Made These Things More Rich” (Hamlet): The Linguistic Influence of Shakespeare

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Abstract

The fragrant smell of William Shakespeare, propelled through the composed words of his sonnets and plays, has enriched world literature and culture. Shakespeare's influence is well recognized and clear. In the field of linguistics, Shakespeare's inspiration has also been rightly noted. Especially in (but not limited to) the West, Shakespeare has influenced the language. A complete linguistic analysis of Shakespeare would be both comprehensive and narrow, and beyond the researcher's intended choice for this paper. Instead, the researcher will focus on two specific areas. The first discusses Shakespeare's use of metaphor becoming Megaphor. The second discusses Shakespeare's influence on English language and culture.

Introduction

...[W]ords of so sweet breath composed
As made these things more rich.

Ophelia, *Hamlet* III: i

The sweet breath of William Shakespeare, propelled through the poised words of his sonnets and plays, has improved world literature and culture. His influence is well documented and clear. In the field of linguistics, Shakespeare's influence has also been duly noted. Especially in (but not limited to) the West, Shakespeare has influenced the language.

A complete linguistic analysis of Shakespeare would be both comprehensive and deep, and beyond the researcher's intended scope for this paper. Instead, the researcher will focus on two specific areas. The first discusses Shakespeare's use of metaphor becoming a *Megaphor*. The second discusses Shakespeare's influence on American English language and culture.

Shakespeare as Megaphor

Most linguists agree that analogic thinking is much more significant in language creation, development and use than previously considered. Part of this analogic thinking is the use of metaphor. Metaphors “[are] not just figures of speech in

literature,” Ungerer and Schmid write, “but also pervasive in everyday language” (117).

In English, Shakespeare is a master of such language. Consider the following examples from Shakespeare’s sonnets that use the metaphor of *eye* (which also include the use of metonymy – a special type of metaphor where the one phrase or word substitutes for a larger concept):

Sometimes too hot the eye of heaven shines,
And often is his gold complexion dimmed. (sonnet 18, lines 5-6)

Lo, in the orient when the gracious light
Lifts up his burning head, each under eye
Doth homage to his new-appearing sight
Serving with looks his sacred majesty. (sonnet 7, lines 1-4)

Mine eye and heart are at a mortal war
How to divide the conquest of thy sight. (sonnet 46, lines 1-2)

(Ungerer 114)

Whether *eye* is meant to be the sun, or a concept of vision greater than the speaker’s ocular capability, Shakespeare shows the power of figurative language. While people may not speak in a poetic pentameter in everyday speech, metaphor is predominant in people’s conversation. We cannot speak long or well without metaphor.

Consider this well-known metaphor, from *Romeo and Juliet*:

That which we call a rose
By any other name would smell as sweet. (II: ii)

People recognize the metaphor as more than speaking about flowers in general, or roses specifically. The researcher uses it to show the importance of Shakespeare in our language.

For illustrative purposes, imagine a set of concentric circles. Let us start with the innermost circle. Here, we find the *contextual metaphor*. In this particular moment of the play, Juliet is speaking of Romeo (and Romeo overhears her speech). She laments the fact of their families’ quarrel. While Juliet regrets that she is a Capulet and Romeo a Montague, she sees that Romeo is more than a Montague, or any name: “Thou art thyself.” This is the meaning of the metaphor in its “literal,” scene-specific sense.

Go one circle out, and we see the *general metaphor*. Divorced from its specific context, the phrase still retains its usefulness. With wonderful poetic compaction, it shows that what of a thing (in the metaphor, its “smell”) remains constant even if it is identified by another label. Consciously, this is the level we *think* we are at when we commonly use the phrase.

But there is still one more circle out, and here is where Shakespeare’s eye shines. On this level, “A rose by any other name would smell as sweet” is more than its

contextual or general use would suggest. When the phrase is used, anyone even remotely knowledgeable about Shakespeare has multiple points of familiarity. From a functional, conscious point, we of course analyze the words and recognize the general metaphor. But because of Shakespeare's predominance, most have (however brief, or subconscious) a recognition that it is *Shakespeare's* words; a significant number know it is from *Romeo and Juliet*; a small number know it as a contextual metaphor and can recall the act and scene where it is spoken. We think not only of roses, or whatness, but about an Elizabethan author and characters who die for love. Our implicit knowledge of Shakespeare colors our perception, and therefore our use or reaction, to the metaphor. This "implicit knowledge" comes from our common culture, one in which Shakespeare features prominently. Therefore, "a rose by any other name would smell as sweet" pushes several buttons at once, and rises to the level of a *cultural metaphor*, or in one word (in my definition of it), *megaphor*.

Yet Shakespeare still rises further! Taken as a body of literature, the only other written words more influential than Shakespeare in the West is the Bible itself. In the secular world (in- and outside of the West), it remains unchallenged. Shakespeare's text becomes *the* Megaphor of our common humanity.

Do we overstate Shakespeare's importance? Here, entering on stage left, is Harold Bloom. Although he confesses to be a worshipper at the Bard's feet, he presents in elegant prose the argument that we can only risk *understating* Shakespeare's influence. In fact, he argues that Shakespeare invented the Human! His characters have claimed a deified status, an "inwardness" (6) that make them unique: "More even than all the other Shakespeare prodigies . . . Falstaff and Hamlet are the invention of the human, the inauguration of personality as we have come to recognize it" (4). "After Jesus, Hamlet is the most cited figure in Western consciousness," Bloom writes. "No one prays to him, but no one evades him for long either" (xxi). Other authors before and during Shakespeare's time gave us "eloquent caricatures, at best, rather than [the] men and women" that populate his own plays (7). We are an audience molded in the image of its Author:

Shakespeare teaches us how and what to perceive, and he also instructs us how and what to sense and then to experience as sensation. Seeking as he did to enlarge us, not as citizens or as Christians but as consciousnesses, Shakespeare outdid all his preceptors as an entertainer. (18-19)

In short, the Bard "extensively informs the language we speak" (17).

For the researcher's part, Researcher believes Bloom's claim that Shakespeare invented the human is perhaps a slight exaggeration. But of Shakespeare's influence, there is no doubt. To paraphrase Bloom: Shakespeare may not have invented the metaphor, but he invented the secular idea of megaphor, and *is* the Megaphor for our collective culture.

Shakespeare, “The Great Author of America”

The researcher now turns to Shakespeare’s influence on American English. First, we must establish the influence of Shakespeare on American *culture*, and therefore it is important to put the history of Shakespeare and early America into context. Many people have forgotten (or never knew) the importance of the Bard on “pop culture” in America’s nineteenth century. Today, the common perception is that only elite academics can truly understand and enjoy Shakespeare, while the vulgar rabble may understand bits and pieces (often using his words and phrases, as we discussed above), they at best only appreciate (rather than love) the Bard. This belief exists as an eternal truism, and is therefore false on two fronts. First, the American “vulgate” of today do enjoy Shakespeare (as cinematic examples of proof, see the success of *Romeo + Juliet* [1996] or *Shakespeare in Love* [1998]). Second, for most of the nineteenth century, Americans could not get enough Shakespeare.

“[F]rom the large and often opulent theaters of major cities to the makeshift stages in halls, saloons, and churches of small towns and mining camps,” Lawrence Levine writes, “... Shakespeare’s plays were performed prominently and frequently” (20). In the 1880’s, Karl Kurtz (a German visiting the United States) said:

There is, assuredly, no other country on earth in which Shakespeare and the Bible are held in such general high esteem as in America ... If you were to enter an isolated log cabin in the Far West and even if its inhabitant were to exhibit many of the traces of backwoods living ... you will certainly find the Bible and in most cases also some cheap edition of the works of the poet Shakespeare.

(qtd. in Levine 17-18)

Shakespeare was intimate and familiar to Americans, and not to just some city folk in the Northeast. We not only enjoyed him, we embraced the Bard as our own: “James Fenimore Cooper ... called Shakespeare ‘the great author of America’ and insisted that Americans had ‘just as good a right’ as Englishmen to claim Shakespeare as their countryman” (20). Parodies of Shakespeare’s work abounded in the nineteenth century – something only possible if a great number knew Shakespeare’s work to get the joke. Bardolators of today may look back in horror that Shakespeare was often performed alongside the playbill with dancing dogs, jugglers, and minstrel shows. People argued in print and in the streets whether the emotional Edwin Forrest was a better American Shakespearean actor than the cerebral Edwin Booth, with the same passion that sport fans argue on talk radio today. Indeed, the 1849 Astor Place Opera House Riot occurred because of such passions. While across town, Edwin Forrest’s *Macbeth* was getting raves, the Englishman William Charles Macready’s *Macbeth* was getting boo’ed at Astor Place. His “aristocratic demeanor” annoyed the audience (63). Macready wanted to end the run of the production, but was persuaded to stay by people such as Washington Irving and Herman Melville. On May 10, eighteen

hundred people packed Astor Place while ten thousand stood outside. A riot broke out, killing twenty-two people and injuring one hundred and fifty more (63-64). This is how much Shakespeare meant to Americans! Levine sums it up thus:

Shakespeare was performed not merely alongside popular entertainment as an elite supplement to it; Shakespeare was performed as an integral part of it. Shakespeare was popular entertainment in nineteenth-century America. (21)

With Shakespeare's influence on American culture assured, do we see the same kind of influence on American English? Yes. "Early modern English was shaped by Shakespeare," Bloom tells us (10), but American English was shaped as well. We see this in two areas.

The first is grammatical fallacies. These fallacies are often pointed out by critics of American English (and English in general) as examples of our laziness and inability to be accurately articulate. However, Shakespeare himself used these same "wrong" constructions:

- "*You and me*" is correct, "*You and I*" is not. "Yet around 400 years ago," Aitchinson writes, "in Shakespeare's *The Merchant of Venice*, the merchant Antonio says: 'All debts are cleared between you and I,' so breaking the supposed 'rule' that *you and me* is the 'correct' form of the after a preposition" (16).

- *Double negatives are wrong*. For emphasis, however, it seems accepted: "most scholars agree that the more negatives there were in a sentence, the more emphatic the denial or rejection" (Cheshire 120):

I have one heart, one bosom, and one truth
And that no woman has; nor never none
Shall mistress be of it, save I alone.

(*Twelfth Night*, III: i, qtd. in Cheshire 120)

- "*It is I*" is correct, "*It is me*" is not. It is Latin grammatical constructions that make "It is me" seem incorrect. But both forms are used in *Twelfth Night* (II.v):

Malvolio : You waste the treasure of your time with a foolish
knight –
Sir Andrew : That's me, I warrant you.
Malvolio : One Sir Andrew.
Sir Andrew : I knew 'twas I, for many do call me fool.

(qtd. in Bauer 134)

When elitists bemoan American English as ungrammatical, we can see they are only following in the footsteps of that most influential author.

The second area where Shakespeare shapes American English is in our supposed "pure" language ancestry. Here, the influence is based on myth instead of fact, yet that does not diminish the importance Americans place on Shakespeare. In "In the Appalachians They Speak Like Shakespeare," Michael Montgomery

tackles this myth and reveals it to be false: “Two things in particular account for its continued vitality: its romanticism and its political usefulness. Its linguistic validity is another matter” (67). Montgomery cites several reasons why it is invalid; there is little evidence it is true, the little evidence that exists is not persuasive (70), and one incontrovertible fact:

Shakespeare and Elizabeth I lived 400 years ago, but the southern mountains have been populated by Europeans for only half that length of time ... Since no one came directly from Britain to the Appalachians, we wonder how they preserved their English during the intervening period. (71-72)

The myth persists, however. The fact that so-called uneducated rural dwellers would want to identify with Shakespeare show how much Americans revere and want to identify with him, even in the “backwoods” of the United States.

Conclusion

One can see the incredible linguistic influence Shakespeare has on the West, particularly English-speaking people. By the wealth of his text, and his excellent use of metaphors, Shakespeare has become the all-embracing Megaphor that permeates our language today. In addition, American culture and language owe a particular debt to the playwright and poet; no other country outside of England has so loved the Bard and made him an adopted son. This short research paper cannot expect to be definitive. Nevertheless, the researcher hopes that it has been successfully shown an introductory exploration into these two issues from a linguistic perspective.

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A Borrower Who Lives Forever: An Enquiry into the Sources of Shakespearean Plays

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Abstract

Shiv Kera in his book *You Can Win: A Step by Step Tool for Top Achievers* says, "Winners do not do different things, they do things differently". This paper is an attempt to prove that Shakespeare is a winner in the empire of literature not by writing different plays but by presenting the existing plays differently. When Shakespeare was charged with debts to his authors, Landor replied, "yet he was more original than his originals. He breathed upon the dead bodies and brought them into life". To prove this point, we turn the annals of history and find out the sources or dead bodies of his plays upon which he breathed and brought into life. As he presented the borrowed plots differently, he lives forever in the minds and hearts of the people.

Keywords

Craft of Borrowing, Creative Presentation, the black cats, imperceptible circumstances, etc.

Introduction

Usually, a borrower will live only for an hour in the empire of literature for the black cats, known as critics, in the kingdom of literature, will kill him. But how does Shakespeare live forever even when the plot of his each play was borrowed from other sources? Answer lies in the book of Shiv Kera's "*You Can Win: A Step by Step Tool for Top Achievers*" in which he says "Winners do not do different things, they do things differently". Shakespeare is a winner in the empire of literature not by writing different plays but by presenting the existing plays differently. In V. Lakshmanan's view "Ben Johnson's remark that Shakespeare is 'not of an age, but for all time' sums up the universality and timelessness of Shakespeare (1). According to Holderness, "For Shakespeare, The world is a stage, History a plot, Kings dramatists, Courtiers actors, Commoners audiences and speech itself the dialogue and script that gives breath to all the rest" (121). Brain Vickers opines, "It is by selecting imperceptible circumstances that Shakespeare painted the passions than any other writer" (67).

The Craft of Borrowing and the Art of Creative Presentation

Shakespeare was born in 1564 at Stratford-on-Avon in England. It is appropriate at the beginning to say something of Shakespeare's knowledge of foreign

language. Shakespeare is defined for us by his plays, says Hyland Peter (3). He acquired a reasonable knowledge of Latin and perhaps a smattering of Greek. Shakespeare made use of translations. But he did not accept them slavishly and there is plenty of evidences that he read Latin works of which there was no translation- two plays by Plautus, Buchanan's and Leslie's works on Scottish history and a Latin version of poems in the Greek anthology. There are evidences to tell that Shakespeare had read some of Seneca's plays in the original as well as the Tudor translation of the Ten Tragedies. The absence of Latin quotations in the later plays may simply indicate that Shakespeare came to know the inability of the audience to grasp them.

The influence of certain books on Shakespeare's works has been proved. The Bible left its mark on every play in the cannon- the Bishop's Bible and the Geneva version. The first scene of *Measure for Measure* is taken from St. Mark's Gospel. It is certain that as an actor Shakespeare was acquainted with a large number of plays in which he took part. Although he did not act in Marlow's plays, he echoed Tamberline, Dido and Edward II; he quoted from Doctor Faustus in *Troilus and Cressida*; he quoted a line from *Hero and Leander* in *As You Like It*.

Shakespeare learnt a good deal from other University wits, and their pioneering works reduced the period of his apprenticeship. He had read several of Greene's works, including his two novels, *Menaphone* and *Pandosto*, and two of the coney-catching pamphlets. Greene's heroines served as models for Shakespeare's *Cymbeline* and *The Winter's Tale*. The wronged wives, Imogen and Hermione forgive their husbands, as Greene's heroines in novels and plays do. There is some evidence that Shakespeare had read some of the Nazhe-Harvey controversy, as it left its traces on *Love's Labour's Lost*. He was clearly influenced by Thomas Kyd's most famous play *The Spanish Tragedy*, the revenge play that provided a model for the original *Hamlet*. In the opinion of Kenneth Muir "Thomas Lodge gave him the plot of *As You Like It* and a few phrases in *Richard II*" (8).

Shakespeare knew most of Sydney's work, including *Astrophel and Stella*, *The Defence of Poesy*, and *Arcadia* and most of Daniel's *Delia*, *Rosamond*, *A Letter from Octavia*, *Cleopatra*, *The Civil Wars* and *The Queens Arcadia*. Shakespeare combined a variety of different sources in the texture of his verse, and the process in most cases, was apparently unconscious. Shakespeare's method of composition differed from play to play. For some of his plots he seems to have used only one source, but generally speaking, he combined two or more.

He borrowed ideas for his early plays from the following sources. *The Comedy of Errors* has its basis in the two Plautine comedies - *The Menaechmi* and *The Amphitruo*. The main plot is taken from *The Menaechmi*, in which one of the twins, Menaechmus Surreptus arranges to have dinner with a courtesan named Erotium. Menaechmus Sosicles is taken for his brother and gets a meal instead. Peniculus, a parasite who shared the meal, exposes Menaechmus to his wife. Eventually all is explained. Shakespeare begins his play with a scene from the story of Apollonius of Tyre in which Ageon explains how he lost his wife and

sons. The ultimate source of the play *The Two Gentlemen of Verona* was *Diana* by J. De Montemayor, which Shakespeare could have read in a French Translation or possibly in B. Yonge's English version not published until 1598. The central situation is similar to that of *The Two Gentlemen*: Felismena dresses as a man and finds that her lover Felix is wooing Celia, becomes his page, and is sent with a letter to Celia who falls in love with the messenger. Celia dies and Felix and Felismena eventually marry.

There are three theories about the relationship of Shakespeare's play to *The Taming of a Shrew*. Firstly, *A Shrew* was the main source of Shakespeare's play. Secondly, it was practically derived from *The Shrew*. Lastly, both *A Shrew* and *The Shrew* were derived from a lost play, *The Ur-Shrew*. The second strand in the play was provided by Gascoigne's *Suppose* (1566) a lively version of Ariosto's *I Suppositi*.

Titus Andronicus may not be wholly Shakespeare's. Two recent editors have detected traces of Peele's style in the early part of the play. There are many sources for *Henry VI* and *Parts 1-3*. The strongest argument against Shakespeare's sole authorship of Part I is the inconsistency of characterization, the alternation of competence and incompetence and the weakness of construction. *Part II* is based almost wholly on Hall's *Chronicle*. Shakespeare's conception of his villain-hero, *Richard III* came ultimately from Sir Thomas More's *History of Richard III*, which was afterwards embodied in the *Chronicles* of Hall and Holinshed.

The main source of the play *Romeo and Juliet* was *The Tragicall Historie of Romeus and Juliet* by Arthur Brooke (1562), a poem based on Bandello. Brooke describes the feud between the Montague and Capulets, and the attempt by Prince Escalus to effect peace. It has been argued that Shakespeare's *Richard II* used in addition to Holinshed's *Chronicles*, Hall, Berner's *Froissart*, *Woodstock*, *A Mirror of Magistrates*, Daniel's *Civile Wars* and three French manuscripts: *Chronicque de la Traison et Mort de Richart Deux Roy Dengleterre*, Le Beau's version of this and Creton's *Chronicle* mostly.

