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Research Journal

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Century India and America. **Herbert G. Reid**

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HENRY DAVID THOREAU'S PHILOSOPHY AND SOCIAL MOVEMENTS IN 20TH CENTURY INDIA AND AMERICA*

Herbert G.Reid**

Henry David Thoreau was born in 1817 at Concord Massachusetts. Dying of an illness in 1862 in a time of Civil war, his life was not long, less than 45 years. But he thought deeply about the issues and challenges of his epoch. Consequently, Thoreau's work and his ideas have continued to inspire and inform people in many countries and other times.

On the whole, Thoreau was, in my judgement, a critic of many of the trends that eventually would make the U.S.A. a powerful industrial capitalist society. In my view, his notion of the "good society" provides an alternative to the way American life has been structured by capitalist commodification. In particular, I'll argue that he advocated a different approach to nature, what might be called an organic or ecological perspective rather than a mechanistic philosophy.

Thoreau is best known for two writings. One is *Walden* published in 1854, a remarkable set of reflections based on his two year experiment in living at Walden Pond in the 1840's. One of the best studies of this work is Stanley Cavell's book suggestively called *The Senses of Walden* (1972). Cavell reveals Thoreau's talents as a phenomenologist concerned with how our experiences of nature relate to general human sensibility. By situating this project in the context of political economy as both an historical process and realm of ideas and issues, Cavell avoids the mistake of reading *Walden* as an apolitical and romantically individualist treatise. The second essay by Thoreau that is best known and most influential is "Civil Disobedience" published in 1849. His greatest but by no means only concern is noncomplicity in the evils of slavery. His argument on the basis of individual conscience and democratic consent is one of "action from principle" and advances the cause of citizenship by clarifying the conditions for legitimate resistance to authority. When the U.S Govt. was pursuing the Vietnam war, many students and youth opposing that policy turned to Thoreau and Gandhiji to develop their positions of conscientious objection.

These are Thoreau's best known writings but in this lecture I want to emphasize his ideas in my favorite essay, his "Life without Principle" published after his death. However, before proceeding let me mention the recent discovery and publication of another Thoreau manuscript ably edited by Bradley Dean. Three or four years ago, it was published under the title *Faith in a Seed* and it reinforces the view of Thoreau as one of the chief field biologists of the last century. I've noticed that India and its Northeast in particular has a number of outstanding field biologists, so I'm sure you appreciate the importance of this work. As Thoreau says in *Faith in a Seed*, the gift of a forest is a "godsend". But he was also concerned that the history of a woodlot was often a "history of cross-purposes" making for both an uncertain agriculture and a confused culture.

In today's U.S.A., this perspective has been developed in a number of studies by the Kentucky farmer/writer, Wendell Berry. Berry is concerned that future generations of North America are being unsettled or damaged by the ways we've been misusing the gifts of good land

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and good forests. I'm sure that both Thoreau and Berry would agree with Rajiv Gandhi when he said:

The well-being of a country depends on the way in which it uses its natural resources. True development always strikes a judicious balance between immediate and long term requirements.

We should all work for the day when swords are beaten into ploughshares and the vast sums now going into the industries of destruction can be diverted into the redeeming arts of human developments.

But I want to return my attention to Henry David Thoreau, his America, and the situation in the contemporary United States. During the period of Thoreau's youth (1828-1840) the U.S. was becoming a more democratic society, albeit at the expense of native Americans, such as the Cherokees, and the African-Americans under slavery. This development of a liberal-democratic political system or polity is one of the two general trends that it is necessary to mention. The second emerging trend is that of a youthful system of industrial capitalism. When Alexis de Tocqueville was writing his great study *Democracy in America* during this era, he warned that in the future a manufacturing aristocracy might arise from this sector. My personal view is that Tocqueville's prophecy has come to be true.

I contend that the system of political economy that has evolved in the U.S. since the late 19th century is a complex structure of power that is best termed a corporate state. This corporate state is ideologically grounded in the capitalist tradition of liberal individualism and a technological world-view that, as a form of knowledge, depends on instrumental rationality. Thoreau was an individualist but one rooted in biblical and republican traditions rather than the "Possessive individualism" of liberal capitalism. He was a student at Harvard during the decades of Tocqueville's visit when the latter observed most Americans oriented towards the practical and narrowly utilitarian mastery of their environment from the standpoint of so many "Cartesian egos" bound together primarily by an attitude of social conformity. This instrumentally rational way of working was steered by a conception of the world as a vast resource object, in short, nature was put here for human mastery. As we read Thoreau, we find him criticizing both this approach to work and this way of conceiving nature. He viewed nature in organic, ecological terms rather than in the exclusively mechanistic, technological or utilitarian perspective that was beginning to prevail in mainstream American culture.

Sometimes I've compared Thoreau and Daniel Webster, drawing upon the analyses of Leo Marx, Michael Rogin, and John Kasson. They trace the incorporation of technology and nature in an ideology of conservative republicanism from Franklin and Coxe to Everett and Webster. Invoking the rhetoric of the technological sublime, Webster "rationalized the rise of the factory system and the sale of alienated labour power on which it depended" (Rogin, PR, 104). Webster's way of symbolically reconciling the machine and the garden functioned most importantly to legitimate the new hierarchies of an emerging capitalist industrialist society. What I've been saying about Thoreau is that he was one of those critical idealists who saw through this ideology of progress, this deification of the new industrial system which was especially troubling because it obscured the fundamental question of human responsibility. Studying Thoreau's writings from *Walden* to "Life without Principle", considering his views of nature, work, and politics, I think we can appreciate how they seem to lead to the profound insight expressed in our time by C.S. Lewis: "What we call Man's power over Nature turns out to be a power exercised by some men over other men with Nature as its instrument" (*The Abolition of Man*, 1965, p. 69). I think Thoreau says as much. At p. 360 of the Bantam edition of "Life without Principle", he begins talking about "the rush to California" as a rush for accumulation. He questions the notion of "enterprise" as a mode for "commanding the labour of others",

which is to say that Thoreau understands hierarical power and refuses to grant it "high and earnest purpose." He raises issues still important today. Is alienating, exploitive work the price that must be paid for material prosperity? Does a productive economy depend on hierarchical authority in places of work? The conventional wisdom of capitalism tells us "yes" but David Jenkins and Bob Kuttner are just two analysts who regard this as a typically American economic illusion. The evidence they've gathered suggests that economic productivity and social justice are linked and that a more democratic workplace is more conducive to both a prosperous economy and a healthy society. The Jeffersonian ideal of a democratic technology may turn out to be the only realistic way of revitalizing the American economy to the benefit of the people rather than a small percentage of the population.

When John Brown was in jail, in the autumn of 1859, Thoreau addressed the citizens of Concord. He said that the only government he recognized was "that power that establishes justice in the land, never that which establishes injustice." "We talk about *representative* government; but what a monster of a government is that where the noblest faculties of the mind, and the *whole* heart, are not *represented*." (p. 699, Modern Library edition) What this means is that for Thoreau the polity should be a realm of human experience in which the development of character takes place.

If I may quote Rajiv Gandhi again, Thoreau would agree with him that "...the financial and technological dimension [should not] obscure the essential human context of development. The test of [economic] development is the making of a better individual." I understand them to mean that this is the path to a society of healthy communities.

When we read "Life without Principle" we find Thoreau saying that to be involved in "...what is called politics" on its terms would require him to blunt his sense of right. What he rejected was a politics "so superficial and inhuman..."; hardly an antipolitical stance but definitely a politically radical one. Instead of binding politics to the purposes of commerce and the machine, he thought it possible that politics might serve the project of human development. Yet those who are worried about an anti-political dimension to Thoreau should not be totally dismissed. What troubles them may well be related to Emerson's observation of "something military" in Thoreau's nature. In reading Thoreau on John Brown, who used violence against slavery, we are reminded of how a politics of conscience, twisted by political agony, sometimes tends towards an apocalyptic faith in violence. Nevertheless, we also have Gandhiji and Martin Luther King's example of nonviolent civil disobedience as a path of political and social change. It is important not to forget this in our century of violence marked by names such as Nuremberg, Selma and My-Lia.