From the Knight's tale of Chaucer, Shakespeare took a number of details like the celebration of the wedding of Theseus and Hyppolyta, the observance of May Day and the name of Philostrate, who is Emily's page to make *A Midsummer-Night Dream*. The main plot of *Love's Labour's Lost*, concerned with the vow of Navarre and his lords to study for three years and to see no woman, may perhaps have been suggested, however faintly by Pierre de la Primaudaye's *L'Academie Francaise* which Bowes translated in 1586. Discussion of the sources of *King John* is complicated by questions of date and of possible revision. If the play was written before 1591, Shakespeare could not have made use of the anonymous play, *The Troublesome Raigne of King John*, published in that year, nor could he have echoed Daniel's *Civile Wars*.

He made his comedies and tragedies by borrowing ideas from the following sources. Two lost plays, *The Venesyon Comodye* (acted 1594) and Dekker's *The Jew of Venice* have been mentioned as possible sources of *The Merchant of Venice*. The sources of *Henry IV: Parts 1-2* are the following. *The Famous Victories of Henry the Fifth* (1598) survives only in debased, piratical and abbreviated version. It may be assumed that the original provided the basic structure for Shakespeare's Trilology on the hero of Agincourt. Shakespeare also made use of Holinshed's *Chronicles* and Hall's *Chronicle*.

There are several tales which have some affinity with the main plot of *The Merry Wives of Windsor*. Sir Giovanni Fiorentino's *Il Pecorone, Riche His Farewell to Militarie Profession* (1581), *Tarltons Newes Out of Purgatorie* and Painter's *Palace of Pleasure*. Shakespeare's main source of *Henry V* was Holinshed's *Chronicles*, but he also used Hall and *The Famous Victories*, probably used *The Annals of Cornelius Tactius* (1598), possibly used Daniel's *Civil Wars*.

A likely source of *Much Ado About Nothing* is a lost play, entitled *Ariodante and Genevra* which was performed at Court in February 1583 by the boys of Merchant Taylors school. Shakespeare's use of North's translation of Plutarch's *Lives* for *Julius Caesar* has been studied by a large number of critics and editors. He might have read some of the *Lives* as early as 1595, for there is a verbal echo of the first of them in his account of The Amours of Theseus.

As You Like It has Thomas Lodge's *Rosalynde* as its source, published in 1590. Lodge's own source was *The Tale of Gamelyn*. *Twelfth Night* is a masterpiece of recapitulation. Shakespeare had already used the device of the mistaken identity of twins in *The Comedy of Errors*; in *Twelfth Night*, as in many Italian plays, the twins are of different sexes. The main source of *Troilus and Cressida* was Chaucer's great poem *Troilus and Criseyde*. Shakespeare was also acquainted with Henryson's bitter sequel *The Testament of Cresseid* in which the heroine suffers as a leper for her unfaithfulness.

The following are the sources from where he borrowed ideas for his tragedies. *Hamlet* was based on a lost play of the same title. But since *The Spanish Tragedy* resembles *Hamlet* closely, it would be considered that the source play the *Ur-Hamlet* as it has been called was written by Kyd or by a close imitator of his. The source, of *All's Well That Ends Well*, was either Boccaccio's "late tale" in *The Decameron* or William Painter's version of the same tale in *The Palace of Pleasure*.

The first literary treatment of the plot of *Measure for Measure* was Claude Rouillet's *Philanira* (1556), a Latin play which was translated into French seven years later. The source of *Othello* is Giraldi Cinthio's *Hecatommithi*. In Cinthio's tale Othello is called the Moor, Iago the Ensign and Cassio the Captain: only Disdemona is given a name. It is possible that the original inspiration of *King Lear* came not from the Lear story at all but from Sidney's story of the

Paphlagonian King and his two sons in *Arcadia*. He would have come across Lear story both in Holinshed's *Chronicles* and in *A Mirror for Magistrates*.

It is reasonable to assume that Shakespeare chose the subject of *Macbeth* because James I was reputed to be descended from Banquo. On 27 August 1605, the king witnessed at Oxford Matthew Gwinn's *Playlet* in which three sibyls prophesied to Banquo's descendants imperium sine fine. The source of *Timon of Athens* may be the following. Berowne in *Love's Labour's Lost* refers to 'Critic Timon'. When Shakespeare was writing *Julius Caesar*, he would have read the account of Timon in Plutarch's *Life of Antonius*. At some time, he had read Painter's account which mentions Timon's wish to be buried on the shore that the waves and surges might beate and vex his dead carcas. These words are echoed by Shakespeare. The source of *Antony and Cleopatra* was Plutarch's *Life of Antonius*. Shakespeare's portrait of his hero is very close to Plutarch's. His knowledge of *Coriolanus* story dated from his schooldays. The story is told by Livy and Shakespeare could have had refreshed his memory of it when Philemon Holland's translation of it was published in 1601. But the fable of the Belly and the Body's members is to be found not only in Livy but also in Erasmus' *Copia*, in Aesop's *Fables* and in a collection by Caxton as well as in Plutarch's *Lives*.

Shakespeare borrowed the ideas for his last plays from the following sources. *Pericles* was based on an earlier play and that Wilkins's novel *The Painful Adventures Pericles* was also based on the same play rather than Shakespeare's rewriting of it. The source of *Cymbeline* can be the following. The popularity of *Mucedorus* a feeble old play revived in 1607 led Shakespeare to search for similar old romantic plays worth revival or adaptation or for similar Mouldy plots which could be dramatised.

Shakespeare relied largely on Greene's romance *Pandosto* published in 1588 for his *The Winter's Tale*. He picked up hints from a number of different places to make *The Tempest*. Friar Bacon in Greene's play is one of many magicians who renounce their magic art. Shrimp in *John A Kent and John A Cumber* by Munday has resemblances to both Puck and Ariel: he misleads lovers by playing a tune or speaking in the voice of one of the lovers. In *The Rare Triumphs of Love and Fortune*, Bomelio's magic books are stolen by his son. There is a wild man in *Mucedorus*. There were several plays on the reign of *Henry VIII*. In 1604, Samuel Roweley's play, *When You See Me, You Know Me*, was performed at the fortune theatre, published in 1605, and reprinted in 1613, the year when Shakespeare's play was first performed.

Conclusion

Shakespeare lives in the minds and hearts of lovers of Literature even after 400 years of his death. Because he was successful in presenting the existing plots differently. When Shakespeare was charged with debts to his authors, Landor replied, "yet he was more original than his originals. He breathed upon the dead bodies and brought them into life". To prove this point, we turned the annals of

history and found out the sources or dead bodies of his plays upon which he breathed and brought into life. As he presented the borrowed plots differently, he lives forever in the minds and hearts of the people. What John Keats writes in his poem “Ode to a Nightingale,” is true in the case of Shakespeare. Keats writes of his nightingale, “Thou was not born for death, immortal Bird! / No hungry generations tread thee down”. Shakespeare, thou was not born for death, immortal playwright/ No hungry generations tread thee down.

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Diasporic Crisis of Acculturation in Jamaica Kincaid's *Lucy*

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Abstract

The diasporic writing includes elements such as cultural conflicts, dual identity, isolation, acculturation, living in-between conditions and so on. This research paper attempts to bring out the Diasporic crisis of acculturation and to substantiate the protagonist as a symbol of independent young woman in the novel *LUCY*, written by Caribbean author Jamaica Kincaid who now lives in the United States. The term “acculturation” describes the cultural modification of an individual or group of people by adapting to or borrowing traits from another culture and also a merging of cultures as a result of prolonged contact. The protagonist in the novel, though an African, she stoops herself to adopt the culture of America and stands as a symbol of an independent young woman.

Keywords

Caribbean, gender identification, acculturation, cultural specificity

Introduction

Being a writer from the Caribbean society, Jamaica Kincaid portrayed her childhood in a semi-autobiographical novel, *Lucy*. Many critics have called our attention to the issue of mother-daughter relationship in this novel. The role of maternal figure, that it is often argued, is due to gender inequality marked by the sexual privilege of men in this region. *Lucy* appropriates the setting of the West Indies when the narrator recalls her experiences in Antigua and a Western locus in present. The term “acculturation” describes the cultural modification of an individual or group of people by adapting to or borrowing traits from another culture and also a merging of cultures as a result of prolonged contact. The protagonist in the novel, though an African, she stoops herself to adopt the culture of America and stands as a symbol of an independent young woman. This research paper attempts to bring out the Diasporic crisis of acculturation and to substantiate the protagonist as a symbol of independent young woman.

Diasporic Crisis of Acculturation

The term “diaspora” had traditionally been used exclusively to describe the dispersion of the Jewish people following their expulsion from the Holy Land. Associated with loss, exile, and persecution, for many years the word ‘diaspora’ connoted ‘tragedy’. Ashcroft, Gareth Griffiths and Helen Tiffin define “diaspora” as “the voluntary or forcible movement of people from their homelands into new

regions...” (Ashcroft 68). Many critics spoke about the problem of adjusting and adapting of the people who leave their homeland which is a prime and prominent problem. Schwartz opines:

Acculturation refers to changes that take place as a result of contact with culturally dissimilar people, groups, and social influences. Acculturation research generally focuses on immigrants, refugees, and asylum seekers, who are assumed to be permanently settled in their new home-land—although these three groups may be quite different from one another. As a result, we use the terms *migrants* or *international migrants* to refer to these three groups collectively, but where applicable, we discuss ways in which our hypotheses or propositions differ by type of migrant. (238)

The novel *Lucy* is semi-autobiography of Jamaica Kincaid. The protagonist of the novel Lucy moves from British- ruled Caribbean homeland to America to work for a wealthy family. Being a young woman, she longs for love, education and individual freedom but these are denied to her because of acculturation. Lucy is a true representative of the majority of women immigrants who are willing to change or adapt to the culture of the host country for the betterment of their lives. Though Lucy assimilates two different cultures, she remains as a typical example of an independent woman.

In the words of Jeff Lewis, “Culture is an assemblage of imaginings and meanings that are generated by a given social group” (Lewis 18). The novel *Lucy* puts forth two different cultures that of Caribbean culture from where Lucy grew up in and the American culture where she had gone as an immigrant woman. Though she has double identity she struggles with taking on the identity of a Black woman once she has arrived in America. Lucy’s identity is defined by her employers who see her only as a black woman. They call her “Poor visitor, poor visitor” (14) which made her feel alienated. She comes to work in America as an au pair, a foreign girl employed to look after children and help with housework, for Lewis and Mariah and their four children. They mark her identity as a black woman.

According to Amado M. Padilla and William Perez,

Acculturation is a social process that occurs in a context in which a new comer and the members of the host culture are in dynamic contact with each other.” (25)

For instance, Lucy who is a newcomer to the white culture and Lewis, Mariah and their four children who belong to the host culture mingle together. Especially, Mariah often reminds Lucy more and more about her own mother. Lucy lists the similarities Mariah has with her mother. She says, “Mariah reminded me more and more of the parts of my mother that I loved” and she recalls, “their hands looked like instruments for arranging things beautifully” (59). This social process of mingling shows the amalgamation of two different cultures which is termed as acculturation.

Berry developed a model of acculturation in which receiving-culture acquisition and heritage-culture retention are cast as independent dimensions. Within Berry's model, these two dimensions intersect to create four acculturation categories – *assimilation* – adopts the receiving culture and discards the heritage culture, *separation* – rejects the receiving culture and retains the heritage culture, *integration* – adopts the receiving culture and retains the heritage culture, and *marginalization* – rejects both the heritage and receiving cultures. (Schwartz 239)

The protagonist Lucy is analyzed by two categories among the four that are assimilation and marginalization. On the basis of the first category of assimilation, Lucy accepts the new culture and rejects her own culture. She does not want to go back to her homeland which gives importance only to the male children. That post-colonized island gives definition for woman as, “a sense of duty to parents; obedience to the law and worship of convention” (133). Her mother or motherland named her as “Lucy, short for Lucifer” (154), Satan. She dislikes her mother for insisting her to live as her mother wants her to, whereas the new culture accepts the woman as she is. Lewis and Mariah are happy to have four daughters. Lucy tries to belong to the white culture rather than to be a part of black culture. For instance, on the journey to Mariah's childhood home, Lucy observes a few physical differences between herself and the passengers on the train. She thinks “the other people sitting down to eat dinner all looked like Mariah's relatives; the people waiting on them all looked like mine” (32). Geographically, the Caribbean island always has summer season whereas the other parts of the world have all the four seasons by which Lucy is impressed.

Secondly, on the basis of Berry's another category of marginalization, rejecting both the heritage and receiving cultures. Lucy is portrayed as the marginalized. She rejects both her native and host cultures and wishes to be free from the cultural bonds. She detaches herself from her own black mother and Mariah, the white mother. She says, “I am not like my mother. She and I are not alike” (123). She dislikes both the cultures where men consider women as sexual objects like her father and Lewis. This novel also has the elements of epistolary novel in which her mother keeps on sending her letters which are unread and burnt. Lucy's behavior shows her will to live against the acculturation and marginalization of both her native and receiving cultures. Almost all diasporic writers express the manner in which they have adopted to their environment and how they have experienced both identification with and alienation from their old and new homelands through their writings. Some of well-known diasporic writers such as Toni Morrison, Alice Walker, Jhumpa Lahiri, Chitra Banerji, all mainly focus on the struggles and loss of identity in their new culture whereas Jamaica Kincaid sheds light on the ability of an independent immigrant woman through her character Lucy.

Byerman argues that Lucy's anger towards Antigua comes from the uncompromising relationship she has with her mother. Because her mother plays such an influential role in her life, "Female identity within Antiguan culture can only be defined in terms of the mother, and since, the mother passes down the culture, she is the source of national identity" (Byerman 91). For this reason, Lucy's entire upbringing as she believes "was devoted to preventing her from becoming a slut" (127). Lucy reacts against her mother, by engaging in many sexual relationships. She exposes herself, without inhibition, for men she encounters in her life, defying her mother's conventions, and proving her mother's conceptions that Lucy should remain "clean, virginal and beyond reproach" (97), an image of woman, "Very simple, say the fanciers of simple formulas: she is a womb, an ovary; she is a female-this word is sufficient to define her" (132), that Lucy rejects for herself as a young woman. Lucy always raises the questions against her mother's belief, and to prove this, she shares an incident:

When I was about five years old or so, I had read to me for the first time the story of Jesus Christ feeding the multitudes with seven loaves and a few fishes. After my mother had finished reading this to me, I said to her, "But how did Jesus serve the fish? boiled or fried?" This made my mother look at me in amazement and shake her hand. She then told everybody she met what I had said, and they would shake their heads and say, "What a child!" It wasn't really such an unusual question. (38)

From the beginning of the novel, Lucy stands for her freedom both in the native and foreign cultures. For instance, Lucy vacates from Lewis and Mariah's apartment and gets a new job and buys a new apartment. She proudly utters the following sentence with a sense of belonging, satisfaction and self-determination. "The next day I woke up in a new bed, and it was my own. I had bought it with my money. The roof over my head was my own" (144).

Conclusion

This paper has thus, examines the Diasporic crisis of acculturation and concludes the protagonist as a symbol of independent young woman in the novel *Lucy*. 'Will to Live' is a state of mind which enables people to move on further ignoring the hurdles of the life. As long as one exists in the world, whatever may be the situation or whoever may be the person, one must possess originality. Originality in people is possible only when they have the 'will to live' as they want. Being an immigrant, Lucy acculturates the twin culture-Caribbean and American cultures. Being a black woman, she wears the mask of dual identity-black and white identities. Being a woman, she tolerates double pain given by her gender and her color. But, having the spirit of living independently, she becomes the heroine of immigrants and the novel too.

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Rod-Like CuS Thin Films Deposited Using Chemical Spray Pyrolysis Technique

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Abstract

Covellite CuS thin film was prepared using chemical spray pyrolysis technique. It was prepared using non-toxic solvent and cost-effective method. The CuS thin film formation was conformed with (102), (103), (105) and (110) phases of X-ray diffraction pattern. The SEM images appeared as rod-like shapes on the surface of the film. The optical band gap measured from Tauc's plot was found to be 2.4 eV. The direct optical band gap was useful in heterojunction photovoltaic cells. The Photoluminescence emission spectrum gives a sharp emission at 722 nm.

Keywords

Covellite, spray pyrolysis, 2-methoxyethanol, absorber material

Introduction

Covellite CuS thin film is of interest in the photovoltaic heterojunction cells and photo detectors. It received attention due to its cost effective and non-toxic nature with earth abundant precursor materials. It exists in different phases like Covellite, digenite, chalcocite, etc. The existence of different phases muddles the formation of a particular phase in a system. Suitable experimental conditions are to be identified to prepare a particular phase. The formation of films consists of different shapes such as spheres, rods, tubes, flowers, cubic, hexagonal, etc. It is prepared using a variety of physical and chemical deposition techniques including vacuum evaporation [1], chemical bath deposition [2], ALD [3], electrodeposition [4], Spray pyrolysis [5]. Among these techniques spray pyrolysis is the simple and large scale usable technique. In this present work, CuS thin film was prepared with solvent used precursor solution to get rod-like structures.

Experimental procedure

The precursor solution was prepared using $\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$ (0.2 M) and NH_2CSNH_2 (0.1 M) dissolved in 2-methoxyethanol solvent in the ratio of 2:1. The solution was stirred for 30 min. in the magnetic stirrer at room temperature to get a homogeneous solution. The prepared solution was sprayed onto preheated glass substrates. The substrate temperature was maintained at 300 °C and the pressure

was 1.4 Kg/cm² at a flow rate of 5 ml/min. The process of deposition was done 8 times with 2 min. spraying and resting time consecutively to achieve the required thickness. The deposited film was characterized with (Bruker D8 Discover) X-ray diffractometer with the $CuK\alpha_1$ source radiation ($=1.54051 \text{ \AA}$) to study the structural property. The surface morphology was studied using (Carl Zeiss) Scanning Electron Microscope with 10 KV Extra-High Tension (EHT) voltage. The optical property was studied using (Perkin Elmer Lambda 576) UV-Visible-NIR spectrophotometer. The photoluminescence emission was studied using (Lambda 55) spectrometer.