Thoreau, Gandhiji, and King made and continue to make important contributions to several struggles for a more democratic & peaceful world. When Martin Luther King, Jr., was leading the movement for civil rights for African-Americans before his assassination in 1968, he acknowledged the influence of Thoreau and Gandhi. King also linked the civil rights struggle in the U.S. to the fight against colonialism and for independence in India and elsewhere. The historical processes of cross-cultural influence deserve special mention. Thoreau read the great works of classical Indian literature. And Louis Fischer's 1954 book on Gandhi notes that when Gandhi was fighting oppression in South Africa in the early 1900's during his second stay in prison he read Thoreau's essay on "Civil Disobedience". Gandhi was much impressed and called it a "masterly treatise" that left a "deep impression" on him. Fischer also notes the influence of Indian thought on Thoreau and writes that "like Gandhi, Thoreau believed in the ability of the determined moral minority to correct the evils of the majority." Dennis Dalton's study of Gandhi singles out the following passage from Thoreau as important: "I saw that, if there was a wall of stone between me and my townsmen, there was a still more difficult one to climb or break through before they could get to be as free as I was". Clearly Gandhi and Thoreau preached and practiced a gospel of love over that of hate, a philosophy of soul force against brute force.

One of the most fascinating chapters in Dalton's book is the fourth chapter on "Civil Disobedience: the Salt Satyagraha". Here Dalton details Gandhi's approach to protesting the tax the British Raj placed on salt, an approach prefigured to some extent by his South African experience. His discussion of Gandhi's use of the Great March... walking through dozens of villages...holding public meetings registering a massive protest...points up the way in which Gandhi was generating a public, a democratic public. Later Dalton quotes Gandhi's basic idea of Democracy: "My notion of democracy is that under it the weakest should have the same opportunity as the strongest". Some years later, my late friend and fellow political scientist, Christian Bay, paraphrased this in saying that "a society is as free as its underdogs are". At the end of his book, Dalton turns to Martin Luther King, Jr's role in the freedom struggle. He quotes King's famous letter from Birmingham jail: "Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly". Dalton closes with the remark that Gandhi emphasized the same principle of inclusivity, that "we are all part of one another and violence retards that realization".

As Thomas Pantham has argued persuasively in volume of essays honouring Rajni Kothari: Gandhi "sees both the oppressed and the oppressor as sharing a basic, common human agency that is not merely rational but moral as well". In Gandhi's words, "All mankind in essence is alike. What is therefore possible for one is possible for everybody". Pantham directs our attention to "Gandhi's post-relative principle of morality..." [which is a call] for "transculture love and care between peoples". In my view, we who live in today's world of globalizing economic insecurity and political uncertainty need such a principle.

But I want to come back to C.S.Lewis's theme of the interplay between the project of dominating nature and the historical reality of domination as a central fact of political economy. Thoreau is known for complaining that his fellow Americans were becoming the tools of their tools. In "Life without Principle" he decries the "infinite bustle," the "incessant work," and "the police of meaningless labour" to which he found people submitting. Ironically, the instrumental preoccupation with money for work seemed to make work and worker more machine-like. In other words, people were being controlled from the outside as if their lives had become like so many railroad tracks. Of course, we find Thoreau discussing the railroad in some depth. We also find him suggesting that people, getting caught up in a treadmill of work and money, were shirking the "real business of life letting their "inward lives" fail, thus resorting to trivial distractions while letting their institutions become like "chestnut burs" containing "abortive nuts". So much for the alleged practicality of an overly instrumental rationality. Thoreau's essay, published in *The Atlantic Monthly* after his death, admonishes Americans: "You must get your living by loving". While our Rotary clubs make community service their motto, many of their members no doubt consider that an extreme approach. No doubt, too, it seems strange to some that one of our ex-Presidents now helps build houses for Habitat for Humanity. While instead of the California gold rush of the 1840's, today we've substituted the lottery, a twice-a-week fantasy sustained by junk mail bearing the countenance of TV celebrities amidst the happy few who've struck it rich.

To quote Thoreau: "America is said to be the arena on which the battle of freedom is to be fought; but surely it cannot be freedom in a merely political sense that is meant. Even if we grant that the American has freed himself from a political tyrant, he is still the slave of an economical and moral tyrant. ...Do we call this the land of the free? What is it to be free from King George and continue the slaves of King Prejudice? What is it to be born free and not to live free? What is the value of any political freedom, but as a means to moral freedom? Is it a freedom to be slaves, or a freedom to be free, of which we boast? We are a nation of politician concerned about the outmost defences only of freedom.There is a part of us which is not represented.With respect to true culture and manhood, we are essentially provincial still, not metropolitan.... We are provincial, because we do not find at home our standards; because

we do not worship truth, but the reflection of truth..." In other words, we've become mesmerized by a national process of televisual communication that gives us not ideas but an endless stream of images. It is the image that counts. We have let our politics be reduced to the advertising philosophy's cardinal tenet that "truth is what sells".

If our liberal democracy's elevation of "life without principle" has come to this, then it may be time for more of us to move out of the Lockean tradition of interest group politics with Thoreau, Gandhiji, and King toward another theory of political action and another conception of the good society. In closing this Foundation Day lecture, I want to note and expand on a theme of last year's lecturer, Dr. Barun De of Calcutta. We need to find ways to join North and South in a new world order that goes beyond what he correctly called "multinational consumerism" towards the already mentioned principle of "transcultural love and care between peoples" (Pantham). This principle provides the morning star of a new global democratic politics. As Thoreau said in concluding *Walden*: "There is more day to dawn. The sun is but a morning star".

RELEVANCE OF INDIGENOUS RELIGION

Tamo Mibang*

This paper attempts to discuss in brief the importance of indigenous belief of the tribal people with a special focus on Donyi-Polo religion and role of Miri, i.e. priest, of the Adis of Arunachal Pradesh.

Through the ages man has evolved a spiritual world of his own from which he derives inspiration and guidance for his everyday life. The tribal people of Arunachal Pradesh have also developed a supernatural world to brighten their stark realities of life. That supernatural world comprises benevolent and malevolent spirits, whose abodes are the air, the cloud, the sky, the jungle, the snow-clad mountains, the rivers, the agricultural field, the village council hall, the granary, the house and different places under the earth. All these places are given specific names. The tribals are practical people and their attitude to religion might originally have been influenced by the sense of mystique and reverence. On certain ceremonial occasions they offer sacrifice to propitiate those unseen potent powers, followed by community feast and drink in the name of the creator. Sacrifice during agricultural ceremonies is performed with a hope to ensure good crops, prevent damage to crops, to keep away the pests, the evil spirits and to bring prosperity to the village.

It is pertinent to refer to Verrier Elwin, who observes, "The general attitude of the European writers towards the tribal religion is that the tribes did not have any religion at all, as that it was a mixture of all the various idolatries and superstitions", (V.Elwin, 1955, pp-XVIII-XIX). This comment on the tribal people does not seem to hold good. It appears that apart from exploring the religion of the people of central zone of Arunachal, they did not study the Monpas, the Sherdukpens, the Khambas, the Membas, who profess the Mahayana form of Buddhism, the Khamtis who follow Hinayana Buddhism, and the Noctes who follow the Mahapurusha form of vaishnavism. They have adapted them as per their social requirements and environment. Such misconceived writings seem to have influenced a good section of the tribal people in the North-East and put a hindrance to the development of a right mindset in which their age-long indigenous religion could prevail and flourish. Religion is not the evening dusty noise of the advanced countries, but is the morning breeze and peace of the mankind. It is in continuity and it has its continuum.

One cannot brand others as animist or state one religion is superior to another. It is not right to think that one's religion is the right one. On the so called animism which is considered as a characteristic of primitive religion, Will Durant observes, "are an animistic fear and worship of spirits lurking anywhere, a poetic reverence for the impressive forms and reproductive powers of earth, and an awed adoration of a heaven whose energizing sunlight and fertilizing rains are part of the sky", (Reported Bose, 1997, P-36). It is corroborated by E.O. James who writes that the doctrine of animism represents a complex attempt to interpret the material and spiritual aspects of the phenomenal world by resolving the universe into a fundamental dualism of Body and Soul, (Reported Bose, 1997, P-36). That is the spirit of religion in the tribal world. In this context one can cite a mother's attitude to her child. If other members of the family or causal visitors say anything about the physical feature or colour of her child, she naturally feels bad and tries to take more care of the child. She normally says, "Siisang nade Siibang siyeku", which means in course of growth the child will become healthy and handsome. In the present situation, due to emergence of competitive forces, indigenous

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religion of the tribal people is facing the same situation like that of the child, though it is beautiful, full of life and hope. That is, for the simple reason that the tribal people do not have their religious scripture, system of regular prayer and so on. However, some of the tribal groups have now started the system as it is evident from the activities of Donyi-Polo movement in the Adi speaking areas in the state. It is seen that the clock will move on. The tribal people have now realised that there is nothing sweeter than one's own home, nothing is more loveable than one's mother, nothing is more beautiful than their flora and fauna.

As an individual, one's place in this world is nothing more than a part of the dust. One is not practically going to disturb the time frame of the nature. Even if he dies, day and night will continue to take their turns as usual, the trees and plants will flower in season, wind will continue to blow; the sun, the moon and the stars will continue to appear in the sky. This is considered a kind of message to human beings that amidst silent dust, our society will continue with rich traditional heritage.

While examining the Donyi-Polo faith of the Adis, the Tagins, the Hill Miris, the Nishings, the Sulungs, the Apatanis including the Mishings of the Brahmaputra valley, there can be an apparent confusion on the concept of Donyi-Polo. Whether the term 'Donyi-Polo' refers to God or to the sun and the moon that we see or the religion of the tribal people. To our understanding the term has a wider connotation. It has three different meanings. It is used to refer to the Almighty God. It is also used to denote the sun and the moon. Further, it is the name given to the traditional belief systems of the people. So, in the present context, Donyi-Polo is neither God nor the two celestial objects nor an object of worship but the spiritual, ideological and philosophical aspiration to lead peaceful and meaningful life on this earth. In other words, the faith on the supreme power, the God, that is manifested in the form of the sun and the moon and the practices associated with the worship of this absolute power is called Donyi-Polo. In the words of Talom Rukbo, "In the spiritual aspects, Donyi-Polo means, the synthetic form of the sun and the moon, that is, the power which is absolute that governs the universe scientifically and eternally i.e., heat, light, air, water, life and death. Therefore, its virtues are social discipline, devotion to work, hospitality, kindness and truth" (Talom Rukbo, p.1). according to Adi belief, those who are guided by this spirit are rewarded by the God and those who deviated are punished. He is a neither a generous-hearted being nor a sea of compassion but He is an impartial Body. He is addressed as;

Donyi mikmi serine

Polo migo serone.

(Oh! Almighty God, you are powerful, you are omnipresent, you are ever vigilant). Nobody can escape from His eyes. This gives a sort of electrical shock to the wrong-doer and at the same time it is like oxygen that saves the man. They remember Him all the times, not only at the hours of distress but also during the time of happiness. He is always in their hearts.

It is difficult to trace the evolution of faith in God, but it is interesting to explore how our forefathers had developed the concept of God, i.e. Donyi-Polo. They might have developed a feeling of the presence of a potent power in their surroundings; at the same time a sense of fear and security for which they submitted themselves to that unseen power. Thus they had developed rituals to bring themselves closer to God; to propitiate the omnipresent, the mysteries of the universe beyond the grasp of their control. That is the first experimental science of mankind with his surrounding. It was proved to be working to appease the unseen power and thus the beginning of the rites and rituals. To carry on the experiment, a gifted one was born in the society. That is the beginning of the religious functionaries; the Miris (the priests). He has

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Polo migo serone.

(Oh! Almighty God, you are powerful, you are omnipresent, you are ever vigilant). Nobody can escape from His eyes. This gives a sort of electrical shock to the wrong-doer and at the same time it is like oxygen that saves the man. They remember Him all the times, not only at the hours of distress but also during the time of happiness. He is always in their hearts.

It is difficult to trace the evolution of faith in God, but it is interesting to explore how our forefathers had developed the concept of God, i.e. Donyi-Polo. They might have developed a feeling of the presence of a potent power in their surroundings; at the same time a sense of fear and security for which they submitted themselves to that unseen power. Thus they had developed rituals to bring themselves closer to God; to propitiate the omnipresent, the mysteries of the universe beyond the grasp of their control. That is the first experimental science of mankind with his surrounding. It was proved to be working to appease the unseen power and thus the beginning of the rites and rituals. To carry on the experiment, a gifted one was born in the society. That is the beginning of the religious functionaries; the Miris (the priests). He has

become the physician in his own right. He sings, he dances and performs rituals for the God. When divining the cause of a disease, he falls in trance and travels to the unseen world to establish communication with spirits through invoking hymns. The style of his song is classical which is not intelligible to the commoners. He sings in different tunes; slow, melodious, sudden and harsh, which is supported by the members present in chorus. The hymns is supported by the music of a sword or sometimes, a bunch of *Kering Ripum* (Gungru). It is really amazing how our forefathers had composed these hymns with their fertile imagination. Here are a few lines;

He naane, naane kuwai

Abe naane, naane kuwai

Yaa....(in chorus by the members)

Ngo mibo taabe

Ebe gemangkom

Uyu Yaaso e

Gonjonge gemangkom

Taabe dulem

Dukkange yeku bong.

(I do not possess any extraordinary power. I am a simple human being, but then I shall try my best to trace the footprint of the dearest one).

He loolo , loolo kuwai

Alo loolo , loolo kuwai

Ao regonge kuwai

Kaling ao e

Regonge kuwai .

Yaa.... (in chorus)

(Oh!, where are you wandering about? I am looking all around for you. My heart is burning. Dearest one, come back with me).

Thus, when the invoking song is in full swing, the patient on the bed, silently enjoys the melody; the sudden and harsh tune in chorus jerks the psyche of the patient and again the low tune consoles him. He is treated almost psychologically and made to sleep. It is a fact that the Miri prescribes sacrifices of methun, fowls and so on which is costly. But our conviction it is not the sacrifice, which cures the patient but his invoking songs that works miracle. The Miri occupies an indispensable position in tribal society. On all occasions , at the time of birth or death or sickness he is called for. In return he is presented the special part of the animal sacrificed and valuable beads.

Some renowned Miris like Rumdong, a legendary figure among the Adi Miyongs, had sometimes transfigured himself as beautiful deer during community hunting, being chased by the hounds. In the process many of the hunters shot their sharpened arrows into its body and chased it whole the day but failed to catch it. The deer was running in such a speed as if it was not pierced at all. What a wonderful animal? By the evening, when all of them retire to their village,

Rumdong Miri used to give back their arrows which they shot at him on that day in the jungle. Nothing could poison him. A priest par excellence to play with sharpened poisonous arrows of the people. As usual, when he was in trance, he used to turn hysteric and pierce sword into his chest without causing bleeding or wound, to swallow eggs which passed out through the toes, to transform dried fish into a living one and to make valuable beads from charcoal.

Whatever it may be, one of the important aspects of the whole proceedings of the ritual performed by the Miri is the oral prescription to the patient which has its scientific value. He advises the patient to take light food, to abstain from eating fish, meat, chillies etc. for atleast two or three days and also other food items like red pampkin, yam, ginger, mushroom, certain green leafy vegetables and some wild fruits. In some cases, meat of boar, bear, squirrels etc. are restricted even for one year. However, it depends on the nature of the problem of the patient. The movement of the patient is also restricted for one or two weeks. He is advised not to expose himself to the sun or rain. He is forbidden from going towards the river or streams, from moving in the northern or eastern direction and so on. Thus the Miri heals the patient. A modern physician also advises his patient in similar way according to the nature of his treatment. However, the faith reposed on the person is the antidote to all ailments.

Another aspect noticed is the treatment of fracture in the body using honey wax (Ngutkion). by the Miri. A fractured leg or a hand is completely plastered and cured by him. It is a challenge to a modern orthopaedic specialist. Here is a case. In a month of August 1974 in a village near Along, one young man's right arm was severely fractured by a rolling boulder. He was hospitalised at Along General Hospital; was X-rayed, found the arm totally fractured. Then and there he was advised to go to Assam Medical College, Dibrugarh. The patient and his wife expressed their unwillingness to go to Dibrugarh but preferred the treatment of a local Miri and requested the doctor to discharge him. He was discharged at his own risk. He, then, left for Yemsing village for treatment. To our utter surprise, within one month's time he was completely cured by applying honey wax. There was no trace of fracture in the arm. However, honey has its scientific use. It is said that in ancient times, it was used for dressing up the wounds. It dries the wound, induces tissue growth and kills the bacteria that cause infection. But here our curiosity is that how he applies honey wax and how he keeps the technique a secret.

There is also a peculiar method of divination performed by a Miri. While in trance, he rubs the body of the patient by using bamboo shavings and water. Then he collects the dirty water in a leaf 'Etkam' (a kind of leaf from the jungle), and then drinks it without any hesitation. After this, he waits for sometime to experience the reaction in his own physiology. If he develops vomiting tendency and vomits, that indicates that the patient is not likely to be cured. The members present around the hearth come to know of it. If he does not vomit, the result is considered to be good that the patient will recover within a few days. Sometimes, the Miri simply touches the body of the ailing person to read his pulse to diagnose the problem and prescribes ritual treatment to heal the sick.