Results and Discussion

Structural and morphological studies

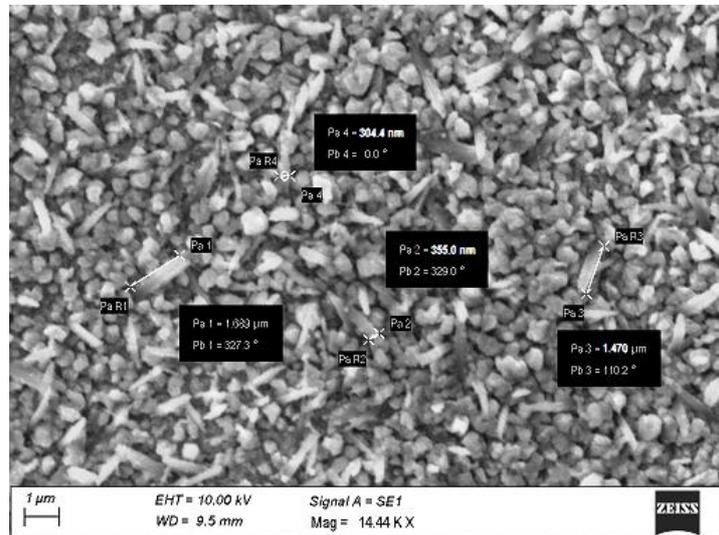
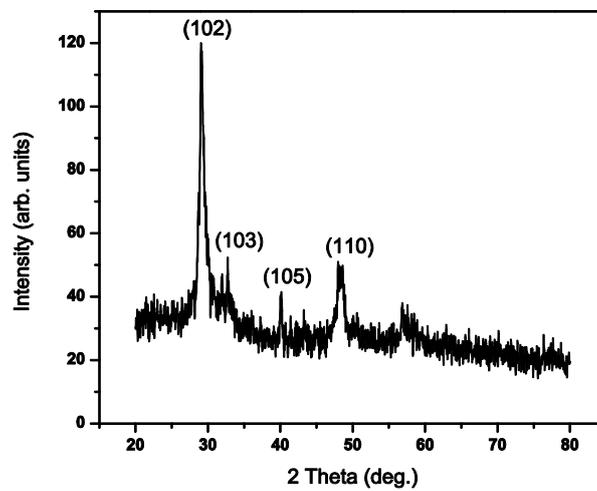


Fig. 1: (a) XRD pattern of CuS thin film, (b) rod-like SEM image of CuS thin film

Figure-1(a) gives the XRD pattern of Covellite CuS thin films with intense peak at $2\theta = 29.05^\circ$ and minor peaks at 32.02° , 40.1° and 48.2° corresponding to (102), (103), (105) and (110) planes respectively. This indicates the formation of hexagonal CuS (JCPDS card no. 6-464) [6, 7]. The polycrystalline nature of the film is confirmed with multiple diffraction peaks. The crystallite size was calculated using Debye-Scherrer's formula and it is found to be 6.5 nm.

$$D = \frac{0.9\lambda}{\beta \cos\theta}$$

where D is the crystallite size, λ is the wavelength of the target $\text{CuK}\alpha$ ($=1.54051$), β is the full-width half maximum value and θ is the position of respective Bragg peaks.

Figure-1(b) represents the SEM image of CuS thin film. The rod-like shapes formed on the surface of the film can be clearly seen [8, 9]. The rod length is $1.470 \mu\text{m}$ and the rod width is about 304 nm . Since, the deposition is done consecutively it appears to be rod like structure on the surface. The rod length is larger so maximum amount of light can be absorbed.

Optical studies

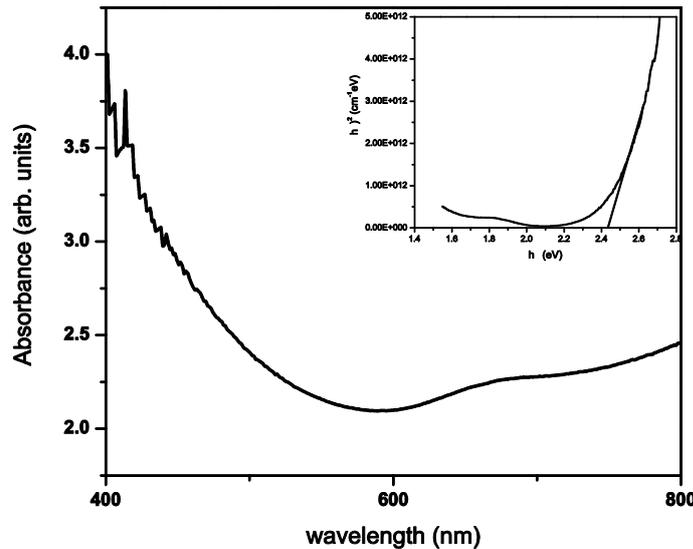


Fig. 2. (a) Absorbance spectrum of CuS thin film and inset is the Tauc's plot

Figure 2(a) shows the optical absorbance spectrum taken by UV-Visible spectrophotometer. It absorbs in the UV-Visible region with a cut off wavelength around 590 nm [10]. The inset gives the optical band gap calculated using Tauc's plot. The optical band gap is calculated using the formula [11]:

$$\alpha h\nu = A[h\nu - E_g]^n$$

where absorption coefficient, A is a constant, E_g is the band gap energy and $n = 1/2$ for direct allowed transitions.

The optical band gap is found to be 2.4 eV and absorption coefficient is 10^5 cm^{-1} . It indicates that it is an eminent material for heterojunction thin film solar cell [12].

Figure-2(b) provides the emission spectrum of CuS thin film using Photoluminescence spectrometer. The PL emission gives an intense peak at 722 nm and a weak peak at 623 nm [13]. The excitation wavelength used is 480 nm to get the emission peaks. Xenon lamp was used as a source with optical filters to filter the specified wavelength light. For blue light wavelength excitation (480 nm), the emission is in the red wavelength region.

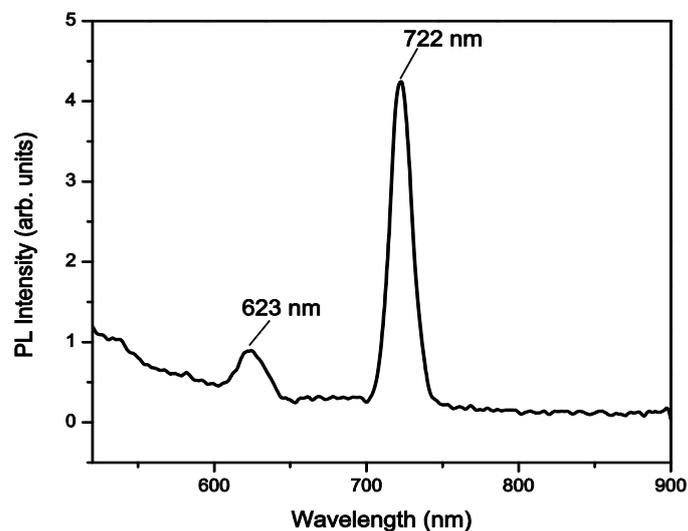


Fig. 2(b): Photoluminescence spectrum of CuS thin film

Conclusion

The Covellite structure of CuS thin film was achieved using 2-methoxyethanol as solvent in the material ratio of 2:1. The CuS structural property was studied using XRD which confirmed the polycrystalline nature of the film. The rod-like shape observed from the SEM image was useful for photovoltaic absorbers. The optical absorbance in the UV-Visible region was pertinent for photovoltaic application. The PL emission shows emission in the near IR region. The material possessed an optical band gap of 2.4 eV which is optimum for heterojunction Photovoltaic cell.

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Solvothermal Synthesis of CuSbS₂ Nanoparticles for Photovoltaic Application

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Abstract

Copper-based chalcogenide nanomaterials with orthorhombic crystal were synthesized using solvothermal method. The obtained CuSbS₂ nanoparticles were characterized for their structural, morphological, optical and electrical properties by means of suitable analytical techniques. The X-ray diffraction (XRD) results showed that the obtained sample showed orthorhombic crystallinity with (310), (111), (410), (301), (620) and (521) planes of the CuSbS₂ nanoparticles with average crystallite size of 7.16 nm. The morphological investigation results given by the field emission scanning electron microscope (FESEM) showed CuSbS₂ nanoparticles are uniform sphere like structure. UV-Vis-NIR results revealed that there was broad absorption in the entire visible region and estimated direct band gap was found to be 1.35 eV. The atomic force microscopy (AFM) images of the deposited film gave spherical surface with the thickness of 816 nm and the hall measurements showed p-type conductivity with carrier concentration in the range of 10¹⁷ cm⁻³. These results indicate that CuSbS₂ nanomaterials are a promising absorber material for photovoltaic application.

Keywords

CuSbS₂ nanoparticles, solvothermal method, absorber material, photovoltaics

Introduction

The main focus in the future development of thin film solar cells is to obtain a device with low production cost, high efficiency, earth abundant materials and comparatively less toxic elements. Recently lots of research is being carried out for II-VI, IV-VI, I-III-VI₂, I-II-III-VI₂ group compound semiconductors in the field of energy conversion from the renewable energy source [1-2]. One among them is copper antimony sulfide an emerging material, useful for the fabrication of thin film solar cells. By tuning the chemical composition, size and morphology of the material, it is possible to achieve improved optoelectronic properties suitable for photovoltaic applications. Copper antimony sulfide has four major phases with p-type conductivity, namely – Cu₁₂Sb₄S₁₃ (Tetrahedrite, having the band gap of 1.6 eV), Cu₃SbS₃ (Skinnerite, band gap of 1.4 eV), Cu₃SbS₄ (Fematinite, band gap of 1.2 eV) and CuSbS₂ [3]. CuSbS₂ is a direct band gap material with the band gap of 1.4-1.6 eV and having the high absorption

coefficient over 10^5 cm^{-1} [4]. Power conversion efficiency of 3.22% have achieved in the configuration of Al:ZnO/CdS/CuSbS₂/Mo/glass solar cell devices [5].

However, the preparation routes of CuSbS₂ thin films have been reported, such as spray pyrolysis, Sputtering, thermal evaporation, chemical bath deposition, and electro-chemical deposition [6-10]. In all these methods, the relative complex devices such as vacuum system or an electro deposition apparatus are required. Nevertheless, the non-vacuum based solvothermal methods are used to acquire nanostructures with controllable dimensions and well-defined morphologies. In this process, the reaction temperature and autogenous pressure plays a major role to enhance the chemical reactivity. The synthesized CuSbS₂ nanoparticles could be converted as ink that were coated on a substrate in order to prepare large uniform area film with non-toxic and low-cost materials which acts as a promising p-type candidate for photovoltaic applications.

In the present work, phase pure CuSbS₂ nanoparticles are synthesized using the solvothermal method, using ethylenediamine as solvent and PVP as a surfactant and size reducing agent. Once the solvothermal reaction was over, the structural, morphological, optical and electrical properties of the obtained nanoparticles and deposited thin films are carried out.

Experimental Procedure

Synthesis of CuSbS₂ nanoparticles were carried out utilizing solvothermal method. In a typical reaction, 2.5 mM copper (II) acetate monohydrate, 2.5 mM antimony (III) chloride and 7.5 mM thiourea were dissolved in ethylenediamine under constant stirring for 30 min. Later 0.5 g Polyvinylpyrrolidone (PVP) was added to the above mixture in order to stabilize the growth and allow the formation of well defined structure. When the chemicals were completely dissolved, the precursor solution was transferred into a Teflon lined stainless steel autoclave, placed it in a hot air oven and maintained at 180 °C for 24 h. Once the reaction was over the oven was cooled down to reach the ambient temperature. The nanoparticles were collected using centrifuge at 3000 rpm for 10 min. Centrifugation process was carried out several times using deionized water and ethanol in order to obtain final product. The obtained product was gray in color and kept for drying overnight. Finally using the nanoparticle ink CuSbS₂ thin films were deposited onto soda lime glass substrate.

The synthesized CuSbS₂ nanoparticles were characterized by powder X-ray diffraction (XRD, Rigaku) equipped with Cu-K β ($\lambda = 1.39220 \text{ \AA}$, 40 kV, 30 mA and step width 0.02 degree). The particle size and morphology of the sample were determined by field emission scanning electron microscope (FE-SEM, ZEISS at accelerating voltage 5 KV). The optical absorption spectrum was obtained using a UV-3600 Shimadzu spectrophotometer. Thickness of the obtained film was measured using Bruker AFM (atomic force microscopy) and the electrical properties were done using an Agilent B1500A semiconductor device analyzer.

Results and Discussion

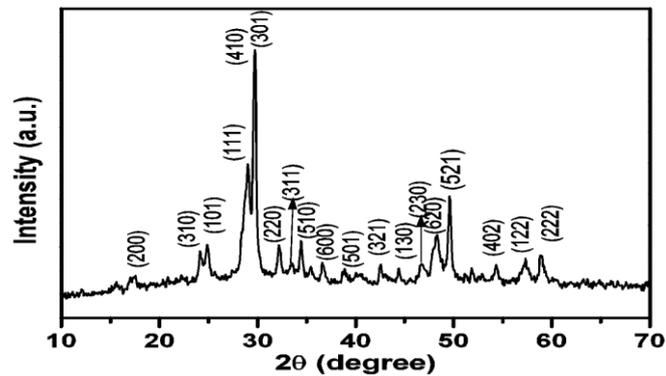


Fig. 1: XRD pattern of the synthesized CuSbS_2 nanoparticles

Fig.1 shows the XRD pattern, of which the major peaks are $2\theta = 23.58^\circ$, 28.44° , 28.72° , 29.91° , 48.23° and 49.78° , that are attributed to the planes (310), (111), (410), (301), (620) and (521) perfectly indexed as CuSbS_2 nanoparticles with unit cell as orthorhombic (JCPDS, Card No. 44-1417) [11]. The cell parameters are determined to be $a = 14.559081\text{\AA}$, $b = 6.009334\text{\AA}$ and $c = 3.807885\text{\AA}$, which are comparable with the values shown in JCPDS, card no. The average crystallite size of CuSbS_2 nanoparticles is determined from full width at half maximum of these peaks using the Debye-Scherrer equation is found to be 7.16 nm.

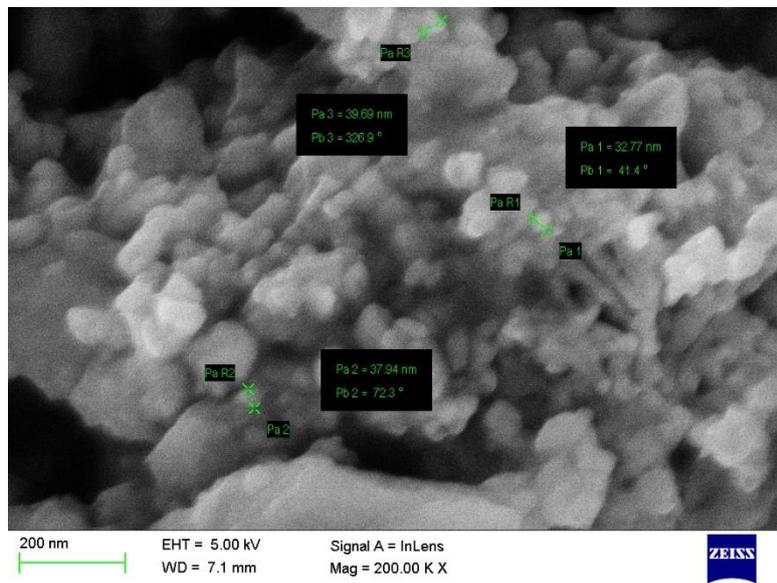


Fig. 2: High magnification FESEM images of the synthesized CuSbS_2 nanoparticles

The particle size and surface morphology of the synthesized CuSbS_2 nanoparticles analyzed using the FE-SEM images are shown in Fig. 2. From the images it is clear that the added amount of PVP influences the final morphology and the obtained CuSbS_2 nanoparticles are composed of a large number of uniform spheres like particles with average size of 30-40 nm.

Figure 3(a) and (b) are the UV-Vis-NIR absorption spectrum and the resultant direct band gap CuSbS_2 nanoparticles that are determined using Tauc's plot. The absorption spectrum depicts a broad absorption in the entire visible region with a band gap of 1.35 eV and are having optical absorption coefficient of 10^4 cm^{-1} , which are consistent with the literature value [11].

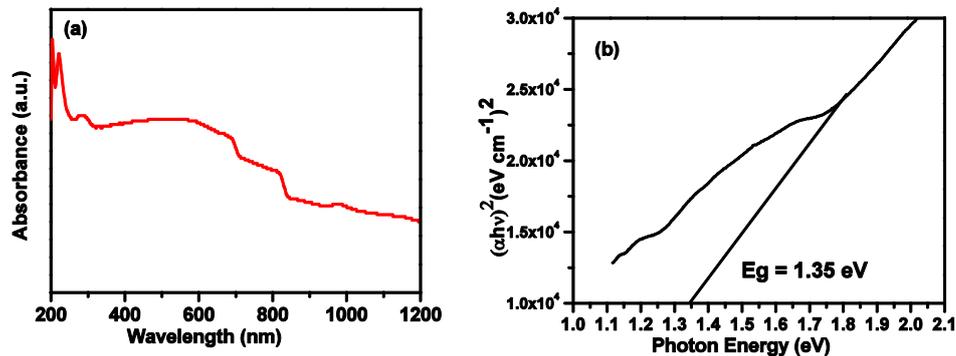


Fig. 3: (a) UV-Vis-NIR absorption spectrum of CuSbS_2 nanoparticles and (b) Tauc's plot extrapolated to estimate a direct band gap of 1.35 eV

Atomic force microscopy (AFM) images of two and three-dimensional micrographs of the deposited CuSbS_2 thin film samples are given in Fig. 4(a & b). The micrographs evidently showed that thin film surface is covered with the formation of densely packed sphere like particles and the height or the thickness of the film is about 816 nm.

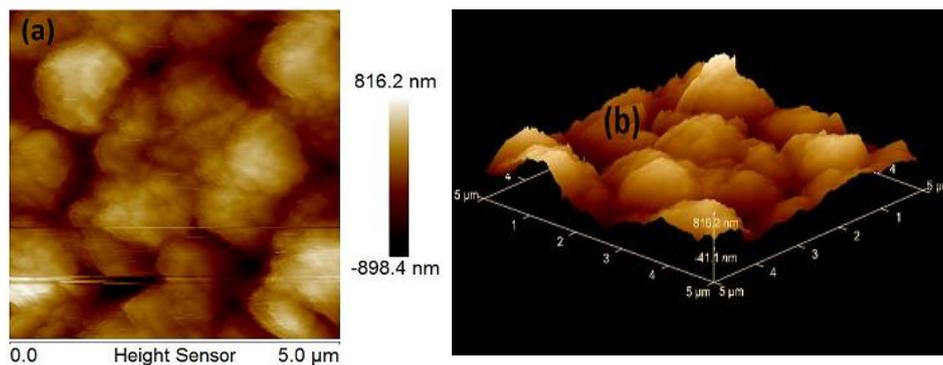


Fig. 4: AFM (a) 2D and (b) 3D images of the deposited CuSbS_2 thin films

The electrical properties such as electrical conductivity (σ), mobility (μ) and carrier concentration (n_p) are measured using the Van der Pauw Hall measurement technique. The deposited CuSbS₂ film reveals p-type conductivity with electrical conductivity of 1.65 S cm⁻¹, high electrical mobility of 27.69 cm²V⁻¹s⁻¹, and having the carrier concentration of 3.74×10^{17} cm⁻³ [12].

Conclusions

Synthesis of CuSbS₂ nanoparticles were carried out by facile solvothermal method. Here ethylenediamine and PVP played major role for the production of CuSbS₂ nanoparticle without agglomeration and forming a well-defined sphere like particles. The average crystallite size of the obtained CuSbS₂ nanoparticle was found to be 7.16 nm. The structure and composition of the as-synthesized nano powder was confirmed by XRD. From FESEM analysis it was clear that CuSbS₂ nanopowder obtained sphere like particles with average particle size of 30-40 nm and the AFM images gave the thickness of 816 nm. Optical absorption spectral analysis showed maximum absorption in the visible region and having the direct band gap energy of 1.35 eV. Electrical studies revealed that the material was having the carrier concentration of 3.74×10^{17} cm⁻³. The above-mentioned results highlight CuSbS₂ nanoparticle are promising p-type absorber material for photovoltaic applications.

Acknowledgements

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Matching the Users of a Website Using SVM Technique

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Abstract

The more information the business organizations have on their customers, the better they are able to predict their preferences and customize their offerings, fostering customer trust and leading to a significant improvement in the business. In this paper, the SVM technique is applied to the dataset pertaining to matching people on a website. Given the information about any two users of this website, it is possible to predict whether they will be a good match.

Key Terms

Support-Vector Machines, Machine Learning Algorithms

Introduction

The emerging field of data science is dominated by the application of advanced statistical algorithms.^[1] The Hadoop ecosystem is now extensively used for successfully implementing the advanced statistical algorithms on the big data.^[2] The dataset we will use in this study is obtained from the portsmouthmatchmaker.com site, which is currently enhanced by Shalom InfoTech. This website collects a lot of interesting information about their users, including demographic information, interests, and behaviour. To be more specific, this site collects the following data about its users: age, smoker/non-smoker, want children/don't want children, list of interests, location. This website also collects information about whether two people have made a good match, whether they initially made contact, and if they decided to meet in person. These data are used to create the matchmaker dataset, which contains the two data files namely matchdetails.csv and agedetails.csv. A sample matchdetails.csv file is shown below:

29, yes, no, skiing : knitting : dancing, 220 w 42nd St New York NY

23, no, yes, soccer : reading : scrabble, 824 3rd Ave, New York NY, 0

25, no, no, football : fashion, 102 1st Ave New York NY

30, no, no, snowboarding : knitting : computers : shopping : tv : travel, 151 W
34th St New York NY, 1

32, no, no, fashion : opera : tv : travel, 686 Avenue of the Americas New York NY

29, yes, yes, soccer : fashion : photography : computers : camping : movies : tv,
824 3rd Ave New York NY, 0

Each set of the two rows in the above data set contains information about a man and woman and, in the final column, a 1 or a 0 to indicate whether or not they are considered a good match. Once this website collects a large number of profiles, this information may be used to build a predictive algorithm that assists users in finding other people who are likely to be good matches. It may also indicate particular types of people that the site is lacking, which will be useful in devising strategies for promoting the site to new members. The `agedetails.csv` file has match information based only on age.

We now create a new python file called `classifydata.py` and add the `matchrows` class and the `loadmatches()` function to this file.

```
class matchrows:
    def __init__(self, row, allnum = False):
        if allnum:
            self.data = [float(row[i]) for i in range(len(row) - 1)]
        else:
            self.data = row [0:len(row) - 1]
            self.matches= int (row[len(row) - 1])
    def loadmatches (f, allnum = False):
        rows = [ ]
        for line in file (f):
            rows.append (matchrows (line.split(','), allnum))
        return rows
```

The above `loadmatches()` function creates a list of `matchrows` classes, each containing the raw data and whether or not there was a match. We shall use this function to load both the `agedetails` dataset and the `matchdetails` data set:

```
>>> import classifydata
>>> agedetails = classifydata.loadmatches ('agedetails.csv', allnum = True)
>>> matchdetails = classifydata.loadmatches ('matchdetails.csv')
```

Two interesting aspects of this dataset are the non-linearity and the interplay of the variables. The `matchdetails` dataset contains numerical data and categorical data. Some classifiers, like the decision tree, can handle both data types without any preprocessing. But the SVM classifier works only with numerical data. In order to handle this problem, we have to turn data into numbers so that it will be useful to the classifier. We now convert the “yes” into 1 and a “no” into -1. The missing or ambiguous data will be converted into 0. We now add the following `yesno()` function to `classifydata.py`.

```
def yesno(v) :
    if v == 'yes' : return 1
    elif v == 'no' : return -1
    else : return 0
```

In order to treat every possible interest (knitting, dancing, etc.) as a separate numeric variable, we shall assign a 1 if the person has that interest and a 0 if he does not. If we are dealing with individual people, this is the best approach. But, in our study, we have pairs of people. So, a more intuitive approach is to use the number of common interests as a variable. We will now add the following `countmatches()` function to `classifydata.py`:

```
def countmatches (interest1, interest2) :
    l1 = interest1.split(',')
    l2 = interest2.split(',')
    x = 0
    for v in l1:
        if v in l2 : x += 1
    return x
```

In order to use the python open-source library LIBSVM on the `matchdetails` dataset, we convert it to the tuple of lists. We do it as follows:

```
>>> answers, inputs = [r.match for r in scaledset], [r.data for v in scaledset]
```

We are using the scaled data here to prevent overweighting of variables, as this improves the performance of the SVM algorithm. We use this new function to generate the new dataset and build a SVM model by using a radial-basis function as the kernel:

```
>>> paramet = svm-parameter (kernel-type = RBF)
>>> proba = svm-problem (answers, inputs)
>>> m = svm-model (proba, paramet)
```

Now, we can make predictions about whether people with a given set of attributes will be a match or not. We have to use the `scalef()` function to scale the data we want predictions for, so that the variables are on the same scale as the ones with which we built the model:

```
>>> newrow = [28.0, -1, -1, 26.0, -1, 1, 2, 0.8] # Man doesn't want
                                                    # children, Woman does
>>> m.predict (scalef(newrow))
0.0
>>> newrow = [28.0, -1, 1, 26.0, -1, 1, 2, 0.8] # Both want children
>>> m.predict (scalef(newrow))
1.0
```

Although this appears to give good predictions, it is preferable to test how good they really are so that we can choose the best parameters for our basis function. The `cross-validation()` function of LIBSVM automatically divides the dataset into training sets and test sets. The training sets are used to build the model, and the test sets are used to test the model to see how well it makes predictions.

We can now test the quality of our model by using the cross-validation () function provided by LIBSVM. This function takes a parameter, n, and divides the dataset into n subsets. It then uses each subset as a test set and trains the model with all the other subsets. It returns a list of answers that we can compare to the original list.

```
>>> guesses = cross-validation (proba, paramet, 4)
... ..
... ..
>>> guesses
[0.0, 0.0, 0.0, 0.0, 1.0, 0.0, ...
 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, ...
 1.0, 1.0, 0.0, 0.0, 0.0, 0.0, ...
  ... ..
 ]
>>> sum ([abs(answers[i] - guesses[i] for i in range(len(guesses)))]))
29.0
```

The number of differences between the answers and the guesses is 29. Since there were 500 rows in the original dataset, this means that the algorithm got 471 matches correct.

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Using Bayesian Classifier for E-mail Sorting

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Abstract

Machine learning methods help us to draw valid conclusions from big data about user experience, marketing, personal tastes and human behaviour. In this paper, the Naïve Bayesian Classifier technique is used for sorting a variety of emails received by SafeTrust, a NBFC client of Shalom InfoTech, which has many divisions, such as Loan division, Deposits division, Insurance division and Chit Fund division.

Key Terms

Big Data Analytics, Machine Learning, Bayesian Classifier, Clustering

Introduction

Big Organizations are immensely benefitted by the advanced statistical techniques that are related to Big Data Analytics^[1]. The successful implementation of the advanced statistical algorithms on the big data is now greatly facilitated by the Hadoop Ecosystem^[2]. In this paper, the Naïve Bayesian Classifier technique is used for automatically sorting the variety of e-mails received regarding loans, deposits, insurance policies and chit funds by SafeTrust, a NBFC client of Shalom InfoTech.

E-mail sorting by Bayesian Classifier

The Naïve Bayesian Classifier shall be used to solve the problem of recognizing whether a document belongs to one category or another. For example, one's inbox shall be divided into social e-mails and work-related e-mails, based on the contents of the messages. In this study, we wish to use this technique for automatically sorting the variety of e-mails received by SafeTrust, a NBFC client of Shalom InfoTech. It is a well-known fact that the words EMI, loan amount and repayment period will occur often in the loan-related e-mails. Similarly, the words premium, assured amount and policy period will occur often in the Insurance-related e-mails.

In order to use the naive Bayesian Classifier, we will first determine the probability of an entire document being given a particular classification. In the python program documentclass.py, we create a subclass of classifier called naivebayes and create the documentprob() method that extracts the features and multiplies their probabilities together to get an overall probability Pr (Document/ category).

```

import re
import math
def sampletrainer (cla):
    cla.train ('Please extend the repayment period of my loan', 'loan')
    cla.train ('I will pay this month's EMI on next monday', 'loan')
    cla.train ('Inform me the policy period of my Insurance policy', 'insurance')
    cla.train ('How can I enhance the assured amount of my Insurance policy?',
              'insurance')
def getwords (doc):
    splitter = re.compile ('\w*')
    words = [s.lower ( ) for s in splitter.split (doc)
             if len(s) > 2 and len(s) < 20]
    return dict ([w, 1] for w in words)
class classifier:
def __init__ (self, getfeatures, filename = None):
    self.fc = { }
    self.cc = { }
    self.getfeatures = getfeatures
def incf (self, f, cat):
    self.fc.setdefault (f, { })
    self.fc [f].setdefault (cat, 0)
    self.fc [f] [cat] += 1
def incc (self, cat):
    self.cc.setdefault (cat, 0)
    self.cc [cat] += 1
def fcount (self, f, cat):
    if f in self.fc and cat in self.fc [f]:
        return float (self.fc [f] [cat])
    return 0.0
def catecount (self, cat) :
    if cat in self.cc :
        return float (self.cc[cat])
    return 0
def totalcount(self) :
    return sum(self.cc.values ( ))
def categories (self) :
    return self.cc.keys( )
def train (self, item, cat):
    features = self.getfeatures(item)
    for f in features:

```

```

        self.incf (f, cat)
        self.incc (cat)
    def fproba (self, f, cat):
        if self.catcount(cat) == 0 : return 0
        return self.fcount (f, cat) / self.catcount (cat)
    class naivebayes (classifier) :
        def documentprob (self, item, cat):
            features = self.getfeatures (item)
            p = 1
            for f in features : p * = self.weightedprob (f, cat, self.fprob)
        return p

```

We calculate now $\Pr(\text{Category}/\text{Document})$ by using Baye's Theorem as follows:

$$\Pr(\text{Category}/\text{Document}) = \frac{\Pr(\text{Document}/\text{Category}) \times \Pr(\text{Category})}{\Pr(\text{Document})}$$

Here, $\Pr(\text{Category})$ is the probability that a randomly selected document will be in this category. So, it is just the number of documents in the category divided by the total number of documents. Here, the calculation of $\Pr(\text{Document})$ will be an unnecessary effort, as the results of this calculation will not be used as a real probability. Instead, the probability for each category will be calculated separately, and then all the results will be compared. Since $\Pr(\text{Document})$ is the same no matter what category the calculation is being done for, it will scale the results by the exact same amount. So, we can safely ignore that term. We now add the **proba()** method to the **naivebayes** class for calculating $\Pr(\text{Category}/\text{Document})$.

```

    def proba (self, item, cate):
        catproba = self.catecount (cate) / self.totalcount( )
        documentproba = self.documentprob (item, cate)
        return documentproba * catproba

```

The final step in building the Naive Bayes Classifier is actually deciding which category a new document belongs to. The simplest approach will be to calculate the probability of this item being in each of the different categories and to choose the category with the best probability. The following **classify()** method will calculate the probability for each category and will determine which one is the largest.

```

    def classify (self, item, default = None):
        probabs = { }
        maxi = 0.0
        for cate in self.categories:
            probabs[cate] = self.proba(item, cate)
            if probabs[cate] > maxi:
                maxi = probabs[cate]
                best = cate
        return best

```

Now, the entire code that we have developed so far is capable of classifying a new document into the appropriate category. Here is a sample Python session:

```
>>> reload(documentclass)
>>> cla = documentclass.naivebayes (documentclass.getwords)
>>> documentclass.sampletrainer (cla)
>>> cla.classify ('Will you please inform me the policy period of my insurance
policy?', default = 'unknown') 'insurance'
>>> cla.classify ('How can I pay my loan's EMI through online?', default =
'unknown') 'loan'
```

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A Study on Organizational Culture at Rane Brake Lining Ltd. (RBL), Tiruchirappalli

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Abstract

Organization Culture is a custom or ethnicity that is invariably followed in each organization. Culture cannot be altered or changed as it is broad and wide, spread and adopted across the establishment. It does not have particular strategic focus and varies from one organization to another and depends upon the way things are done around. It is deemed to be a course that is learned through socialization process and metamorphosis according to the standards of the concern. This study focuses on various determinants that influence culture within an organization. The objective of this study is to scrutinize the attributes that influence culture in an organization, how they develop shared meanings and norms within the organization and to instigate a conducive and congenial working environment. A range of characteristics of culture were considered, making use of the questionnaire. Relevant data were collected from shop floor employees applying lottery method in simple random sampling making a sample size of 40. Each variant was measured using a five-point Likert scale. The number of points awarded to a particular cultural type determines the strength of the culture and higher the score, the more dominant is the culture type. It was found through this study that RBL had management support, direction from top management, workers enjoyed self-identity within the organization, rapid and consistent communication flow. Thus, these taps on as the dominant cultures while an individual's initiative and the significance between their accomplishments and reward were seen to be inadequate.

Keywords

Organizational Culture, characteristics, dominant culture

Introduction

Every organization's work environment is built upon the unique organization's culture which arises out from a varied cause by means of interaction, experience, family backgrounds, education and so on. It is a set of values, behaviors, beliefs,

morals, law, custom and other capabilities that vary from each and every organization. Each organization adopts its own set of habits for carrying out a specific set of task. A robust organization culture gives direction to the employees and the management to understand the ways things is being done around. Strong cultures are usually characterized by dedication and co-operation in the service of common good and values. Therefore, the involvement of an employee in an organization must be clearly recognized. This also provides stability to an organization. It is widely accepted that organizational culture is defined as the deeply rooted values and beliefs that are shared by members in an organization (Sun, 2008). An organization to be lucrative must be embedded with strong and resilient cultures that are attractive, holding and rewarding in accomplishing results.

Organizational culture has its ability to execute and to work in accordance to its vision and mission statements so as to achieve its objective which becomes its standard. Sometimes, culture tends to be unfavorable and unhealthy. In such a case, it faces certain difficulties like –

- Inability to attract and retain quality people
- People not working together
- Apathy and lack of enthusiasm for the business
- Quality and service challenges
- Lack of initiative and responsibility (Leadership + Teams + Culture, n.d.)
- Culture as a concept has had a long and checkered history. It has been used by the layman as a word to indicate sophistication, as when we say that someone is very "cultured". It has been used by anthropologists to refer to the customs and rituals that societies develop over the course of their history (Novac & Iulia., 2014). Adopted values and principles of an organization has its impact on the working conditions and behaviours of people therein. In the managerial literature, there is often the implication that having a culture is necessary for effective performance, and that stronger the culture, the more effective the organization (Schein, 2004).

The prevailing culture in a company also fosters growth and development of an organization. It instigates to the augmentation of internal integration, to facilitate staying together with unique identity, management support and encouraging individual responsibility. The external adaptation is another feature that defines a culture by means of dealing with its customers and suppliers in a way to accomplish their goals and objectives minimizing failures.

Literature Review

Jarad *et al.* (2010) identified the relationship link between the organization culture and performance with four different dimensions of Hofstede, that determines the organizational culture:

- **Power distance** - People with less power accepts that the power is not equally distributed

- **Uncertainty avoidance** - Employee being threatened in the work environment due to certain beliefs.
- **Individualism/ collectivism** - Involvement of individuals or collectively as a group with the organization.
- **Masculinity/Feminity** – Defining the roles of both the sex, so that gender discrimination can be avoided.

Ismat *et al.* (2011) in their study investigated that the basic determinants of culture that contribute to differentiate culture of export based textile organizations from one another. Different factors like degree of frankness, language, attire, working hours, work experience, activities, infrastructure, procrastination, group orientation and organizational behavior were identified and their degree of contribution to culture has been examined. Mean, bi-variate, multi-variate and Pearson correlation were used to evaluate the intensity of cultural determinants. The researchers in their study had set the hypotheses as less significant for attire and language and have also found that open communication and management style has affected the intensity of cultural determinants. Thus, it can be inferred that factors like performance and work behavior have been influencing various culture in the organization. Similarly, there has been certain elements that also investigated the culture in an organization.

Olu Ojo (2012) has made through a study on the ‘Influence of Organizational Culture on employee work behavior’. The objective of the study was to ascertain the influence that organizational culture had on employee work behavior and to formulate recommendations regarding organizational culture and employee work behavior. The researcher has advanced three hypotheses:

- Organizational culture has a significant influence on employee work behavior.
- Organizational culture has a significant influence on organizational productivity.
- A change in organizational culture will cause a change in employee work behavior. The survey research method was done using stratified and simple random method of sampling technique.

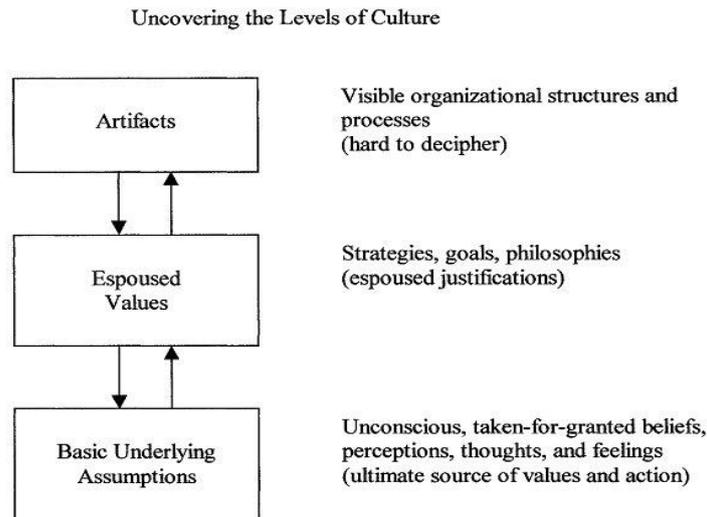
The study arrived at a conclusion where it has shown that norms, values, traditions, assumptions and belief influences employee work behavior.

Organizational Culture – A conceptual overview

Culture of an organization is actually learnt through a few mediators who mentor and give shape to the systems of values, beliefs and assumptions and those moderators become the seniors or the leaders of that organization. It has been found (Robbins, 2013) that culture can be transmitted in four different ways such as Stories- ethical stories that inspire and helps to understand how things are to be done in an organization, rituals- activities that are done on frequent basis and that which becomes one of the values, material symbols – a measured scale of importance giving on things like attire worn, size of offices, elegance of furnishing that expresses its importance to the employee, language - plays a

dominant role in differentiating the members of culture or subculture and also a specialized language builds unity among its members.

Schein (2006) identifies three levels of culture, artifacts -visible elements in a culture (eg. furniture, dress code, logos, slogans), espoused beliefs and values. It is how the members represent the organization both to themselves and to others and basic underlying assumptions- granted behaviors which are usually unconscious, but constitute the essence of culture.



Source: (*Organizational Culture*, Edgar H. Schein, 2006)

A strong and a weak culture can be differentiated conveniently and this has become quite popular in the latest scenario. A strong culture prevails in an organization where the core values are extremely adhered to and are diversely adopted. While it is not felt so in a weak culture and have a very little impact on the members' behaviours.

For an organization to show its epic value, it needs to concentrate on building a culture that gives it recognition of goodwill and fame. They are to be created with vision that matches with the ideology and customs of that organization. According to Robbins (2013), founders create culture in three ways; through employee selection, socialization- enable them for parallel thinking and feeling and modeling – acts as a role model to its employees.

Once the culture is formed in an organization and has been made firm, it needs to be prolonged for reaching its accomplishments that were desired by the founders. This is one of the most crucial tasks that an organization undertakes so as to give its employees a set of experience. These practices start up with the selection process, performance evaluation criteria, training and developmental activities and promotional procedures.