Thus indigenous religion in Arunachal and elsewhere is not inferior to any other religion. It brings inspiration, hope and courage. In spite of this deep rooted faith and practices, something has gone wrong among the educated youth of the present day in tribal dominated areas of North-East India. Yet many intellectuals from the West, realised that converting others to their religion did no good at all. Some of them even developed love for the religions of India. One Mr. Wallace, a protestant narrates a story. "A Hindu, once advised him that repeating Ramanama was good, and a Muslim advised the name Khuda. He repeated the name Rama and Khuda by turn. He once saw that another person uttering Ramanama was floating on water. Thereupon, he started saying Khuda-Rama and begun to sink" (M.K. Gandhi, 1980, pp-287-288). Likewise in Adi 'Donyipolo e Kaalangka; ngo asi aadakbong' which means, Oh, God, I am now drowning in the water. Whether He is Ramanama, Khuda or Donyipolo, they all are same. The

difference is only in names. The ultimate goal of all religions is the same. That is the realisation of God and vindication of truth.

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THE TANGSAS : THEIR ETHNIC ORIGIN AND MIGRATION*

Sristidhar Dutta**¹ and K.O. Sebastian**²

Ethnic origin and migration is an interesting study in a state like Arunachal Pradesh, where 22 major tribes and numerous minor tribes have been living since time immemorial. It is, of course, a difficult task as most of these tribes used to live in isolation and fragmentation for long.

The Tangsas of Arunachal Pradesh have also been living in near obscurity for centuries until the dawn of the independence of India. Yet along with some of the Nagas of the present day Nagaland, they were the first group of people to confront the great Ahoms on their way to Assam, stoutly defending their habitats along the Indian side of the Patkai range.

Of late the different sub tribes of the Tangsas are in the process of emerging as a single tribe, tracing their common origin, ethnicity, history and migration. It is a process that guides its quest for homogeneity that was lost in course of time. This paper is an attempt to study the ethnicity and origin of the Tangsas of present day Arunachal Pradesh. The paper is based on oral and secondary sources.

The Tangsas are one of the prominent tribes of Arunachal Pradesh inhabiting along the slopes of Patkai ranges and adjoining Namchik river basin of Changlang district. Tangsa is post-independent term referring to nearly 31 different sub-tribes having same ethnic origin, close linguistic affinity and cultural traits. Numerically the most important of all these sub-groups are the Lungchangs, Yoglis, Mossangs, Ron Rongs, Khimsings, Moklums, Tikhaks, Pontais, Longphis, Longris and the Sankes. They were of single origin and race before they migrated to their present habitat. Peculiar geographical position kept them in centuries of isolation. Segregated in scattered valleys and hills, the sub-tribes present today an overall composite culture and identify themselves as the Tangsas. The term *Tangsa* is coined by B. K. Borgohain, (one time Political Officer of Tirap) to give collective identity to people of similar origin. The term is used today in its ethnic sense rather than linguistic because of multiple dialects within the sub-tribes. *Tangsa* means people of the hill (tang=hill; sa=people). Prior to the independence of India, the British writers failed to distinguish them from the Nagas. They have not recorded anything peculiar to this tribe. They were also variedly called as, *Patkai Nagas*, *Eastern Nagas* and *Boree Nagas* (Mackenzie, 1994). With a population of 25314, the Tangsa tribe is the fifth largest tribe in Arunachal Pradesh. (Census of India, 1991) Though, they have close cultural and social affinity with their immediate neighbours, such as, the Noctes, Wanchos and Nagas of Nagaland, they have their own identity as Tangsas in the state of Arunachal Pradesh.

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ETHNICITY AND ORIGIN

There is no historical record as regards the origin and migration of the Tangsas. As such the ethnic origin of the Tangsas is still largely a matter of conjecture and inferences. The Tangsas along with their immediate neighbours, such as, Noctes, Wanchos and other Naga tribes belong to the Mongloid stock. It is probable that these groups of people were of single origin and race before their migration to the present habitats. Their peculiar geographical position, long drawn isolation and scattered existence for the past few centuries, have fragmented them into innumerable clans and small groups. Scholars have further classified the Tangsas under the Tibeto-Burman family of the Mongoloid. They have identified Northwest China between the Upper waters of Yangs-tse Kiang and Hoang-Ho as the traditional cradle of the Tibeto-Burman and Indo-Chinese races. (Das, 1984). They are stockily built, as in the case with other Mongolian tribes. The facial features are of Paleo-Mangoloid type, light to slight yellowish tinge with black head hair. Few instances of dark complexion also occur. The Mongolian or epicanthic fold is unmistakable particularly among the children. But a remarkable feature among them is the deficiency of hair on the face. Their facial appearance is summed up by E. T. Dalton in these words : (Dalton, 1978) "Their faces are very lozenge-shaped, features flat and eyes small." Their stature carries from 138.3 cm to 170.3 cm. In the cephalic index they are categorised as dlichocephalic and their head as hypsiccephalic and acrocephalic. They have mesoprosopic and mesene type of face and mesorrhine nose. (Goswami & Das, 1990). These features reveal that the Tangsas show a close similarity with the Mongoloid population. In general, they are shorter than the Nagas of Nagaland with whom they have close affinity, and that is their individuality. Certain linguistic affinity can be observed between the languages of the Patkai region and the languages of the people of China, Korea and Japan. For example, *Wang* is an appellation for a king in Tangsa, Nocte and Wancho. And it is widely in use in China, Korea and Japan. Words denoting names of places, such as, *lang*, *kiang*, *Miao*, *tang kang*, *yang*, *chang*, and *rima* are generally prevalent among the Chinese and the Tangsa and their neighbours, such as, Noctes and Wanchos. (Barua, 1978).

Almost all the tribes have legends and traditions to explain their origin. These legends and traditions attribute their origin, to some supernatural circumstances or to some supernatural or mythological characters. Though some of these mythical accounts are contradictory, yet several main themes or motives of these legends and myths of various clans and groups do have points of convergence. This is more or less applicable to the Tangsas also.

Oral traditions and folklore of Tangsa sub-tribes are unanimous about the place of their origin. Accordingly, they ascribe their origin in a hill called *Masoi Sinrapum* or *Machoi Chinrapum*. (Dutta, 1959) (see map) this place of their origin is said to have located towards the north of Myanmar. We have identified the place in the map. It is a common belief of the Tangsas that there was a big tree at Masoi Sinrapum from which two human beings originated in the beginning. The first man was known as *Mewa* in Mossang; *Dombe* in Khimsing and the first woman was named *Mejyu* in Mossang and *Niwa* in Khimsing, who emerged at the beginning of mankind. The first man and woman are believed to be the creators of the rest of the world. At the completion of the creation of the world the first man and woman flew away to the sky, leaving the creation to tend for itself. Deviating from this tradition the Khimsings and the Lungris consider *Mewa* and *Mejyu* as God and address as *Phra*, meaning God. While the Mossangs and other sub-tribes consider the sacred tree at Masoi Sinrapum as the supreme being or the creator. This tree is called *Sikia*, meaning God. The Yoglis hold that the creation was through a direct intervention of the supreme being called *Rang Ku Hawa*. (ibid)

All the sub tribes of Tangsas subscribe to the belief that the human beings were first created at Masoi Sinrapum by the divine personage of supreme being or by a legendary tree. However, E. T. Dalton records the same tradition with a better insight. According to him, man was created and established at his abode on a plateau known as, Majai Singra-Bhum, situated at

a distance of two months journey from Sadiya, washed by a river flowing in a southerly direction to the Irrawadyo. During their sojourn there, man was immortal and held celestial intercourse with all the heavenly intelligence, following the pure worship of the supreme being. Why they left this Eden, however is not stated. There is another tradition in which the fall is ascribed to an act of disobedience on their part for bathing in the inderdicted-water. (Dalton, 1978)

The creation story of Moklum' vary from the legends mentioned earlier. According to the tradition of the Moklum's, the cock at first lived in the sky. He was the chief minister of *Rand* (God). *Rand* had two children. They were twins, a boy and a girl. The cock said to them, 'if you keep them apart, you will never have children, so why not live together even though you are brother and sister ?' So they came together and in due time the girl gave birth to a lump of flesh like the fleshy part of a man's leg. The girl did not know what to do with it, for it was neither dead nor living. She put the lump of flesh over the fire on the hearth, and it gradually dried up. At last it burst and the bits flew in all directions. From these came all mankind scattered about the world. (Elwin, 1959). This tradition may explain well the common origin of mankind and dispersal thereafter.

There are other oral tradition that presupposes the first pair of human beings from which the rest of humanity has its origin. One of the old traditions projects an ancient man as a legendary figure; being completely naked, he smeared his body with dust and dirt and wore garland made of excreta of pig. Thereafter he went begging for shelter from house to house. He was turned down from every door. At last he approached the hut of a brother and sister who were orphans. Feeling pity for him they welcomed him with these words : "We do not have any food; we ate the stone powder." The old man seems to have replied "If you can live by eating the stone powder, I too can stay alive eating it." Towards the end of his stay he told them to make an ark in a bamboo grove. When it was ready he gavethem three birds. They were named as, *Chamkop*, *Khole* and *Ored*. They were ordered to be kept inside the ark. Soon after, there was a great deluge. They were instructed to release one of the birds when the rain stops. Accordingly, *Chamkop* was released and it failed to return to the ark. The second bird, *Khole* was released and that too failed to come back. At the end the last bird, *Ored* was sent out and it returned chirping. Then the orphans, namely the brothers and sisters came out and to their utter dismay, the whole world was destroyed¹. Later the old man asked the surviving pair of a brother and sister to construct a granary and gave them strict orders not to visit the granary. Curiosity and eagerness led them to the granary and they peeped through it. Instantaneously to their right they found rice and to their left vegetables. As if by a divine wrath and punishment the boy discovered a wound with puss on the right leg of the sister. The old man once again instructed him to strike the wound with flint and to start fire out of that friction. At the very first strike the wound burst and many children immersed out of the fiction. These children warmed themselves up near the fire that was ablaze². This is how the whole creation came to exist.

There is another version of the above story. The secrecy of this story is heavily guarded due to its sexual overtone. In fact this particular story is circulated only among the elders of the clans. According to the story, a heavenly stone fell and destroyed the whole universe. Only a pair of brother and sister survived this disaster. However, a stone struck at the right knee of the sister. This resulted in a wound and puss fromed out of it. The brother, according to the divine command, sexually penetrated into this wound and as a consequence of it a grasshopper came out of it. From the grasshopper, a fly emerged. Then it was matter of evolution till it climaxed in human being³.

¹ Interview with Remkhum Mossang, village Headman of Chumpen, (Manmow circle of Arunachal Pradesh) held on 18.01.1996 and Jsham Longphi, Zilla Parishad member of Manmow Circle, held on 17.01.1996

² Ibid.

³ Interview with M. Somthing, Ex District Education Officer of Changlang District, held at Ponthai on 20.01.1996

The oral tradition regarding the origin of man and creation of the universe itself varies from tribe to tribe. However, the place of their origin seems to be at Masoi Sinrapum, which is confirmed by all the oral traditions of the various groups. Thus the oral tradition regarding the place of their origin is not in agreement with the conclusion by the scholars. Scholars conclude that their original homeland is in the Northwest of China, which is the cradle of all the Mongoloids. To solve this impasse, we can assume that though the origin of the tribe was in Northwest China as proposed by the scholars, it is from Masoi Sinrapum in Upper Burma where they had migrated from Northwest China that entire Tibeto-Burman group of people diversified their migrations. But the Tangsas can stress their memory upto Masoi Sinrapum only in which all their oral traditions centre around regarding their migration to the present habitats. Thus in course of time the real place of their origin has been forgotten leaving a lasting impression about Masoi-Sinrapum only. It has been tried to find out the exact present location of the place Masoi Sinrapum in present day Myanmar. As has already been mentioned, from the North of Burma diversified migration took place. One group migrated westward along the sub-Himalayan ranges. Another group entered the Brahmaputra valley by the North-eastern route, while one more group moved towards south to reach as far as south east Asia. Those who migrated to Northeast India took various routes, such as, Assam-Burma route on the eastern side, namely, through Patkai ranges, Northern passes of Bhutan, Tibet and Nepal, and passes in the south and south-eastern regions. (Das, 1984) The Tangsas entered through the Patkai ranges.

MIGRATION

Parallel to the tradition of origin, there exists oral traditions regarding the migration of the tribe from a distant land to the present habitat. The oral tradition furnishes with very imperfect insight into the descent of the tribe. Migration which began centuries ago continued till the sixties of the present century. In the effort to trace the time and place of migration, the comment of Robinson is apt and could be a guiding principle : (Robinson, 1975)

It seems almost vain to lift up the dark veil which conceal the origin of the tribes, to trace back their history, or to gain any information of the various revolutions by which they have been influenced; these subjects belong to times and circumstances which are beyond the limit of certain knowledge.

Therefore, we must depend on the reflected light which is obtained by the comparison of language, by the analysis of civil and religious institutions and mythological fable, or by tracing clearly marked affinities in the manners and customs of different tribes.

Thus we are forced to seek light regarding the migration of the tribe from the available oral traditions and legends. According to the oral tradition, the migration of the Tangsas began a few centuries ago and the process continued upto the recent past⁴. It is rather difficult task to ascertain the number and nature of such migrations in the past. Since there are innumerable sub-groups within the tribe, migration might have been in successive stages at different times spanning centuries. As mentioned earlier most of the sub-tribes believe that migration has taken place from masoi Sinrapum. Traditions are emphatic about a river Tennai Wakro in the Upper reaches of Myanmar. It is said that people found difficult to cross this river. In such predicament it was a pig that took the lead to show them how to cross the river. The sub-tribe recall in oral

⁴ Though migration of individuals have continued to the present day, as groups the last reported migration was in 1963 by Longphis who have settled down in Manmao circle. There are around fifty families at present in the Indian side of Patkai.

tradition names of place enroute India. The routes they are said to have followed are given below

Migration Routes of Various Tangsa Sub-Tribes

Masoi Sinrapum (place of Origin)				
Ronrangs	Mossangs	Yoglis	Khimsings	Lungris
Lamjong	Wantapum	Hangneutam	Tennai Wakrap	Nyapket
Thowa	Kangtao	Tennai Wakrap	Kangtao	Kangtao
Hamjong	Tennai Wakrap	Sonkal	Khassu	Tennai Wakrap
Khasu	Telital	Salang	Longthong	Munkham
Umpang	Sonokoe	Patkai	Patkai	Hangja
Patkai	Lungsing	(350 years ago settled here)	Settled in India two generations ago	Sangtisa-ngia
	Patkai			Patkai
				Kekolin
				Namchik
				Puniyang
				Ngarong

From the above table it would appear that different groups have taken different routes in their migration to India. Some of the groups have migrated centuries ago while the others are of recent origin in India. According to Geoffry Tyson, it is possible that they have taken the old opium track, namely, Tagung Hka, Nawngyang, shwlung, pansau pass (pahari) to cross Patkai and reach india.; (Tyson, 1992) Most of the places in the migration routes beyond Patkai mentioned above are supposed to be located in the erstwhile Burma (see map) and the present day Myanmar. Folklore and oral tradition are indicative of Tangsas having spent a considerable amount of time around Nowngyang lake in the process of migration. Oral tradition strogly hold that once upon a time Nongwyang lake was a big flourishing village. In course of time there was a deluge and brought the disaster in which the entire village vanished. Many legends are related to this particular lake.

Neither the exact date nor the year of migration can be ascertained. The movement of large scale migration from the original homeland to the upper reaches of Burma probably took place during the turmoil that shook the Northwest China between 481-221 BC. It continued upto the ninth century AD. Here they settled sometimes and thence dispersed. If the chronicles or Ahom Buranji are to be relied on, we can safely conclude that the migration of certain groups has taken place much before 1228 A.D. The *Buranjis* of the Ahoms record that the Ahoms entered Assam from Burma through the Pangsu pass over the Patkai range via Nowngyang lake. Sukapha , the founder of Ahom rule in Assam , was resisted by the Tangsas in his conquest of Assam. The Tangsas stoutly defended their position but they had to succumb to severe and violent defeat at the hands of invaders. (Barua, 1930) This piece of historical information goes a

³ Interview with Josham Longphi; op, cit.