Research Methodology

The major objectives of the study are:

- To analyze the management's support in risk taking of employees,
- To study the self-directed behaviours of the workers,
- To understand the employee's feeling of their importance at workplace, and
- To know the employee's awareness of communication in a working environment.

Sampling

The Rane Brake Lining Ltd. (RBL), Tiruchirappalli has a total population of 69 permanent workers at lower level. As the company permitted to use only sample survey method, the researcher has identified the respondents through simple random procedure using lottery method. Sample size was 40. Data was collected using self-prepared questionnaire in English and translated in Tamil for the convenience of the respondents. A pre-test was conducted for 10 respondents and removed due to incomplete answers to the queries. The researcher then arrived at a final sample size of 40.

Results and Discussions

Management Support

The survey has found that the management has revealed good faith to its workers as nearly two third of workers (70%) have expressed that managers give support for extra efforts and activities they put in. Being so, the management has assured them about its support and endurance thereby encouraging the workers towards the personal upliftment and growth of the organization at large. An average of 11.47 (55% approx.) deem it that, superiors communicate a clear picture of the task they are to perform. Employees (42.5%) suppose that management understand the problems that are faced by the workers in their jobs and this makes them to take up challenging jobs as shown in Table-1.

Table 1: Management Support

Particulars	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Superiors communicate the task	0	0	7.5	55.0	37.5
Managers give support for extra efforts and activities	0	0	12.5	70.0	17.5
I can count on my management during problem	0	0	22.5	62.5	15.0
Management understands the problem	2.5	12.5	27.5	42.5	15.0
Supervisor supports the subordinates	0	12.5	32.5	40.0	15.0

Direction

The researcher has come across a scenario where 77.5% of employees are self-empowered, believing in honesty and doing the right things for their customers and thus requires less of mentoring by their supervisors. Respondents (50%) have showed that the vision, mission and objective statements of the organization are vividly upheld. An average of 11.93 of employees do not have the necessity to be tracked on since they suppose that their performance is in accordance with the expected standard of the company. It is proved that 55% of respondents had strongly agreed that they abide by the ethical standards of the organization and community. Furthermore, it has also been found that 32.5% of the workers are not aware of their objectives which exhibit their irresponsibility and lethargy which counts on their culture and attitude in the work spot as shown in Table-2.

Table 2: Direction

Particulars	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Vision, mission & objectives are communicated	0	0	32.5	50.0	17.5
Aware of the customers	0	0	2.5	32.5	65.0
Aware of the customers tend to be	0	0	0	40.0	60.0
Keeps ethical standards	0	5.0	2.5	37.5	55.0
Supervisor has rapport with subordinates	0	7.5	20.0	47.5	25.0
Honour our commitments	0	7.5	27.5	42.5	22.5
Believe in honesty	0	0	2.5	20.0	77.5
Performance is according to the standard expectation	0	0	2.5	47.5	50.0

Identity

Identity is another factor that determines the culture in an organization which has enabled to get a stint on the attitude of top management whereby 50% of employees feel that management treats them with respect. The study also reveals that 60% of respondents had felt the recognition for outperforming works they accomplish thus establishing a sense of belonging towards work goals. When the views of workers are taken into consideration they feel restored, respected and recognized. Analyzing the constituents, the survey found 52% of employees feel that their opinions are taken into account at work (Table-3).

Table 3: Identity

Particulars	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Outperforming works are recognized	0	0	25.0	60.0	15.0
Management treats with respect	2.5	5	12.5	50.0	30.0
Accomplishments are identified	5.0	0	27.5	40.0	27.5
Opportunities are provided	0	5	17.5	55.0	22.5
Employee opinions are considered	0	5	22.5	52.5	20.0

Communication Flow

As shown in Table 4, the researcher has found that more than half of the employees (65%) get most of the information from co-workers and also information is received from the managers simultaneously, which shows that the flow of communication is concurrent. Therefore, this avoids supervision from top management and thus reducing the traditional flow in communication. The researcher has also inferred that more than one third of the workers feel comfortable in sharing their ideas with their immediate supervisors and that they are frequently communicated to the top management.

Table 4: Communication Flow

Particulars	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Most information comes from manager	0	5	17.5	65.0	12.5
Most information comes from co-workers	0	5	15.0	65.0	15.0
Feel comfortable in sharing ideas	2.5	0	30.0	47.5	20.0
Ideas are frequently passed to top management	0	5	42.5	42.5	10.0

Suggestions

From the study, the researcher has found that there are certain dominant cultures, sub-cultures, strong and weak culture that decide upon the culture that is predominantly prevailing in the organization. There are certain cultures which, according to the researcher, if inculcated by the organization, would support its growth and development bringing about a positive change within and outside the organization. The following are few suggestions that could be considered:

1. Subordinates feel encouraged and determined towards achieving the goals of their organization when they are confident that their supervisor supports them from around the corner. As it is well known that, the culture is influenced by top management; it is always wanted of it to understand the difficulties encountered by the workers and hold them by a means, to support them. One of the principles of organization is scalar chain principle, that is, the flow of authority should be from top to bottom. The direction for doing a task has to come from the immediate supervisors to avoid confusion and chaos.
2. Keeping up a promise is an obligated task to do. But, to honour those will light up on the values not only on an individual but also to the organization. Supervisor and subordinates will have to ensure an intended rapport between them for a smooth and unbiased work environment. Any achievement has a motivating factor behind it. Similarly, in an organization; a hard and effective worker needs to be identified for their triumph in the organization. A worker has to be recognized regardless of his work position and give him the chance of putting forth his ideas and suggestions at ease. It is also to be remembered that these workers have better ideas that is worth from any other consultant.

Conclusion

The study on organizational culture has indeed made it possible for the researcher to understand and get to know about the factors that are determining the culture in Rane Brake Lining Ltd. in a way; it will enable the company also to get familiar with its prevailing dominant cultures.

The inference of this study indicates that, on an average the employees have a better individual responsibility, effectively solve problems, managers coordinate and integrate in the process of leading and decision making, adequate knowledge is offered to the employees about the organization, the top management is trustworthy, that the reliable information and directives sent to the lower level. The study also construes that the employees require management support, a proper channel of communication while passing information, a strong and consistent bond between the superiors and the subordinates as well as the monetary benefits are also to be improved.

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Gender-Biased Indian Start-up Ecosystem in India: A Case Study

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Abstract

The total number of women in India is a whopping figure of 526 million. This female population is larger than the combined total populations of Canada, USA and the Russian federation. Unfortunately, a very small percentage of the woman population belonging to the elite, educated and upper-middle class especially in the cities, has been exposed to issues on Women's roles, career options and jobs. This paper deals with the emergence of women on the economic scene as entrepreneurs and how they are biased on the gender preferences on Indian start-up ecosystem.

Keywords

Women, Entrepreneurs, Start-up, Ecosystem.

Introduction

Women are increasingly becoming conscious of their existence, their rights and their work situations. Today women entrepreneurs represent a group of women who have broken away from the beaten track and are exploring new avenues of economic participation. What makes their arrival as well as achievements even more significant and commendable are the struggles they have to put up, frustrations they have to experience and the multiple handicaps they have to overcome to emerge as entrepreneurs at the early stage and subsequently achieving success in business at the stage of managing their enterprises.

Status of women freedom depends on economic conditions even more than political. If a woman is not economically free and self-earning, she will have to depend on her husband or someone else, and dependents are never free. These were the ideas of Pandit Jawaharlal Nehru, the first Prime Minister of India, who vividly highlighted the importance of economic independence of women.¹

Woman enterprise

A woman entrepreneur is an adult who owns and runs an enterprise, especially a commercial one, often at personal financial risk. A recent ILO-Indian study of woman entrepreneurs gave the definition of women's enterprise as a small unit where one or more women entrepreneurs have not less than 50 per cent financial holdings.²

Women Entrepreneurship in India

Around 50 per cent of India's population is women. Yet, business spheres such as trade, commerce and industry, is still considered a male preserve. Entrepreneurial work has also been a predominantly men's world in India. This is based on the fact that only three per cent of the total entrepreneurs in India are women. Indian women are in no way inferior to men in all walks of life and they can be as good entrepreneurs as men in the country. Therefore, it is essential to exploit the potentials of Indian women. Women's participation in trade, industry and commerce, requiring entrepreneurship, is still poor mainly because of the problems associated with their gender roles. Therefore, promotion of entrepreneurship and economic empowerment of women poses a challenge to the government, funding agencies and non-government organisations. It is important for these people to focus on the limitations faced by the women and to plan supporting systems to enhance the women entrepreneurship in India.

According to industry estimates, there are over 300 million women looking to enter workforce across the country. Technology is the equalizer and has played a vital role in enabling women in small towns to gain an equal footing in the Indian workforce. "Now any educated and qualified woman, who was previously constrained by geography, has the ability to become gainfully employed while working from home," says Bagaria. Working from home is catching on in tier two and three cities, and the demand for jobs is higher in northern, western and southern India.³

Women were encouraged to choose 'safer' or 'easier' career options like teaching or working in human resources changing rapidly. Today, the concept of a woman entrepreneur no longer elicits surprise or curiosity in India. Thanks to women who defied convention or broke stereotypes to follow their passion, female entrepreneurs are no longer thought of as "dabbling" with a start-up "just as a hobby" or as a pastime; rather they are being seen as icons and worthy of admiration.⁴

The typical objections to women entrepreneurs from a conservative society have included "Who will take care of the household?", or "How will a woman handle finance?", or "Business requires a lot of travelling and networking." These objections and comments are still heard, but the voices are no longer as shrill or widespread as they used to be. Actions speak louder than words. And women have proved themselves more than capable of handling all aspects of a business.⁵

Facing adversity

There is something about adversity that brings out the best in people, especially women. Eleanor Roosevelt put it rather eloquently when she said, "A woman is like a tea bag. You never know how strong she is until she's in hot water." Closer home, there have been an impressive list of women entrepreneurs who started out with nothing or battled immense personal and professional odds to make their dreams come true. Jyothi Reddy, who was born into an impoverished, agricultural

family and is today the CEO of a \$15 million IT company in the US, and Madhu Singh, who defeated breast cancer and went on to establish a top preschool in Noida are just two examples. They are just two of the many women who have pressed on to set up, scale and succeed despite the body blows they faced every step of the way.⁶

Success vs. the desire to do well

Many women entrepreneurs are driven by a desire to do good work, realise their dreams and prove their detractors wrong, rather than just make money. One such example is that of Aditi Avasthi who founded Embibe, a Mumbai-based ed-tech startup that combines technology and data sciences to help students prepare better for competitive exams. Her own negative experiences while facing competitive exams led her to start a venture that would help young people and guide them through a very crucial period in their lives.⁷

Sia Umesh came from humble beginnings. She could have continued with her corporate job, but she gave that up to set up Karmashya, an online portal selling high-quality religious and *pooja* articles. The venture has an all-woman team to run operations – every single one of them comes from an underprivileged background. It's Sia's way of giving back to society while also running a successful venture.

Resilient spirit

Resilience is the common thread between Saumya Gupta, who failed to get a job after qualifying as a pilot but went on to find an apparel business with an annual turnover of Rs 10 crore, and Arpita Khadria, who quit her plum job because of an unsupportive boss and went on to establish three successful ventures in a couple of years. Everybody takes a fall at some point in life; the only thing that matters is whether or not you get up to face the fight once again.

Passion for work

Plush offices and hefty salaries cannot motivate one to go to work as enthusiastically as a genuine passion for work can. It goes without saying that most women entrepreneurs are extremely passionate about their work and believe they can make a difference to others. Harsha Thachery and Liya Verghese transformed their passion for tasty home cooked food into Masala Box, a foodtech start-up that connects foodies to hundreds of home chefs in Kochi and Bengaluru. Ankita Shroff, founder of SAV Chemicals, speaks for several of her counterparts when she says, "A dream becomes a goal when action is taken towards its achievement. It's my conviction that checkboxes are made so that they can be ticked.

The domino effects

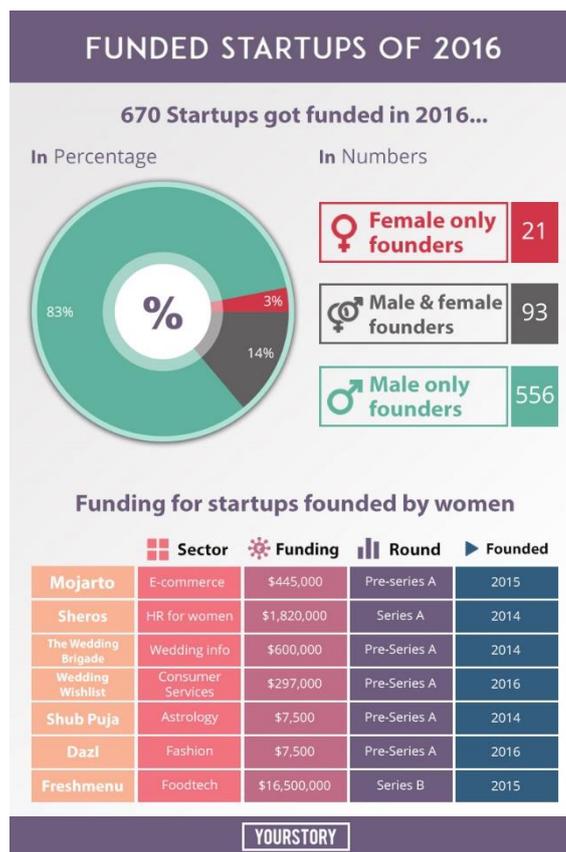
One successful woman often starts off a domino-like chain of other successful women. Sometimes this effect is exponential as in the case of Dr Saundarya Rajesh, who started a successful recruitment firm and went on to start a women-

focussed consulting firm called AVTAR I-WIN that has helped restart the careers of more than 8,000 women who had taken a break after motherhood or other reasons.⁷ The environment in India is very supportive of start-ups right now with the government organising the glamorous Start-up India Initiatives. So, it won't be surprising if we see a higher number of exceptional women start on or accelerate their entrepreneurial journey this year.

Gender-Biased Indian start-up ecosystem

As on 2016, 670 funding deals worth \$2 billion have been closed. Guess what percentages of these deals were bagged by start-ups with women co-founders or a solo woman founder? It is a mere 3 percent. Approximately 14 percent has gone into start-ups with male and female co-founders, while the rest 83 percent went to those founded by men. This disparity may not come as a surprise to many, as women entrepreneurs in India are few compared to male entrepreneurs. But women entrepreneurs say that the country's start-up ecosystem too has not been spared of gender bias.⁸

The diagram of *Yourstory* (given below) finds that women are side-lined to a considerable extent in sectors they have started up in.



Source: *Yourstory*

Beyond fashion and food tech

Women entrepreneurs in India are found more in fashion and food tech sectors, than in tech, automobile, Software as a Service (SaaS) or gaming. But even in those two sectors, 70 percent are men, says Usha Amin, co-founder of SAHA Fund, a Venture Capital firm exclusively for women, except Limeroad, founded by Suchi Mukherjee, all leading online fashion portals are founded by men whether it is Voonik, Wooplr, Roposo, as well as veterans like Myntra and Jabong.⁹

Meena Ganesh, Co-founder, Portea (2016), says, we need more women in finance and technology sectors. A woman not being there discourages investors to trust women's intellectual capabilities. Women have not grabbed the authority over finance yet." However, Nidhi Agarwal (2016), Founder-CEO of women's business wear portal Kaaryah, believes there should be no stereotypes in entrepreneurship. "When she was working with Honeywell, she launched their business in turbo technology. Even in fashion, it is tech-based disruption," she explains. She was Director, Strategy, at Honeywell India, where she helped them develop their Space and Missiles business, enabling component sales for the 'Mangalyaan' mission.

Meghna Saraogi (2016), Founder of Delhi-based fashion start-up Styledotme, points out that women understand fashion better. "She knows the fashion industry very well, she knows how the company will be five years from now and the investors respect it," she says.

Tough choices

Usha (2016) of SAHA Fund admits to the pressure women succumb to. "No matter how educated she is, if things are not going well on the domestic front, 90 percent of time it is the woman who gives up a job. But as an entrepreneur you are married to your work, you can't give it up. Few women exude that confidence to investors that they can face the challenges. In a pitfall situation, I have seen that men somehow manage it but women struggle," she says. That is why having a male co-founder is seen as helpful in winning investors' trust at times.

Rashi Menda (2016), CEO of online luxury goods platform Zapyle, says, "If she has a co-founding team investors believe in if you have a male co-founder. In a way, your abilities are doubted because you are a woman." Meghna of Styledotme, however, chose to prove naysayers wrong. "She has been told that without a tech co-founder, no one will fund them. But she made it without a tech co-founder – passion is what matters, not gender," she explains.

Investors and scalability

Swati Bhargava (2016), Co-founder, CashKaro says that there is a fear among investors that a woman cannot build scalable startups, as priorities purportedly change for her over time. Swati Bhargava, co-founder of cashback platform CashKaro, concedes having to choose between biological clock and career

aspirations, most women dump the start-up. Also, a majority of women start-up in sectors that are not scalable or will evolve into billion-dollar industries.” CashKaro is backed by Ratan Tata and Kalaari Capital. Of course, men build non-scalable start-ups too. Sanjay Nath, Partner, Blume Ventures says, “she won’t generalise that male entrepreneurs build more scalable start-ups. They are just more in number. In fact, if you are a woman entrepreneur you have tremendous advantage as you can position yourself differently.”

Women investors, mentors and role models

There is a call for more role models and mentors for women, to inspire them and help them ease into a male-dominated ecosystem. This is how an informal network of mentoring helps. Meghna (2016) says: “She has had an amazing experience with Indian Angel Network in terms of support, motivation, mentorship. They helped her to connect more people for the next round of funding. Without reference, most high-profile women do not care about young women entrepreneurs.

The skewed gender ratio manifests in investor circles too, with only a few women in the business as Vani Kola of Kalaari Capital and Renuka Ramnath of multiples equity being the prominent ones. More representation would help encourage women to come forward. Rashi says, when she enters an investors’ conference room, she wishes for at least one woman at the table. Once it did happen – and her pitch changed when she saw a woman at the table feels more comfortable.”

Old habits die hard

Some issues are deep-rooted and require a systemic overhaul of thinking. Founders highlight a host of mistakes made while raising girl children due to preconceived notions and societal pressures for conformity. Usha (2016) of SAHA Fund says, “We are still a patriarchal society. But girls should be taught independence during schooling - on how to handle anything and not feel helpless or pressured down.” Rashi Menda (2016), Founder and CEO, Zapyle a major cultural element is at play here. Rashi says: “Women are taught not to take risks; they grow up sheltered and are then married off as young adults. But I was brought up the same way as my brother. You have to give time to family and in-laws. But when you also get to do what you like, it is balanced.”

Many women have good ideas but do not take it forward because there is no support. Usha (2016) says, “We need lot of training, awareness, and bring up the topic of why things are not working for women in the society.” Meena of Portea (2016) agrees that “They need to be told that it’s okay to take risks which are happening now for more than five years ago,” she adds.

Shattering glass ceilings

High-profile, influential women starting up will keep the conversation on women empowerment going and help change mindsets. Rashi of Zapyle says: “Media is changing the attitude; investors’ hesitation is changing. They appreciate you

doing everything by yourself. But it should be acceptable that if a man can work 14 hours a day, a woman can do it too.” Portea's Meena stresses on government's increased commitment to women, via tax deduction and incentives, as well as bank loans with low rate of interests.