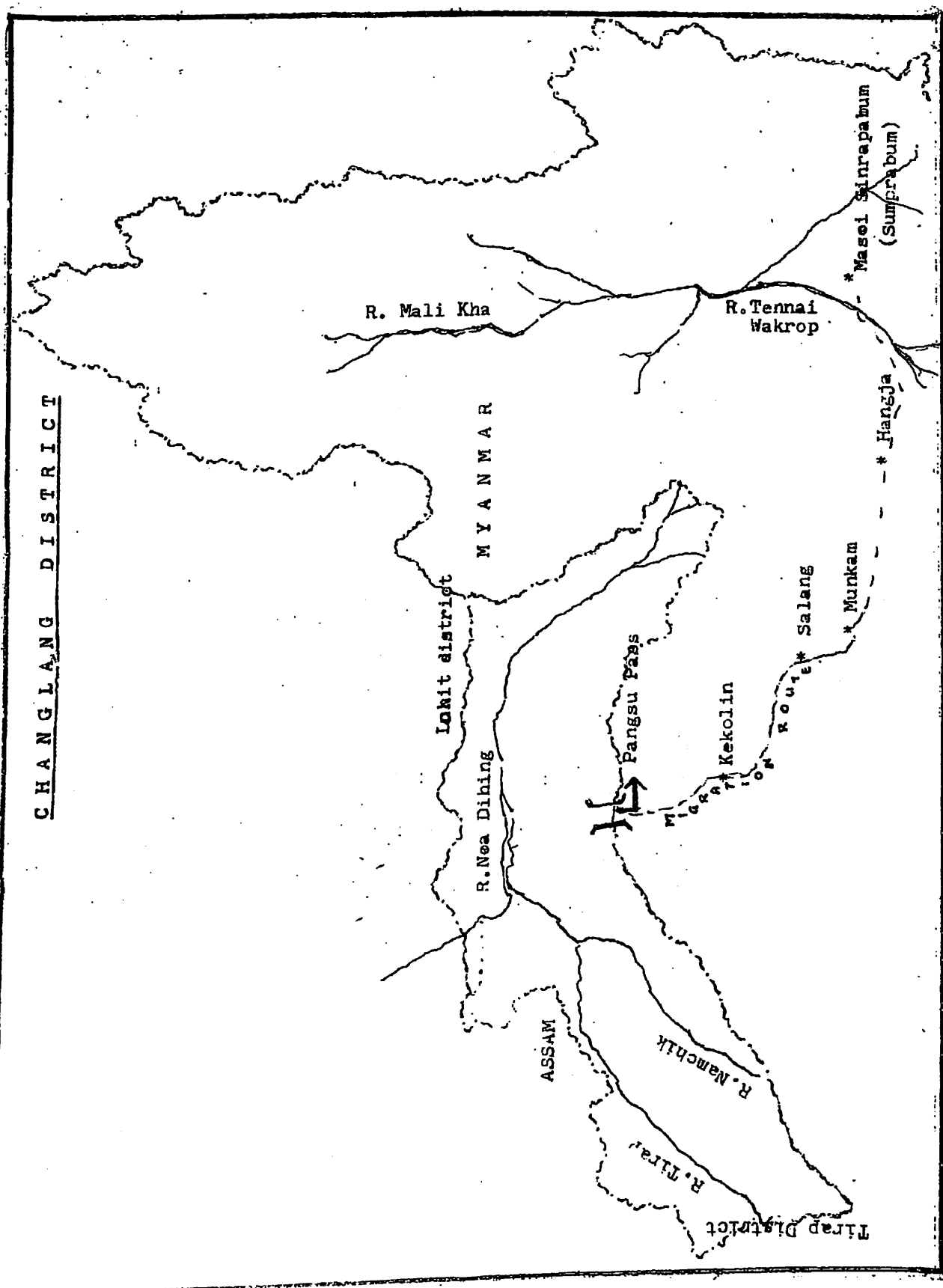
long way to prove that some of the Sub-tribes of the Tangsas were already in India much before the Ahoms conquered Assam.

The fact that the Tangsas were settlers along the Patkai in the Indian side prior to thirteenth century is well explained by Lakshmi Devi in the following words :- (Devi, 1992)

It was through the land of the Nagas that the Ahoms made their way into Assam from Burma. The first contact with them, as it appears from the description mentioned above was violent and not peaceful. The first Naga tribes with whom Sukapha fought with the Nagas of Patkai and the Tirap Frontiers of NEFA. The Naga tribes of this area were the Wanchos, the Tangsas and the Noctes.

Robinson also affirms the argument that the Tangsas and other Naga groups did confront the invading Ahoms. He gives a valid reason for the migration of the Tangsas and other related groups of tribes. He contends that they migrated from North-West of China during the turbulent period of the Tartar dynasty. He states thus : "A number of Naga tribes have emigrated from the north-west of China probably during the sanguinary conflicts for supremacy which took place between the different members of the Chinese and Tartar dynasties in the thirteenth and fourteenth centuries." (Robinson, 1992) It is clear from Robinson that the Tangsas migrated from China. From these historical sources mentioned above we may arrive at certain safe conclusions that some of the Tangsa sub-tribes have migrated to their present habitation before 1228 A.D. Subsequent migration however might have been at different stages in succession. The Ahoms in their march to the North East faced resistance from the Tangsas and subdued them. After this historic defeat they withdrew to greater isolation to the remote hills and remained in isolation and oblivion for a long period of time to emerge as an ethnic group only in the recent times.

CHANGLANG DISTRICT



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LOGGING AND ITS IMPACT ON RIVER BASINS

(with Reference to Rivers of West Siang, Arunachal Pradesh)

Tomo Riba*

In the present article, the author has attempted to describe the logging and its impact on the river basins with special reference to the rivers of West Siang District of Arunachal Pradesh. It has been observed that the logging is affecting the volume of water, beds, and aquatic life in the water of the river. The author has also related the logging with deforestation, enhancement of flood, and depletion of aquatic life. Lastly, it is concluded that the logging is causing an environmental degradation which needs to be seen and examined carefully in West Siang district of Arunachal Pradesh.

West Siang district, which extends from 27°43'N to 28°10'N latitude and 93°57'E to 94°56'E longitude occupies a total area of 7,643 sq.km with a total population of 99,936 persons and density of population of 12 persons per square kilometer (1991).

Galo, Minyong, Bori, Pailibos, Bokars and Membas are the tribals who live there. Jhuming is the main occupation of the people followed by hunting and fishing.

The area has about 80% of its area under forest. From this figure outsiders may perceive that the area is full of wild life and other valuable forest items. This is a illusive information to distant viewer about the natural endowment of the area. If one happens to visit the forest and rivers of some places, one may not get a chance of meeting even a single wild animal. After walking the whole length of rivers of certain populated parts, one may not see even a single big sized fish.

Today the area is facing environmental problems such as depletion of aquatic and wild life, landslide, flood, siltation, etc. Such problems are very much common in southern part of the district. In summer, the area is cut off from rest of the country due to blockage of roads related to landslide, washing away of bridges and culverts.

Submergence of agricultural lands with silts, soil erosion etc. are also common. These natural hazards were less frequent before 1980s. People in the hills face landslide and soil erosion and on the other, people of foothills suffer from siltation.

There are many factors which are responsible for such environmental degradations. Some of the factors are shifting cultivation, change in method of hunting and fishing, commercial exploitation of forest and many other developmental activities. But among these all, logging is blamed for series of environmental degradation especially to river basins. It is evident that the magnitude of landslide and flood are maximum in areas where logging operations are carried on at large scale. Earlier, in those areas, when the forest remained undisturbed, much of its rain water subjected to infiltration and formed underground water. But today, instead of seeping, maximum rainwater forms into direct surface runoff leading to sudden spate in the river within an hour of heavy rain and remain dry afterwards.

The significant environmental problems found in the river basin of the area due to logging can be listed as follows :-

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1. Change in volume of water.
2. Change in river beds.
3. Depletion of aquatic life.
4. Pollution of river water.

In many parts of the area, the volume of water in the rivers have gone down to very low as compared to earlier years. A number of rivulets and rivers remain dry in winter which never occurred in olden days. Kidi of Basar, Ego of Dari, Sipu of Along etc. which remained uncrossable in olden days in maximum part of the year have become very shallow in dry days. However in some exceptional cases like river Gagara, near Malinistan of Likabali, the volume of water has increased.

The main cause for falling of volume of river water is due to felling of trees in catchment areas. When hills were full of rich forest with sufficient decayed leaves, used to serve as a continuous source of water in the basins. But today if there is a heavy rain, it is subjected to formation of quick run off which turns into devastating flood.