Recently three start-ups from empower, an accelerator for women entrepreneurs, received equity-free seed funding from Department of Science and Technology, and Vodafone. The Central government's much acclaimed Start-up India, Stand-up India scheme provides loans between Rs 10 lakh and Rs 1 crore at concessional interest rates for women entrepreneurs. MSME ministry launched schemes for women entrepreneurship development like Trade Related Entrepreneurship Assistance and Development (TREAD) Scheme, which provides trade-related training and counselling.

Government Schemes

While the support of family and friends is the foundation on which a woman can build her start-up, ignorance of funding schemes and financial support is a major setback inhibiting Indian women from venturing out on their own. The main goal of the scheme is to promote entrepreneurship among the SC/ST and women of the country by extending loans ranging between INR 10 lakh and INR 1 crore for setting up their own enterprise.

The women who avail of this scheme can also avail a number of support services for their businesses and be covered under the government's social welfare schemes. Apart from this, nationalized banks have been encouraged to launch a number of loan schemes to benefit the women entrepreneurs. These include the Annapurna Scheme, Dena Shakti Scheme, Udyogini Scheme, Stree Shakti Scheme, and Mahila Udyam Nigam Scheme.

Bharatiya Mahila Bank

To promote financial support for prospective women entrepreneurs in the country and to provide them access to formal banking institutions, the Bharatiya Mahila Bank Limited (BMBL) was set up in 2013. The prime objective of the bank was to wean Indian women away from non-banking financiers and lenders such as pawn brokers and private institutions, which have traditionally been holding the savings of women and lending to them. This made the women susceptible to frauds and/or high interest rates.

A specialized bank focusing on the financial and funding needs of the women came as a great support to budding entrepreneurs. India became the third country in the world to come up with a bank focused on women, and the BMBL is now 100 branches strong. Earlier this month, the SBI board approved the acquisition of Bharatiya Mahila Bank. This means that the BMBL will soon be part of the country's largest public-sector bank and women entrepreneurs will have access to its financial services.

Conclusion

To conclude, the success and career trajectory of someone like Radhika Aggarwal, Co-founder and CBO of online marketplace Shop Clues, perfectly decimates any argument against women's prowess in entrepreneurship. The sole woman in the glamorous start-up unicorn club recently told YourStory, "When we started Shop Clues, each one of the team members owned a domain – and were the only people in that domain. She ran marketing alone for eight months. She did not know how she did it; now they have a team of 140 people running it." Says Radhika Aggarwal. One day gender will be redundant – but now, women-led organisations will struggle to find the right balance. If society as a whole focus on what women and men can bring individually, it can lead to optimal utilisation of resources.

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“Hiring for a Start-up is Harder than Raising Money” - Human Resource Management in Start-ups

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Abstract

If Business world is an engine, start-ups are its fuel. Business industry will be more successful if the start-ups working in the industry are capable of generating business more efficiently. The business world is transforming and the most important question which arise in such dynamically changing scenario is - Are start-ups ready to embrace such changes on continual basis? Dynamics of challenges faced by emerging companies have been changed. The biggest challenge faced by the start up companies is to attract best talent and retain it. Whereas funding is no longer a big challenge for the emerging companies especially in developed and developing nations. There are many leading start-ups which have faced this challenge and indulged themselves into Talent war. Hence human resource can enable start-ups to make India No. 1 in this field... Start-up India; Stand up India."

Keywords

Business, Start-up India, Stand up India, Human Resource, Talent War

Introduction

Honourable Prime Minister Narendra Modi announced on 15th August, 2015 "Start-up India, Stand-up India" to promote Bank Financing for start-ups and offer incentives to boost entrepreneurship and job creation. Addressing the Nation on the 69th Independence Day, he said, "We are looking at systems for enabling start-ups. We want to enable start-ups to make India No. 1 in this field.... Start-up India; Stand up India."

With the gen-next cool trend to start working on new and innovative ideas, India is all set to outperform all other nations on the world stage in the years to come. Setting up of small businesses by these young entrepreneurs is definitely going to boost the Indian economy in the near future. India is a home for almost 3100 start-ups starting per year standing just behind US, UK and Israel according to the NASSCOM report of 2015. If the growth is continued on the same pace then it is expected that Indian tech start-ups will generate almost 2.5 lakh jobs in the next five years.¹

India is also said to enjoy demographic dividend and it is anticipated that by 2020 India will be a home to 112 million working population falling in the age bracket of 20-24 years as compared to that of 94 million workers of China. This demographic dividend will definitely boost the start up culture in the country.²

Initially, India was considered as the market for providing cheap labour to the world and for export of Indian services in the field of IT. Due to this India has witnessed low product development and innovation in the past. But, still it is not too late and the culture of start-up has started in India in the recent past. It has already started bearing fruits and is all geared up to benefit the Indian economy in the long run.

A curious person on the web likely an enthusiastic entrepreneur asked a simple question does a start-up need an HR person. Start-ups at the time were figuring out how to ride this wave, so it's unsurprising that the first and most popular answer provided was this "No, you don't need an HR person."³

Things have changed since then. For one, many believe that the start-up boom may be coming to an end, what with the rate of venture funding long with many valuations ramping downward. Start-ups are also being forced to grapple with their internal cultural problems; big companies like Twitter, Google, and Apple are being asked to divulge their internal demographics thanks to widespread calls for a more open and transparent work culture. But even with an insular industry seeing slightly more public dialog about its intrinsic biases and inequalities, start-ups still have difficulty figuring out how to maintain and cultivate their workforce and this aversion to HR may explain some part of that.

The phrase "HR is dead" is often repeated in start-up circles. Indeed, Fast Company wrote a story about its shortcomings. It's unclear what's at stake when companies overlook this sort of fundamental structure. A recent Motherboard piece took a look at the impact of no HR on company culture. It found that women are more often than not the most vulnerable employee's due to start-ups' lack of HR and general anti-harassment procedures. An article states, "Ultimately, these structural issues contribute to one of the greatest systemic problems facing working women today: barriers to advancement, known to many as the glass ceiling." And over the years some of the biggest tech start-ups have had accusations of harassment levied at them.

GitHub (2014) is probably one of the most memorable examples in 2014 a female engineer left the company and went public with allegations of being targeted and harassed by one of the cofounders and his wife. The company, following an investigation of the company's actions, found no legal wrongdoing, ultimately sweeping this saga under the rug. A few months later, however, GitHub announced it would make its HR procedures more robust, a move that could have perhaps made the original incident less of public spectacle.⁴

These sorts of instances bring to light the fact that harassment in the workplace is not uncommon, especially in Silicon Valley. A recent survey of women in tech

in the Valley revealed that 60% had experienced unwanted sexual advances in the workplace.

The same number of women also said that when they reported instances of harassment, they were dissatisfied with the results.⁵

What is the Purpose of HR?

This leads to the question, what exactly is the function of HR, and why is it historically so despised? Human Resources have become a catch-all for all the functional but non-flashy parts of an organization: hiring, payroll, health insurance, and all other administrative things.

As Libby Sartain, a former HR executive who worked at both Yahoo and Southwest Airlines, sees it, start-ups' resistance to formal human resources is an issue of culture. "In the old days," says Sartain, HR was primarily administration "to get people on payroll." But now companies are more reticent about adding an additional layer. "I see companies concerned about their culture," she says.

But this cultural issue is a double-edged sword. Start-ups are focused on growth and wooing talent by talking about how fun and casual their company is. Indeed, the idea of start-up culture one that has beer on tap and ping pong tables is a direct response to bureaucratic rigmarole like a human resources department killing a buzz. But the start-up stigma with HR has the potential to create unintended consequences. What happens when someone doesn't fit into that culture? And when those problems happen, it's departments like HR that usually attempt to fix the issues.

"There are a lot of younger people," says Sartain, "who don't understand the importance of ethical behaviour in the workplace." And without the proper safeguard in place, this can lead to a hostile work environment. She adds, "I think some of the younger people haven't learned what kind of behaviour is acceptable and what kind of behaviour is unacceptable".

All the same, when unacceptable behaviour does happen, it leaves those at the receiving end with very few options. That's when employees would normally seek out HR for help, but instead turn to an attorney or go to the media. Thus, business veterans like Sartain the co-founder of Atlanta-based Oxford Industries, as well as Lanier Business Products believe it's imperative to have some system in place for these sorts of situations.

Software as a Substitute

On the other end of the spectrum is the issue of cost. Small businesses obviously can't afford to hire a team to do their administrative work. Instead they are now turning to outsourced or software-built services that fill the gaps. Trinet, Zenefits, and Justworks, for example, offer digital dashboards to onboard and keep track of employees similar to what a traditional HR person would do in the past. But, as one start-up founder wrote in a review of the Zenefits platform, it's especially great for early stage companies, but once you reach about 50 employees, you'll

need something more. New companies don't like the idea that they're using old tactics.⁶

These services, however, capitalize on being the answer for small companies looking to automate menial tasks. Isaac Oates, founder and CEO of Just works, says he saw an opening for this kind of bureaucratic platform. He wanted to build a software solution that would "just do all the stuff that needs to happen." Just works makes it possible for small businesses to automate their payroll, benefits, and regulatory data. These are the kinds of tasks an entire department would have done a decade ago. The focus is precisely on those small businesses that don't have the resources to bring new humans on. With that, just works represents a new cadre of solutions that turn people into software. Employees get their pay stubs through the platform, along with benefits information.

Amanda Moskowitz, founder and CEO of Stacklist - the start-up leadership sharing resource, sees these as one of the big ways start-ups are adapting to HR needs. Instead of hiring one or two new positions, companies are seeking out more soloed products in lieu of an entire human resources department. "While we don't see founders saying they're using X tools and calling it HR," she said, "They are using review tools." These include products, like Glint and Small Improvements, which allow employers to keep track of their workforce, along with opportunities for employees to provide formal feedback.⁷

But it leaves a gap for where a human department once was. Though these HR platforms help businesses stay compliant with state labour laws, they don't provide the same buffer that departments had before. And, perhaps most apparent, a software or automated platform cannot replace the human experience of talking with someone, especially dealing with sensitive issues like health and well-being. If an employee feels uncomfortable in the workplace, he or she can't log on the dashboard and report the event although Just works does offer HR-specific consulting that connects founders with experts when faced with an unexpected event. This leads to the question of whether or not HR is really the issue at hand. If you have a small company of 10-25 people and an employee has very specific, personal needs, would a formal HR associate be what is needed to help the problem?

The Future

According to a recent study by Nasscom (2015), India has around 4400 start-ups that employ close to 85,000 employees. Total funding till 2015 in start-ups is estimated to be \$ 6.5 billion. This excludes funding in start-ups incorporated before 2010, such as Flipkart, Quickr, Practo, Zomato, and Inmobi, which, if taken in account, will further inflate the investment figure. These start-ups have put India on the world map by making it the third- ranked Global Start-up in 2015.⁸

To give a new dimension to entrepreneurship and help set up a network of start-ups in the country it should do away with the current practice of interview-based selections for low-skilled jobs and promote merit by recruiting only through transparent, online processes.

As part of the Skill India and Digital India initiative, package of incentives will be given to manufacturing units for generating jobs.⁹

As India has declared 2010-20 the Decade of Innovation the Government has stressed the need to vocalize a policy to synergies science, technology and innovation and has also established the National Innovation Council (NIC) to boost the start-up is possible only with Human resource person. All young Indians who have the courage to enter an environment of risk, the Start-up India Hub will be of your friend, mentor and guide to hold your hand and walk with you through this journey.

Conclusion

Today start-ups are defined by not only how they are approaching towards their business goals but also how they react in worse business scenarios. Its Human resource which not only matters in good times of start up but also it defines the organization in bad times.⁹

Smarter the talent you got in an industry, tougher is to attract such talent towards a start-up. A rival in such a scenario is not only the big MNCs where your prospective talent can find a lucrative job but also a possible opportunity for prospective hires to start their own ventures. Another issue apart from the fierce form of competition for talent is that if the start-up fails to attract good talent in the business industry, it will eventually fail to sustain its long-term business strategy due to lack of investment.

So, it can be concluded that now-a-days, finding a compatible talent for a start up is not an option but a crucial step for running the business successfully. As truly mentioned by Naval Ravikant (2015) of Venture Hack- "Hiring for a start up is harder than raising money."¹⁰

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An Analysis of Revenue and Capital Expenditures in India

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Abstract

The size and pattern of Public spending has great relevance in the growth process and in the reduction of economic disparities. The pressure on Public expenditure is particularly great in developing economies because of growing population and Public expenditure is an effective policy instrument in this context. This study has analysed the trend in revenue and capital expenditures in the Reform period (i.e., from 1991 onwards). This paper points out the rapid growth of Public expenditure throughout the study period. The major proportion of revenue expenditure has been highlighted in this analysis and stresses upon the improvement of capital expenditure side as higher expenditure on capital account would be growth enhancing, enabling the overall development of the economy.

Introduction

Central and state governments in India spend massive amounts for developmental, welfare and administrative activities. At the time of Independence, public expenditure formed around 5 per cent of national income. Presently this figure hovers around 14 per cent. Public expenditure in India has various classifications which are important because they explain the inter-relationship between the government sector and rest of the economy and reveal the relative size of different governmental activities in the economy.¹ The size and pattern of Public spending has great relevance in the growth process and in the reduction of economic disparities. The pressure on Public expenditure is particularly great in developing economies because of growing population and the consequent need for medical, educational, housing and employment facilities. Public expenditure is an effective policy instrument in this context. The best way to look at the structure of government expenditure is to examine the economic division of total expenditure between revenue and capital expenditure.

The nature of Revenue expenditure is that it neither creates assets nor reduces a liability and is recurring in nature which is incurred every year. Generally, these expenditures are incurred for the normal running of Government departments, and various other services such as interest charges of debt incurred by government, salaries of employees, subsidies, pensions and others are financed

out of revenue receipts. All grants received by state governments and other parties are also treated as Revenue expenditure. The purpose of such expenditure is not to build up any capital asset but to ensure normal functioning of the government machinery.

On the contrary, Capital expenditure is an expenditure which either creates an asset (e.g., construction of buildings) or reduces a liability (e.g., repayment of loan). It deals with the cost of constructions or acquiring an asset of a lasting nature, yielding revenue or avoiding recurring commitment. Items like purchase of land or buildings, investment in shares, laying of roads, irrigation projects, machinery and equipments, share capital investments, leading to direct capital formation comes under Capital expenditure. Capital expenditure is incurred for financing projects involving heavy cost which is met out of capital receipts. This type of expenditure adds to the capital stock of the economy and raises its capacity to produce more in future.

This study analyses the trend in revenue and capital expenditures in the Reform period (i.e., from 1991 onwards).

Trends in Revenue and Capital Expenditures

From the time the economic reforms began, there has been a tendency to suppress capital expenditure in the face of the inability to control revenue expenditure. While disapproving spiraling revenue expenditures and bemoaning the decline in capital expenditures, it is being assumed that all capital expenditures are developmental in nature.² Even though this standpoint may generally be true, it is important to remember that there can be and have been wasteful capital expenditures. This state of affairs could not but raise extreme concern about the future growth prospects of the economy. Table-1 presents the share of revenue and capital expenditures towards total expenditure and also their contribution in percentage and respective growth rates.

The first major trend in Public expenditure in India is the growing revenue expenditure of the Central Government from Rs. 73,557 crores in 1990-91 to Rs. 1,536,047 in 2015-16 which is a 20-fold increase. Increased defence commitments, expansion of administration, Governments' international commitments, increase of Governments' participation in nation building activities like education and public health, rise in prices are responsible for the increased revenue expenditures of the Central Government. Capital expenditure during the same period increased only about 8 times from Rs. 27,327 crores in 1990-91 to Rs. 2,41,431 crores in 2015-16. This trend reveals that the composition of total expenditure is skewed in favour of revenue expenditure contributing 86.42 per cent in 2015-16 whereas capital expenditure constituted only 13.58 per cent in the same year.

The growth rate of revenue expenditure has more or less been on a stable trend ranging between 10 to 20 percent, with few outliers. In 1991-92, the growth rate was 11.87 per cent and steadily increased to 20.23 per cent in 1998-99.

Thereafter, it started declining and reached 5.55 per cent in 2005-06. In 2006-07, it rose up to 27.21 per cent and declined till 2015-16 reaching 3.17 per cent except for the year 2008-09 where the highest growth rate was recorded at 33.17 per cent. However, the growth rate of revenue expenditure has been on a positive path all through the years i.e., from 1991-92 to 2015-16.

As against the stable trend of revenue expenditure, the growth rate of capital expenditure is found to be on an undulating trend. Though the actual amount of capital expenditure is increasing over the years, the rate of increase is found to be on a decreasing trend and this has been reflected in its growth rate. The growth rates have been fluctuating and negative growth rates have also been observed in few years. In 2003-04 and 2004-05, the highest negative growth rates have been registered i.e., -111.82 and -708.83 respectively. This can be attributed to the decrease in the actual amount of capital expenditure by Rs. -3,206 crores in 2003-04. This was due to the higher proportion of repayment of loans and advances by the states and union territories to the Central Government. The implementation of Fiscal Responsibility and Budget Management (FRBM) Act in 2003 also had an impact over the capital expenditure of the Government as it brought about changes in the rate of fiscal deficit to not more than 3 per cent; thereby reducing the amount of loans sanctioned to the states and others³. Due to the fluctuating trend of capital expenditures' growth rate, it becomes imperative to analyse its pattern in an elaborate manner. The following section examines the various components of revenue and capital expenditures and its significance towards the economy.

Trends in the Components of Revenue Expenditure

Revenue expenditure is incurred for the normal running of government departments and various services and payment of interest charges on debt incurred by government. In short, expenditure which does not result in the creation of assets is treated as revenue expenditure and is met out of revenue receipts of the Government, i.e., tax revenue and other revenues. Revenue expenditure consists of various heads of expenditures. For the purpose of this study, Revenue expenditure has been studied under Developmental and Non-Developmental expenditures. Expenditure on social and community services, economic services and grants-in-aid to the states and union territories fall under developmental expenditures. Expenditure on general services (audit, tax collection, pensions, public works) come under non-developmental expenditures. The most significant items of expenditure under non-development category are interest payments, subsidies and defence services.

Table-2 depicts the breakdown of revenue expenditure into developmental and non-developmental expenditures from 1990-91 to 2015-16. It could be observed from the table that the total amount of Revenue expenditure increased almost 20 times i.e., from Rs. 78,843 crores in 1991-92 to Rs. 14,80,501 crores in 2015-16. This trend of escalating Revenue expenditure is not considered to be ideal as

revenue expenditures are generally considered to be non-developmental in nature. However, to understand the real impact of revenue expenditure upon the economy, this study classifies developmental and non-developmental expenditures under the Revenue account.

It is evident from the above table that in the 90s, the share of developmental expenditure was much lower than non-developmental expenditure with the latter possessing almost double the share of developmental expenditure. In 1991-92, the share of non-development expenditure was 63 per cent, whereas the share of development expenditure stood at 37 per cent. Throughout the 90s, this trend could be observed wherein non-developmental expenditure constituted almost 65-70 per cent and on the other hand, developmental expenditure was contributing around 30 per cent. It could be noticed that this trend reversed gradually from 2000-01 onwards. The share of developmental expenditure started increasing and non-developmental expenditure began to decline. In 2015-16, the share of non-developmental expenditure decreased to 55.5 per cent and developmental expenditure contributed 45 per cent. Though the percentage share of non-developmental expenditure was still higher when compared to developmental expenditure, the balance between these expenditures improved gradually. This trend is much appreciated as higher non-developmental revenue expenditure would lead to higher borrowings which imply higher interest payments, this becoming a vicious circle. Therefore, higher proportion of developmental expenditure is always desirable under Revenue account.

Trends in the Components of Capital Expenditure

Capital expenditure which is financed out of capital receipts is said to be developmental in nature and is incurred for the purpose of creating assets and capital formation. There are three major heads of expenditure under capital expenditure namely, Non-developmental expenditure, Developmental expenditure and Loans and Advances. Under Non-developmental expenditure, the main item of expense is defence services and it also includes expenditure on fiscal services. These expenditures are of non-developmental in nature as they neither create assets nor in capital formation. Developmental expenditure on the other hand brings forth revenue through creation of assets. It includes expenditure on (a) social and community services (b) economic services (c) loans advanced to states and union territories for financing developmental projects and (d) loans advanced to finance public enterprises.

Table-3 represents the contribution of these three major heads towards the total capital expenditure from 1990-91 to 2015-16. The total amount of capital expenditure has witnessed a significant rise in the study period i.e., from Rs. 27,327 crores in 1990-91 to Rs. 2,41,431 cores in 2015-16. The share of Non-developmental expenditure stood at 19.63 per cent in 1990-91 towards the total capital expenditure. With a fluctuating trend, it rose up to 64.5 per cent in 2002-03 and immediately slumped down to -629.13 per cent in the following

year. In 2004-05, its share reached a peak of 179.4 per cent and thereafter started declining and stood at 44 per cent in 2015-16. The analysis of Non-developmental expenditure reveals an increasing trend in the late 1990s and with certain fluctuations in 2003-04 and 2004-05 it started declining in the following years.

Developmental expenditure stood at 29.4 per cent in 1990-91 and decreased up to 14.4 per cent in 1996-97. Again, it started rising and reached 46.43 per cent in 2002-03. Similar to Non-developmental expenditure, there were fluctuations in Developmental expenditure also in 2003-04 and 2004-05. It reached a negative growth rate of -471.6 per cent in 2003-04 and galloped to 92.3 per cent in 2004-05. In the following years it depicted a fluctuating trend and settled at 41 per cent in 2015-16. In both Non-developmental and Developmental expenditures, the movements of growth rates were highly fluctuating with highest disturbances in 2003-04 and 2004-05 in particular. The causal agent is the Loans and Advances component.

Since the states and union territories suffer from shortage of funds for undertaking developmental projects, the Central Government provides them loans for undertaking various activities in their respective areas. In 1990-91 the percentage contribution of Loans and Advances constituted more than 50 per cent. It gradually decreased and reached a negative rate of -10.98 per cent in 2002-03 with a slight rise in 1995-96 and 1996-97. In 2003-04, its share jumped to its highest at 1200.75 per cent. But in the following year, it reached its all time lowest by dipping down to -171.68 per cent. Thereafter it started gaining momentum and reached up to 18.34 per cent in 2014-15 and stood at 14.5 per cent in 2015-16. The overall picture depicts quite a stable trend in all the three components except in the years 2003-04 and 2004-05. The reason for these outliers is attributed to the implementation of FRBM Act. The reverse trend of Loans and Advances can be observed due to the Debt consolidation and Debt Waiver Scheme for the state governments started by the Central Government.

From the foregoing analysis of the trends in expenditure at the central level, it could be concluded that the total expenditure of the central government has been rapidly growing throughout the study period. Though there has been steady growth in the level of expenditures, the major proportion has been in the form of revenue expenditure which is not desirable in an economy like ours as it does not yield any returns. Therefore, capital expenditure which incurs revenue for the economy has to be enhanced in such a way that it would help in boosting infrastructural growth and thereby lead to overall development of the economy.

Table-1: Revenue and Capital Expenditures of the Central Government of India from 1990-91 to 2015-16 (in crores)

Year	Revenue Expenditure			Capital Expenditure			Total Expenditure	
	Amount	%	GR	Amount	%	GR	Amount	GR
1990-91	73557	72.91	-	27327	27.09	-	100884	-
1991-92	82291	76.26	11.874	25612	23.74	-6.276	107903	6.957
1992-93	92690	75.66	12.637	29825	24.34	16.449	122515	13.542
1993-94	108499	76.58	17.056	33190	23.42	11.282	141689	15.650
1994-95	122346	79.12	12.762	32294	20.88	-2.700	154640	9.140
1995-96	139714	80.19	14.196	34504	19.81	6.843	174218	12.660
1996-97	158811	82.14	13.669	34533	17.86	0.084	193344	10.978
1997-98	179996	86.68	13.340	27668	13.32	-19.880	207664	7.406
1998-99	216417	86.28	20.234	34416	13.72	24.389	250833	20.788
1999-00	248869	85.99	14.995	40531	14.01	17.768	289400	15.376
2000-01	277975	88.81	11.695	35036	11.19	-13.558	313011	8.159
2001-02	301775	87.06	8.562	44838	12.94	27.977	346613	10.735
2002-03	340093	92.61	12.698	27134	7.39	-39.484	367227	5.947
2003-04	363045	100.89	6.749	-3206	-0.89	-111.815	359839	-2.012
2004-05	383031	95.15	5.505	19519	4.85	-708.827	402550	11.869
2005-06	404303	87.77	5.554	56311	12.23	188.493	460614	14.424
2006-07	514313	91.04	27.210	50621	8.96	-10.105	564934	22.648
2007-08	593659	84.57	15.428	108327	15.43	113.996	701986	24.260
2008-09	790593	90.37	33.173	84237	9.63	-22.238	874830	24.622
2009-10	905473	89.37	14.531	107720	10.63	27.877	1013193	15.816
2010-11	1036061	87.22	14.422	151836	12.78	40.954	1187897	17.243
2011-12	1145955	89.04	10.607	141042	10.96	-7.109	1286997	8.342
2012-13	1259391	88.88	9.899	157529	11.12	11.689	1416920	10.095
2013-14	1371772	87.97	8.923	187675	12.03	19.137	1559447	10.059
2014-15	1488780	88.56	8.530	192378	11.44	2.506	1681158	7.805
2015-16	1536047	86.42	3.175	241431	13.58	25.498	1777478	5.729

Sources: 1) Various issues of Indian Public Finance Statistics, and 2) Budget Statement 2015-16.

Table-2: Components of Revenue Expenditure (Rs. Crores)

Year	Non-developmental			Developmental			Total
	Amount	%	GR	Amount	%	GR	Amount
1990-91	43615	62.17		26542	37.83		70157
1991-92	49753	63.10	14.07	29090	36.90	9.60	78843
1992-93	56837	63.98	14.24	31996	36.02	9.99	88833
1993-94	69168	66.21	21.70	35295	33.79	10.31	104463
1994-95	73632	52.49	6.45	66641	47.51	88.81	140273
1995-96	92018	68.45	24.97	42411	31.55	-36.36	134429
1996-97	105515	68.75	14.67	47958	31.25	13.08	153473
1997-98	122050	68.99	15.67	54850	31.01	14.37	176900
1998-99	148850	69.70	21.96	64719	30.30	17.99	213569
1999-00	171710	70.06	15.36	73370	29.94	13.37	245080
2000-01	185667	69.70	8.13	80730	30.30	10.03	266397
2001-02	199669	69.12	7.54	89215	30.88	10.51	288884
2002-03	223974	68.01	12.17	105373	31.99	18.11	329347
2003-04	232679	66.09	3.89	119363	33.91	13.28	352042
2004-05	245918	66.30	5.69	124996	33.70	4.72	370914
2005-06	260052	62.64	5.75	155104	37.36	24.09	415156
2006-07	289375	59.56	11.28	196484	40.44	26.68	485859
2007-08	328123	57.84	13.39	239171	42.16	21.73	567294
2008-09	410338	53.76	25.06	352996	46.24	47.59	763334
2009-10	500226	57.12	21.91	375549	42.88	6.39	875775
2010-11	540370	53.79	8.03	464177	46.21	23.60	1004547
2011-12	581670	52.78	7.64	520312	47.22	12.09	1101982
2012-13	651804	54.12	12.06	552555	45.88	6.20	1204359
2013-14	678743	49.59	4.13	690023	50.41	24.88	1368766
2014-15	750804	54.27	10.62	632592	45.73	-8.32	1383396
2015-16	822619	55.56	9.57	657882	44.44	4.00	1480501

Sources: 1) Various issues of Indian Public Finance Statistics, and 2) Budget Statement 2015-16.

Table-3: Components of Capital Expenditure (in crores)

Year	Non-Developmental			Developmental			Loans & Advances			Total
	Amount	%	GR	Amount	%	GR	Amount	%	GR	GR
1990-91	5364	19.63	-	8023	29.36	-	13940	51.01	-	27327
1991-92	6954	27.15	29.64	6959	27.17	-13.26	11699	45.68	-16.08	25612
1992-93	12708	42.61	82.74	7176	24.06	3.12	9941	33.33	-15.03	29825
1993-94	12908	38.89	1.57	6021	18.14	-16.10	14261	42.97	43.46	33190
1994-95	7251	22.45	-43.83	11145	34.51	85.10	13898	43.04	-2.55	32294
1995-96	11344	32.88	56.45	5350	15.51	-52.00	17810	51.62	28.15	34504
1996-97	9228	26.72	-18.65	4967	14.38	-7.16	20338	58.89	14.19	34533
1997-98	9965	36.02	7.99	7560	27.32	52.20	10143	36.66	-50.13	27668
1998-99	16837	48.92	68.96	7963	23.14	5.33	9616	27.94	-5.20	34416
1999-00	14551	35.90	-13.58	11172	27.56	40.30	14808	36.53	53.99	40531
2000-01	14219	40.58	-2.28	11155	31.84	-0.15	9662	27.58	-34.75	35036
2001-02	17855	39.82	25.57	12316	27.47	10.41	14667	32.71	51.80	44838
2002-03	17514	64.55	-1.91	12599	46.43	2.30	-2979	-10.98	-120.31	27134
2003-04	20170	-629.13	15.17	15120	-471.62	20.01	-38496	1200.75	1192.25	-3206
2004-05	35016	179.39	73.60	18014	92.29	19.14	-33511	-171.68	-12.95	19519
2005-06	35771	63.52	2.16	19848	35.25	10.18	692	1.23	-102.06	56311
2006-07	36691	72.48	2.57	22602	44.65	13.88	-8672	-17.13	-1353.18	50621
2007-08	41819	38.60	13.98	65122	60.12	188.12	1386	1.28	-115.98	108327
2008-09	47379	56.24	13.30	30111	35.75	-53.76	6747	8.01	386.80	84237
2009-10	62383	57.91	31.67	38303	35.56	27.21	7034	6.53	4.25	107720
2010-11	79829	52.58	27.97	60842	40.07	58.84	11165	7.35	58.73	151836
2011-12	78881	55.93	-1.19	60584	42.95	-0.42	1577	1.12	-85.88	141042
2012-13	83839	53.22	6.29	66725	42.36	10.14	6965	4.42	341.66	157529
2013-14	87900	46.84	4.84	68776	36.65	3.07	30999	16.52	345.07	187675
2014-15	89645	46.60	1.99	67451	35.06	-1.93	35282	18.34	13.82	192378
2015-16	106389	44.07	18.68	98970	40.99	46.73	36072	14.94	2.24	241431

Sources: 1) Various issues of Indian Public Finance Statistics, and 2) Budget Statement 2015-16.

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A Study on Impact of Economic Reforms in the Dairy Industry in India

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Abstract

In India, the dairy industry plays an important role in the country's socio – economic development and constitutes an important segment of the rural economy out of the total milk production in India, only 35 percent milk is being processed of which the organized dairy industry accounts for 15 percent of the milk produced, while the rest of the milk is either consumed by the producers themselves or sold at the origin through informal channels. The impact of Economic reforms on dairy industry is positive. The growth of milk production in India has increased from 4.32 percent in the year 1991 to 6.15 percent in 2016. Dairy Industry provides livelihood to millions of homes in villages, ensuring supply of quality milk and milk products to people in both urban and rural areas. With a view to keeping pace with the country's increasing demand for milk and milk products, the industry has been growing rapidly; growth potential of dairy market is projected to grow at CAGR of 10-11 percent and would touch USD 84 bn by 2017.

Keywords

Dairy Industry, milk production, per capita availability of milk

Introduction

Fundamental changes in the Indian economic policy were introduced in 1991. After this the Industrial licensing has been abolished. There is no need of the large business houses required to take separate permission for investment and expansion. The list of industries reserved for the public sector has been reduced and equity in public enterprises is being divested. Access to foreign capital and technology has been made freer, the quantitative restrictions on imports have been virtually abolished, and import duties have also been significantly reduced. The basic idea behind such economic reforms is that the reduction in the size of the public sector and the lifting of government controls and regulations on production, trade and investment would usher in a more competitive environment, improve efficiency and hence growth. The pattern of

industrialization is expected to be not only internationally competitive but also “sufficiently labour-intensive”. The problem of poverty was to be tackled through rapid and sustained growth in output and employment (GoI 1993). A number of studies have been published on the impact of reforms on industry (Nambiar *et al.*, 1999; Mani, 1998; Chandrasekhar, 1996). These studies have analyzed a number of critical issues and are in general critical about the reforms process. The focus of this paper is on the impact of economic reforms in the Indian dairy industry.

The Indian dairy industry is poised for spectacular growth. The importance of dairying in a country like India hardly needs emphasize. India has vast resources of Dairy Industry which plays an important role in the national economy and also in the socio-economic development of millions of rural households. It contributes a large share of the agro-based food products. With the initiation of India's first Five-Year Plan in 1951, innovation of the dairy industry became a main concern for the government. The goal was to provide hygienic milk to the country's growing urban population. Primarily government action in this view consisted of organizing "milk schemes" in big cities. To encourage milk production, the government implemented the Integrated Cattle Development Project (ICDP) and the Key Village Scheme (KVS), among other like programmes. In the deficiency of a constant and remunerative market for milk producers thorough milk production remained more or less heavy. During the two decades between 1951 and 1970, the growth rate in milk production was hardly 1 percent per annum, as per capita milk utilization declined by an equivalent amount. In 1989, the government of India launched the Technology Mission on Dairy Development (TMDD) program to support addition the efforts of operation Flood, to enhance rural employment opportunities and income production through dairying.

Growth of the Industry

In 1991, the Indian dairy industry was providing licensing provisions. While early 1990s, India embarked upon liberal policy framework, which got unbreakable with the signing of Uruguay Round Agreement on Agriculture (URAA) in 1994. This opening-up increasingly uncovered the Indian dairy sector to the global markets, which in-turn is fuzzy by export subsidies, domestic support and excessive tariffs in developed countries. Milk production was more or less unexciting during the 1950s and 1960s and annual production growth was unenthusiastic in several years. The per capita availability of milk declined which upset the policy makers. During the second-half of the 1960s the government of India made major policy changes in dairy sector. Growth of Indian dairy sector over the last three decades (post-of period) has been enormously impressive.

The milk production in the country has more than trebled to over 146 million tonnes between 1991-92 and 2014-15 with an average increase of about 5 per cent per annum, which in comparison to world rate of about 15 per cent is a huge amount higher. But the dairy sector steadily improved its percapita availability of milk in India from 1 percent in the year 2003-2004 to 4.88 percent in 2014-15.

However, India has become the biggest milk producing country in the world; its position in terms of per capita availability is one of the buck. The per capita availability of milk was about 2.24 percent per day in 1991-92, and declined to 1 percent per day in 2003-04. However, the nearby level of per capita accessibility is greatly less the world standard of 285 gm and even less than 220 gm suggested by the Nutritional Advisory Committee of the Indian Council of Medical Research (ICMR).

Table-1: Growth of Milk Production in India

Year	Milk Production in India (Million Tonnes)	Growth Rate (%)
1991-92	55.6	-
1992-93	58.0	4.32
1993-94	60.6	4.48
1994-95	63.8	5.28
1995-96	66.2	3.76
1996-97	69.1	4.38
1997-98	72.1	4.34
1998-99	75.1	4.57
1999-00	78.1	3.86
2000-01	80.6	2.94
2001-02	84.4	4.71
2002-03	86.2	2.13
2003-04	88.1	2.20
2004-05	92.5	4.99
2005-06	97.1	4.97
2006-07	102.6	5.66
2007-08	107.9	5.16
2008-09	112.2	3.98
2009-10	116.4	3.74
2010-11	121.8	4.63
2011-12	127.9	5.08
2012-13	132.4	3.51
2013-14	137.7	4.03
2014-15	146.3	6.24
2015-16	155.3	6.15

Source: Department of Animal Husbandry, Dairying and Fisheries,
Ministry of Agriculture, Government of India.

Out of the Total milk production in India, only 35 percent milk is being processed of which the organized dairy industry accounts for 15 percent of the milk produced, while the rest of the milk is either consumed by the producers themselves or sold at the origin through informal channels. The production level of milk in India can be projected to be USD 84 bn by 2017 (CAGR). The total milk economy is estimated at (1991-2015) Rs.82 billion in terms of value. Apart from MNCs like Nestle companies and Britannia, the Indian enterprises have also made perceptible progress. Indian companies engaged in the processing of milk, producing a variety of milk products as Amul, Bread spreads, Butter milk, Ice cream, Dairy Milk and chocolates. National Dairy Development Board is valued at US \$ 62.67 billion and expected to grow 5 percent annually. India is a major exporter of processed dairy products USD 546.1 million during 2013-14. Saudi Arabia, Bangladesh, UAE and Egypt are the top export destinations.

Table-1 shows that in India milk production increased from 4.32 percent in the year 1991 to 6.15 percent in 2016. The impact of Economic reforms on dairy industry is positive. It shows increasing trend in milk production in India. In 1950-70 unaware of modernization, people were unable to increase the production in the dairy industry in India. At present due to the upgrading dairy industry, milk production has improved. From the year 1991-92 milk production has gradually increased year to year. In the year 2002-2003 the growth rate of milk production suddenly decreased due to the constant and remunerative market for milk producers.