Logging has not only affected the volume of water of the rivers but also has led to falling of river beds in one place and rising of it in others. Shri Taja Karlo of Malini village of Likabali who was erecting an embankment wall to save his house from soil erosion in earlier years, again had to erect walls to save his house from invading silts.

In some pockets it is evident that logging is responsible for making river water unfit for human consumption and depletion of aquatic life.

LOGGING AND DEFORESTATION

Logging means felling of numerous targetted and untargetted trees. To fell a single selected tree hundreds of other untargetted trees are also destroyed as follows :-

First of all, before felling the selected trees, the surrounding smaller trees are cleared. The big climbers that may disturb the falling of trees are also cut in advance. Sometimes other big trees which may obstruct during the felling are also felled.

Again at the time of felling a tree, especially on slopes sufficient small sized logs are collected to raise a platform, standing on which the tree is felled.

At the time of falling on steep slopes the tree falls crushing down numerous smaller trees on the way. In such slopes sometimes big fallen tree slide down the slope causing great damages to other plants and even to soil. In such areas trees with damaged branches are commonly seen.

Again at the time sizing, sufficient forest around the fallen tree is cleared. Then in order to bring the logs to road side or to nearest depot a track is made so that truck can reach to the source. Here also, to make a path for truck many trees are cut. In many cases elephants are used to pull out the logs from difficult portions. The place where elephants are used, especially on slopes, great damages are done to its forest and soils.

Small channels are developed due to pulling of logs on slopes which turn into gullies in due course of time.

During heavy work, the workers remain in the forest itself in a logging camp. Here also sufficient number of trees are cut for construction of logging camp and as fire wood.

Thus, in order to fell and extract a single tree hundred others are destroyed leading to quick surface run off and devastating flood.

LOGGING AND DEVASTATING FLOOD

The flood hazard of 4th July 1994 which changed the landscape of southern part of the District where many roads, culverts, bridges, cultivated fields etc., were damaged was mainly due to logging in the catchment areas. In its source, the accumulation of logs, left out cut, pieces branches and leaves added with silts block the free flow of water in the rivers and streams. In certain narrow points such cut log pieces accumulate leading to formation of artificial lake which finally rush down causing unexpected devastating flood.

Sri. Takar Dirchi an old teacher who witnessed the first scene of the flood of 4th July 1994 described it as follow.

"Just after a sudden thunder, I heard a confusing roaring and rumbling sound in the upper part of the river. It was followed by a sudden invading wall of mud and debris full of logs gushing and tumbling down like a giant demon. Within a minute, the whole landscape was changed. The big saw mill on the way was no more to be seen".

From the above description one can imagine how logging can accelerate the devastating capacity of flood water. The flood water equipped with suspended log pieces obstruct the free flow of water and lead to overflow of its banks, wash away of culverts and bridges. Such suspended heavy logs enhance the erosive capacity of flood water by hitting the wall and flood like a giant lever. In many cases deposition of such logs brought by rivers on its path lead to change its direction.

Thus, after a flood one will find the rivers full of such logs all over the river banks.

LOGGING AND DEPLETION OF AQUATIC LIFE

Another effect of logging in the river basin is the depletion of aquatic life which is described as follows.

First, during the high flood, many fish die of suffocation. Due to deposition of silts, holes in the boulders are filled with silts. Siltation also leads to falling of river water and, reducing of its volume which can not support big fish. Secondly streams and rivers are used as readymade track for taking truck for hauling logs. In such rivers the wheels of trucks and movement of elephants at work kill the fish and make the river unfit for survival of fish. Rivers like Kidi (near Disi), Lechi of Ichi village, Ego of Padi, Jime, etc. are made unfit for human consumption due to addition silts, spill of oils from trucks and dung of elephants.

There are some trees whose leaves, fruits and roots are poisonous. These are used by tribals for killing fish. Sometimes, while extracting logs, barks of such trees abrade against rocks of the river which lead to death of many smaller fish. Such poisoning are common in small and stagnant water.

As said, logging camps are fixed at the source of rivers. In such camps human excrements and dungs of elephant make the river unhygienic for human consumption. It is also reported by villagers in Gensi village that detergents used during bathing of elephants kill the fishes, especially shrimps of small rivers.

CONCLUSION

It has been observed that logging can be blamed for series of environmental degradation especially in river basins besides depleting valuable trees and wild life. The interference of Supreme Court, banning on major activities in the forest has put a great check on logging. Still the area is facing some environmental problems due to damages done in earlier years. If such forest laws are enforced judiciously a day is not far when these tribals will have sufficient and continuous supply of forest resources in days to come.

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SHARECROPPING AND ECONOMIC EFFICIENCY: A STUDY IN ASSAM AGRICULTURE

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Since the days of Marshall sharecropping has been the subject of much debate among economists concerned with static efficiency and its impact on agricultural innovations and development. Focussing the empirical aspects of the operation of sharecropping, this study examines the relative productive efficiency of sharecropping vis-a-vis owner cultivation using facts of recent experience in the State of Assam. The findings of the statistical test of hypotheses pertaining to the productivity differences in the two modes of cultivation have been analyzed in terms of some economic variables e.g. labour intensity of cultivation, utilisation of bullock power, frequency of eviction etc. derived from field survey data. The empirical evidence and the subsequent economic reasonings suggest that the Marshallian and related disincentive effects of sharecropping are of limited importance in the study villages and so, this institution can not necessarily be interpreted as detrimental to the overall development of the rural economy of Assam.

INTRODUCTION

The issue of 'sharecropping efficiency' is a puzzle in economics (Quibria Rashid, 1984). This issue has been approached from different perspectives by different schools of economics leading to a prolific literature with conflicting efficiency arguments. The existing literature on sharecropping efficiency can be divided into two major schools: Marshallian inefficiency school (traditional school) and the Johnson-Cheung efficiency school (new school). The first formal statement concerning the allocative implications of sharecropping was provided by Marshall, who argued that sharecropping contract results in sub-optimal use of resources and hence it is inefficient (Marshall, 1890). Long back of the writings of Marshall, Arthur Young in his celebrated work 'Travel in France during the year 1787, 1788 and 1789' also condemned the metayege (sharecropping) system of France. He argued that sharecropping is the most miserable system of all the modes of letting land. A similar argument was provided by Marquis de Marabou who advocated that 'sharetenancy is a deplorable method of cultivation, the daughter of necessity and mother of misery' (quoted in Basu, 1994). Adam Smith in his 'Wealth of Nation' considered metayers (sharecroppers) in France as 'the successors of the slave cultivators of ancient times'. He was of the view that the institution of metayege results in inefficient allocation of resources which, in turn, acts as a hindrance to agricultural development (Smith, 1776).

Johnson (1950) was the first economist showing reluctance to accept the inefficiency argument of sharecropping. He suggested that the tenant could be induced to apply the efficient level of inputs by landlord who monitors the tenant's cultivation, leases out land in parcels and does not renew the contract with unsatisfactory performances of the tenants. The modern challenge to the traditional view was mounted by Cheung who formalized the Johnson's argument that resource allocation under fixed rent tenancy, sharecropping and the capitalist farming will be identical (Cheung, 1969).

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Substantial empirical works have been done dealing with the problem of resource use efficiency of sharecropping using data of different States of India, the findings of these studies are mixed and inconclusive (Rao, 1971, Bharadwaj, 1974, Vyas, 1970, Bhaumik, 1993, Bliss and Stern, 1982, Rudra, 1992 etc.). In this background, focussing the empirical aspects of the operation of sharecropping, this study examines the relative productive efficiency of sharecropping vis-a-vis owner cultivation in the agrarian economy of Assam to show that condemnation of tenancy and some of the institutional arrangements may be misleading. For convenience the study has been divided into five sections. First section describes the data and sample villages. Second section provides brief descriptions of the salient features of tenancy in our study villages. Third section deals with statistical test for productive efficiency of sharecropping vis-a-vis owner cultivation. Fourth Section. Provides explanations in support of our findings of the statistical test. The concluding remarks are reported in the last section.

I

DATA AND SAMPLE VILLAGES

The data for this study has been collected from five villages of Lakhimpur district of Upper Assam. The villages have been selected purposively on the basis of certain initial criterion keeping in view the operation of land lease market, nearness to and remoteness from town, upper caste and scheduled caste population etc. The selected villages are Jorabari, Jaypur, Bhogpur, Charai Dulani and Bamungaon. The survey was conducted during the period from August 1996 to April 1997 by canvassing a structured questionnaire to 206 randomly chosen households.