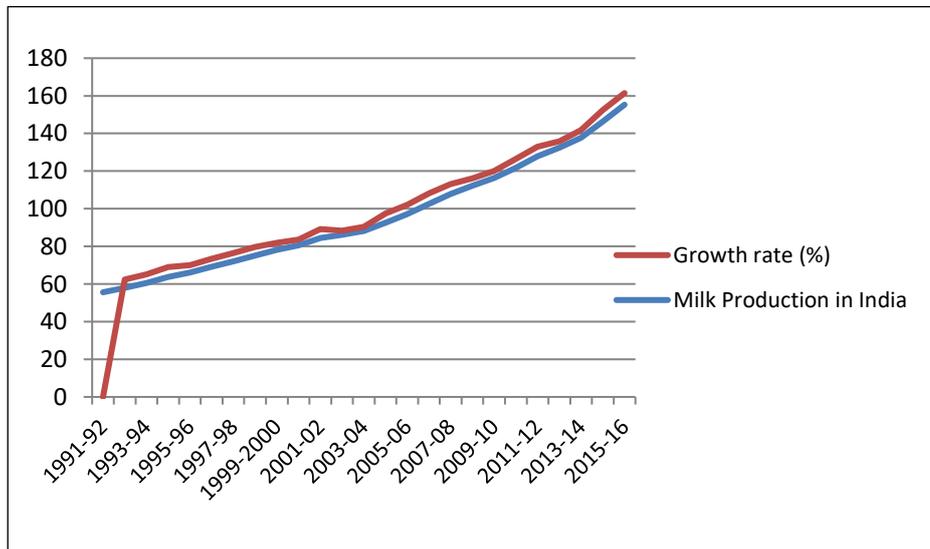
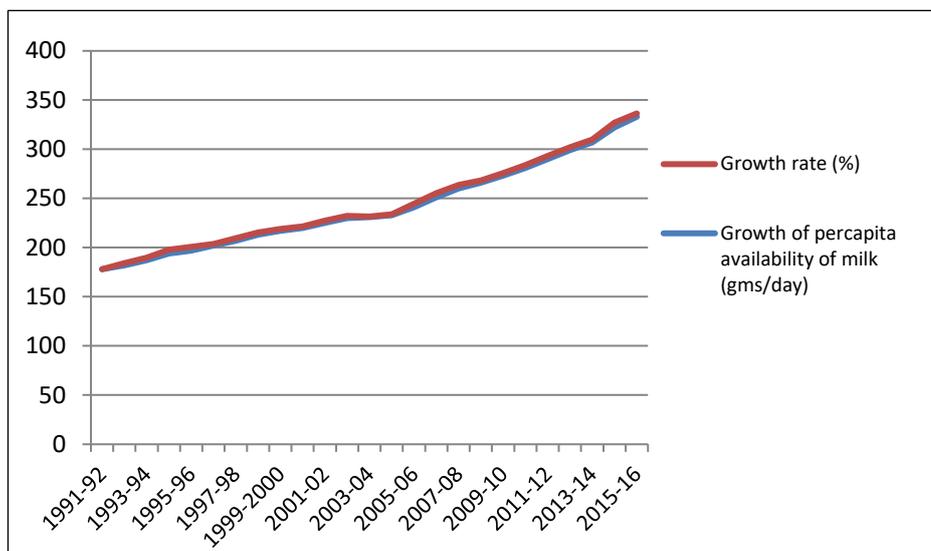


Table-2: Growth of per capita availability of milk in India

Year	Growth of per capita availability of milk (gm/day)	Growth Rate (%)
1991-92	178	-
1992-93	182	2.24
1993-94	187	2.74
1994-95	194	3.74
1995-96	197	1.54
1996-97	202	2.53
1997-98	207	2.47
1998-99	213	2.89
1999-00	217	1.87
2000-01	220	1.38
2001-02	225	2.27
2002-03	230	2.22
2003-04	231	0.43
2004-05	233	0.86
2005-06	241	3.43
2006-07	251	4.14
2007-08	260	3.58
2008-09	266	2.30
2009-10	273	2.63
2010-11	281	2.93
2011-12	290	3.20
2012-13	299	3.10
2013-14	307	2.67
2014-15	322	4.88
2015-16	333	3.41

Source: Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India.

The above Table-2 depicts that the growth of per capita availability of milk in India. The impact of Economic reforms on dairy industry is positive. The growth of per capita availability of milk in India has also increased from 2.24 percent in the year 1991 to 4.88 percent in 2015. The total milk production was increased but percapita milk production declined from 4.88 percent in 2015 to 3.41 percent in 2016, showing the declining rate of 1.47 percent due to the inflexible and monsoon failure of milk producers in India.



Indian dairy sector has become progressively more liberalized since 1991. In view of the availability of physical, natural and human resources available in India, it can be concluded that the Dairy sector has a potential to increase the socio – economic conditions of both rural and urban India. According Indian dairy Industry report in 2016, India is the largest milk producing country in the world but only 15 percent of total milk is processed. It has steadily grown from 55.6 million tonnes to 155.3 million tonnes from 1991 to 2016. It enhances the socio-economic condition in India. If the total processed milk production is increased from 15 percent to 30 percent it will help the industry to attain the top place in the economy and provide additional employment to the rural people.

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An Overview of the Health Care Status in India

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Abstract

India's major thrust in the health care sector has been to improve the health status of her population through principally bringing down morbidity, fertility and mortality rates. Over the past sixty years, development planning has helped to create an immense health infrastructure at the primary, secondary and tertiary care levels in the government, voluntary and private sectors in India. Despite huge achievements and improvements in health care since Independence, India's public health sector suffers from underfunding. The amount of public expenditure that India spends on healthcare is very small compared to other emerging countries of the world. Only drastic measures can pull the public health sector out of the current mess and help build a stronger and effective public health care system in India.

Keywords

Health, indigenous medicine, western medicine, public spending, private spending, out-of-pocket spending (OOP), GDP, public-private partnership (PPP), corporate health care, multi-speciality and super speciality hospitals

Introduction

The health status of a nation is a vital indicator of its economic progress. Since Independence, India's major thrust in the health care sector has been to improve the health status of her population through principally bringing down morbidity, fertility and mortality rates. Over the past sixty years, development planning has helped to create an immense health infrastructure at the primary, secondary and tertiary care levels in the government, voluntary and private sectors in India. Commendable achievements have been accomplished to improve health standards such as increase in life expectancy, decrease in infant and maternal mortality, eradication of small pox, guineaworm and leprosy. Several epidemic and communicable diseases have been brought under control. Yet malnutrition, non-communicable diseases, chronic and lifestyle diseases affect a large proportion of the population especially women, children and older people. A very high proportion of the population continues to suffer and die from newer diseases

apart from the existing ones. Even after six decades of development and health planning, the Indian health care system has fallen short of the expectations in ensuring a decent, healthy living for a vast majority of her people. Between 1995 and 2014 India's public health expenditure rose only from 1.1 percent of GDP to 1.4 percent. India has one of the lowest public health spending levels in the world. This study contemplates to throw light on the changing character of the healthcare system in India.

“It is health that is real wealth and not pieces of gold or silver,” said Mahatma Gandhiji. ‘Health’ is defined by the WHO, as a “state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” Health is a dynamic process resulting from the body's constant adjustment and adaptation in response to stresses and changes in the environment for maintaining an inner equilibrium called homeostasis. Good health is central to human happiness, development and well-being.

Traditionally health care in India was a voluntary service which thrived on indigenous medical knowledge and natural medicinal cures. The art of healing was held in high esteem in ancient India. It was given a divine status. Ancient medicine dealt with plants, minerals, spirits, stars, voodoo, energy, appeasing gods and more. There were priests, herbalists, magicians, sorcerers and heads who spread their intuitive arms around the patient(s) to diagnose, cure and heal. Knowledge of this art spread among such ‘healers’ who roamed from place to place providing healing service. These medicos over the passage of time came to be called as vaidyas and hakims. The health care system of these times was not about illness treatment alone. It was a combination of many concepts such as diet, climate, beliefs, supernatural, empirical and culture into treatment of the patients. Thus Siddha, Ayurveda and herbal medicines came into existence as the indigenous system of health care. Indian system of health care was based on these multi-dimensional approaches.

With the advent of British Colonial rule in India, the situation changed. Indigenous medical practices were considered as superstitious and an antithesis to western medicine. Western medicinal practices were vigorously promoted and they gradually made in-roads into the conventional system of health care almost replacing the system completely. The history of western medicine in India dates back to 1600, when the first medical officers arrived in India along with the British East India Company's first fleet as ship's surgeons. In 1757, the East India Company established its rule in India, which led to the development of civil and military health services. The modern Allopathic system of medicine owes its existence to the British rule and the East India Company, which instituted dispensaries for their military troops, Company servants and their own civilian people. Epidemic diseases that had devastating effects during that period were plague, leprosy, cholera and malaria. The British government took great efforts to prevent such diseases but due to insufficient medical personnel and required funds, the major target was to alleviate suffering and render curative services.

Health care was solely a state responsibility during that period with hardly any volunteer or private sector organizations. In due course the dispensaries turned into hospitals and the hospitals gave way to the development of medical colleges and related services.

Soon after Independence, the Government of India took up the responsibility of providing health care through emphasis on primary health care services. The Public Health System in India consists of a set of state-owned health care services funded and managed by the Government of India (both central and state governments). It consists of a three-tier delivery structure made up of primary, secondary and tertiary health care. Every Five Year Plan had targets, fund allocation and priority programmes for health care in the country. Tremendous achievements have been made in the health care sector since the initiation of the Five Year Plans. With the help of health care planning major epidemic and communicable diseases have been either eradicated or brought under good control. Continuous efforts towards improving the access to and utilisation of health care services have led to a steep fall in morbidity, mortality and fertility rates.

Health is a primary human right and has been accorded due importance in the Constitution of India under Article 21. The Indian Constitution emphasises on health care as a State subject where the Central and State governments are equally responsible for providing public health care to the people of the country. The Directive Principles of State Policy enshrined in the Constitution clearly says that, the raising of the level of nutrition, the standard of living and the improvement of the health status of the people are among the primary duties of the states.

The health sector in India encompasses an unfinished agenda of infectious diseases, malnutrition and the challenge of an escalating trend of non-communicable diseases. To overcome this dual challenge, a concerted public health care action plan that will ensure the efficient delivery of cost effective interventions for health promotion, disease prevention and affordable diagnostic health care is an inevitable need. Health spending is considered as a clear merit good because of the existence of substantial externalities which lead to market failure and this requires solutions through the public sector. But in the recent decades public health expenditure in India has been on the decline and health expenditure has been dominated by private spending.

Public spending on health care in India is at one per cent of GDP and amongst the lowest in the world. India remains among the five countries with the lowest public health spending levels in the world (World Health Organisation, Country Cooperation Strategy: At a glance, India, 2013). The public health care system is not able to meet the growing demands for health care. The gap between demand and supply of health care is being bridged by the private health care providers and this has facilitated the emergence and growth of corporate health care in India.

Table 1: Year-wise data on Health Expenditure in terms of percentage of GDP in India from 1995 to 2014

Year	Health Expenditure (% of GDP)		
	Public	Private	Total
1995	1.05	2.97	4.02
1996	1.01	2.89	3.90
1997	1.07	3.18	4.25
1998	1.10	3.19	4.30
1999	1.13	2.90	4.03
2000	1.11	3.15	4.26
2001	1.08	3.42	4.50
2002	1.03	3.38	4.40
2003	0.98	3.31	4.30
2004	1.02	3.20	4.22
2005	1.13	3.15	4.28
2006	1.11	3.14	4.25
2007	1.10	3.13	4.23
2008	1.16	3.18	4.34
2009	1.22	3.15	4.38
2010	1.16	3.12	4.28
2011	1.18	3.16	4.33
2012	1.18	3.21	4.39
2013	1.29	3.24	4.53
2014	1.41	3.28	4.69

Source: WHO, Global Health Expenditure Database

From Table-1, it is clear that the annual public health expenditure i.e., the average of 20 years is at a dismal low of 1.13 per cent of GDP while the private health expenditure stands at 3.17 per cent of GDP over the same period. Private health expenditure is nearly two and a half times more than public expenditure which goes to prove that nearly 70 per cent of the total health expenditure is funded by private financing. This also confirms that health expenditure in India is dominated by the private sector and there is an inadequacy in public spending on health care. Between 1995 and 2014 India's public expenditure on health care rose only from 1.1 per cent of GDP to 1.4 per cent. The data above provides evidence that public health expenditure in terms of percentage of GDP has not crossed 2 per cent of GDP at any time during the twenty years taken into consideration.

Table 2: World Development Indicators - Health Systems

Country	Total % of GDP 2014	Public % of GDP 2014	Out of Pocket % of total 2014	External sources % of total 2014	Per capita \$ 2014	Per capita PPP \$ 2014	Health Workers		Hospital beds per 1000 people (2007-12)
							Physicians/1000	Nurses Midwives /1000	
Brazil	8.3	46.0	25.5	0.1	947	1318	1.9	7.6	2.3
Russian Federation	7.1	52.2	45.8	–	893	1836	4.3	8.5	–
India	4.7	30.0	62.4	1.0	75	267	0.7	1.7	0.7
China	5.5	55.8	32.0	–	420	731	1.9	1.9	3.8
South Africa	8.8	48.2	6.5	1.8	570	1148	0.8	5.1	–
World	9.9	60.1	18.2	1.2	1601	1276	1.5	3.3	–
South Asia	4.4	31.2	61.5	2.3	67	234	0.7	1.4	0.7
Low Income	5.7	42.4	37.2	33.2	37	91	0.1	–	–
Low Middle Income	4.5	36.4	55.7	3.3	90	270	0.8	1.7	–
Upper Middle Income	6.2	55.2	32.2	0.2	516	926	2.0	3.0	3.3
High Income	12.3	62.3	13.3	–	5251	5193	2.9	8.6	4.2

Source: World Bank World Development Indicators Table 2.15 (2014); Country Income Groups - World Bank Classification 2015.

Table-2 consists of Health system development indicators of BRICS nations and countries grouped under South Asian, Low Income (31 countries like Nepal, Cambodia and Sub-Saharan Africa), Low middle income (51 countries like Papua New Guinea, Bangladesh and Indonesia), Upper middle income (53 countries like Panama, Maldives, Peru and Paraguay) and High income categories (80 countries like UK, US, France, Japan and Australia). It gives a comparative status of health systems in various countries around the world.

In comparison with the BRICS countries and the other categories of countries in Table-2, it is clearly noticed that India has one of the least per capita health expenditure (75 \$) in 2014. WHO estimates that India has a very high out-of-pocket expenditure (62.4) on health compared to many other countries. Looking at the availability of health care labour force, again India fares very poorly compared to the world level availability of health manpower.

Similarly, the availability of hospital beds is at an incredible low score of 0.7 compared to the global availability of 2.6. Government spending on health care is only 1.41 per cent of GDP which is 30 per cent of the total health sector public expenditure.

The health sector private expenditure together with the public spending stands at 4.7 per cent of GDP in the year 2014. This goes to show that the total public expenditure on health care in India is very poor in proportion to the population and that people have to pay a very high price for the utilisation of health care services. The high Out-Of-Pocket (OOP) expenditure is in itself an indication of the predominance of the private health sector in the country.

From Table-3, the health allocation out of the total plan outlay and the percentage of health expenditure under each Five Year Plan shows that health expenditure allocation is at a dismal low level with the exception of a few of the Plans. The ambitious plans and programmes for the health sector were inefficiently implemented due to inadequacy in the allocation of financial resources to this sector and that is clear from the percentage share of health expenditure out of the total outlay in each Plan.

The percentage change in health expenditure from one Five Year Plan to the next also shows that Public health expenditure is very poor in India and that the planners of the Five Year Plans did not prioritise the health care sector with the due importance that it required.

The percentage change in health expenditure has seen a very significant improvement from the Eighth Five Year Plan onwards mainly due to the implementation of “Health for All”, National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM) Programmes especially after the adoption of the Millennium Development Goals at the United Nations General Assembly.

Table 3: The Five Year Plans and Health expenditure in India

Five Year Plan	Total Outlay for the plan (in Rs. Crore)	Total Health Outlay (In Rs. Crore)	Percentage of health expenditure	Percentage change of total health expenditure
First Plan (1951-56)	2356.00	140.00	5.9	0.002
Second Plan (1957-61)	4800.00	225.00	5.0	0.003
Third Plan (1961-65)	7500.00	342.00	4.3	0.005
Annual Plans (1966-69)	6756.00	316.00	4.7	0.004
Fourth Plan (1970-75)	16774.00	1156.00	7.2	0.017
Fifth Plan (1975-79)	37250.00	3277.00	8.8	0.048
Sixth Plan (1980-85)	97500.00	1822.00	5.4	0.027
Seventh Plan (1985-90)	180000.00	3392.00	1.9	0.050
Annual Plans (1990-92)	133834.90	2146.40	1.6	0.031
Eighth Plan (1992-97)	798000.00	7576.00	9.5	0.112
Ninth Plan (1997-2002)	859200.00	10818.00	1.25	0.161
Tenth Plan (2002-07)	921291.00	9253.00	1.0	0.137
Eleventh Plan (2007-12)	3644718.00	174776.00	4.7	2.604

Source: Planning Commission of India

Table 4 clearly shows that health has been a priority sector only in the Sixth and Eleventh Five Year Plans. This does not mean that the Government has done nothing for the health sector in the other Five Year Plans. This shows that the Government of India does not rank health sector as a prime sector that is vital for economic progress. Health sector should have been made a *compulsory priority sector* throughout all the Five Year Plans that have been implemented thus far.

Table 4: Major Areas Addressed during the Five Year Plans

Five Year Plan	Period of the Plan	Major areas addressed
I	1951-1956	Infrastructure
II	1957-1961	Industry
III	1961-1965	Panchayat, Green Revolution
IV	1969-1974	Agriculture
V	1974-1979	Agriculture
VI	1980-1985	Health, Technology
VII	1985-1989	Poverty, Agriculture, Justice
VIII	1992-1997	Poverty, Agriculture, Population
IX	1997-2002	Basic facilities, Employment
X	2002-2007	HRD, Industry, Technology
XI	2007-2012	Education, Health, Empowerment

The first three Five Year Plans and the following Annual Plans concentrated on the control and the eradication of communicable diseases, population control and improving primary health care. Priority was given to achieving improvements in demographic indicators like mortality, morbidity and fertility rates. The Fourth and Fifth Plans emphasised on special programmes of public health care in areas such as Mother and Child, Universal immunisation, Child Development Programmes, Family Planning, Health Insurance, increasing healthcare infrastructure and manpower and providing integrated health care in rural areas were given importance. The Sixth Plan focused on creating and eradicating transmittable diseases like STDs, HIV and AIDS. The Seventh Plan gave importance to primary health care for all with attention to urban areas for the first time through primary, secondary and tertiary health care. Attention was given to non-communicable diseases health care for the first time in the history of health planning in India. The Eighth Plan prioritised health planning towards improving the accessibility, capacity and availability of health care services to all people especially in hilly, remote and tribal areas. The Ninth Plan gave high priority to building health care infrastructure, medical colleges, nursing colleges, research institutions and integrating AYUSH (alternative systems of medicine) with the aim of Growth with Social Justice and Equity. The Tenth Plan initiated the National Rural Health Mission, 2005, (NHRM), AYUSH outreach programmes and launched Integrated Disease/Health Surveillance Programmes. The NRHM was extended to the urban areas through National Urban Health Mission (NUHM) in 2013, which aimed at improving all indicators of health status by strengthening the health care delivery system and upgrading infrastructure through Public Private Partnership (PPP). It also emphasised on bio-medical research, E-health,

telemedicine and integrating AYUSH with the mainstream Allopathic system of medicine.

Despite huge achievements and improvements in health care since Independence, India's public health sector suffers from underfunding. The amount of public expenditure that India spends on healthcare is very small compared to other emerging countries of the world. This goes to show that the governments of the day have been unable to provide policy directions and resource allocations to the health sector which could improve the abysmal state of the public health system in the country. Only drastic measures can pull the public health sector out of the current mess and help build a stronger and effective public health care system in India.

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