The dominant practice of agriculture in the surveyed villages is characterized by the institution of tenancy. Sali, Lahi and Jaybangla are three important varieties of paddy which are planted during June-August and harvested during November-December. Infact, Sali and Lahi are of local varieties whereas Jaybangla is a HYV. The kind of paddy to be planted depends mainly upon the condition of the soil. Sali crop is suitable for soil termed as 'dah mati' where sufficient water is available. But Lahi is planted in the soil termed as 'bam mati' where there is scarcity of water. The cultivation period for Sali variety is slightly longer than that of Lahi variety. Another important feature of agriculture in the study area is that most of the farmers follow single cropping pattern. The low incidence of double cropping is due to the fact that agricultural practices in the surveyed villages are traditional in nature. It depends mainly upon rainfall, there is neither irrigation facilities nor flood control arrangements.

II

TENANCY OPERATIONS IN THE STUDY VILLAGES

In Assam, like most other Indian States several types of tenancy contracts co-exist (Chakravarty, 1995, Hunter, 1982, Guha, 1991, Goswami, 1962, Gautam, 1995). The most important and widely used practices among them are - sharecropping and fixed rent tenancy. Though rent assumes different forms, sharecropping in the form of half share of produce is the principle form of tenancy in the study villages. This system is known as 'adhi' and the sharecroppers 'the adhiars'. 'Adhi' is again of two types 'guti adhi' and 'guchi adhi'. In case of 'guti adhi' grains are equally divided between the landlord and the tenant where threshing is the responsibility of the tenant. Under the system of 'guchi adhi' ripe crops in the field is divided equally and the landlord and tenant harvest their respective shares. In addition to sharecropping and fixed rent contracts, some families occasionally enter into typical tenurial contracts which do not fit into either of the category. These are, 'Mosuri' and 'usufructuary mortgage'. 'Mosuri' is a peculiar tenancy contract where tenant's income is fixed before cultivation and which comes from the production of a mutually agreed upon demarcated amount of land. Under the system landlord leases out his land subject to the condition that cultivation is the sole responsibility of the tenant and landlord provides a fixed amount of cash to the tenant as cost of cultivation.

Landlord enjoys the total output of the leased out land while tenant enjoys the total output of the extra land provided by the landlord. This system is not so popular in the study villages. Only one case of 'Mosuri' system has been observed in Jorabari village. Under 'usufructuary mortgage' of land, mortgagee cultivates the land in lieu of interest on a loan until the landowner repays the loan. This is more of a mortgage system than a tenancy arrangement.

The number of tenancy contracts and the nature of the rental payments in the surveyed villages are shown in Table 1.

Table 1: Nature of Rental Payment in the Surveyed Villages'

Villages	No. House holds	No. Tenancy contract	No. of sharecropping contract with cropshares of the landlord being						No. of fixed rent contracts	
			50%		67%		75%		Guti	Guchi
			Guti	Guchi	Guti	Guchi	Guti	Guchi		
Jorabari	47	67	46	13	4	0	1	0	3	0
Bhogpur,	40	61	47	7	3	0	0	0	4	0
Jaypur	39	76	17	57	2	0	0	0	0	0
Charai Dulani	40	85	75	6	1	0	0	0	3	0
Bamungaon	40	68	54	6	0	0	0	0	8	0
Total	206	357	239	89	10	0	1	0	18	0

Source: Field Survey

In total number of 206 households surveyed, we have come across 357 tenancy contracts. This signifies the prevalence of multiple contracts among the contracting partners. Out of 357 cases only 18 cases reported fixed rent tenancy; and in about 95 percent of the cases, sharecropping is the mode of tenurial contracts. In 91.88 percent of the sharecropping contracts, the landlord and tenant shared the output equally. That means 3:1 and 2:1 cropsharing together accounts for only 3.35 percent of the total cases of sharecropping.

The cost sharing contract is yet to become popular in the study villages. In most cases, tenants still supply all labor, bullocks, implements as well as seeds; while landlord provides land and pay land tax to the government. Family labour is the major source of agricultural labour. Most of the tenants use their own bullocks to plough the leased in land. The tenant who does not own any bullock hires it from the landlord on rental basis. In case the landlord provides two oxen and a plough for a season, he receives the rent for one ox. This system is locally known as 'veron'. The veron is usually six mounds (2.4 quintals) of paddy. Infact, there is customary provisions of applying inputs in the rented land. Only in recent years with the increasing use of modern inputs e.g. HYV seeds, chemical fertilizers etc., cost sharing contract has tended to increase. An estimate of total paid out cost in the study villages reveals that in around sixty three percent of the cases, tenant bears the entire paid out costs, in eighteen percent of the cases landlords bear the entire costs while in the remaining nineteen percent of the cases there is equal sharing of costs between landlord and tenant (Kuri, 1999).

Tenancy contracts in the study villages are oral in nature with an understanding that the duration of lease is for one year or for a crop season. A tenant's performance is automatically reviewed in every season. The total production in the leased in land is the prime consideration in reviewing the tenant's performance. In general, landlords do not prefer to change their tenant's unless circumstances required an eviction. Total eight cases of eviction have been reported five in Bamungaon, two in Charai Dulani, and one in Jorabari. In Charai Dulani, eviction did take place because of owners personal interest of self cultivation, while in Bamungaon and Jorabari

eviction did occur out of the considerations of inefficient cultivation and the violation of contractual obligations.

There exists six different tenorial categories of farmers in the study villages (i) Pure tenant cultivators who lease in entire land they cultivate, (ii) Owner-cum-tenant cultivators whose operational holdings consist of owned land and leased in land, (iii) Owner-cum-landlords who lease out a part of their own land and cultivate the rest, (iv) Landlord-cum-tenant cultivators who lease in a part or whole of their cultivated land, and lease out a part or whole of the owned land, (v) Landlord households who lease out all of their cultivable land, and (vi) Owner cultivators who cultivate their owned land. The distribution of different categories of households in the study villages is shown in table-2.

Table 2 : Tenorial Categories of Households in the Surveyed Villages

Villages Tenorial class	Jorabari	Bhogpur	Jaypur	Chari Dulani	Bamunga on	Total
Pure tenant	5	5	3	2	3	18
Owner-cum-tenant	19	14	25	24	15	97
Owner-cum-landlord	5	5	6	7	3	26
Landlord	8	12	4	5	16	45
Landlord-cum-tenant	0	0	0	0	2	2
Owner operator	10	4	1	2	1	18
Total	47	40	39	40	40	206

Source: Field Survey

It is evident that owner-cum-tenant households play a dominant role in the land lease market of our study area. Around forty seven percent of the total households surveyed belongs to this category. The pure tenant and landlord-cum-tenant households are only 8.74 percent and 0.97 percent respectively. It is to be noted here that in terms of average operated area the owner-cum-landlords category is the most dominating and economically powerful class among all tenorial categories while the pure tenant households hold the weakest economic position (Ibid.)

III

STATISTICAL TEST FOR SHARECROPPING EFFICIENCY

The main objective of this section is to compare the productive efficiency of owner operated farms and sharecropping farms. To serve this purpose we have taken production per bigha as a measure of productivity. If the output per bigha is higher on owner operated farms as compared to sharecropping farms we argue that sharecropping farms are characterized by Marshallian disincentive effect. Otherwise, Cheungian position holds. The test of the differences in productivity of the owner operated form to that of the sharecropped farms has been carried out both cropwise and village-wise through 't' test. In order to avoid the definitional ambiguity of the tenant and of the owner, we have chosen three categories of farmers:- (i) The pure tenants (ii) Pure owners and, (iii) The owner-cum-sharecroppers. The null hypotheses which we have tested are:

H₁:- (For pure owner cultivator and pure sharecropper) there is no difference in production per bigha of land in the owner operated farm and in the sharecropping farm.

H₂:- (For owner-cum-sharecroppers) there is no difference in the production per bigha of land in the self cultivated own plot and in the leased in plot.

The appropriate test statistics for testing the above hypotheses are analyzed in appendix-I

RESULTS: PURE OWNER VS PURE TENANT

During the crop season 1995-96, the average productivity of land of sali paddy was 4.39 quintals and 4.33 quintals respectively in owned farms and in sharecropped farms in our study villages. The corresponding figures for Lahi paddy was 2.99 and 3.05 quintals while for HYV 4.94 and 3.98 quintals respectively. Table 3 represents test result concerning differences in the average productivity of land between owner cultivation and sharecropping.

Table 3 : T-Test for Differences in Productivity of Pure owner Cultivators and Pure Sharecroppers.

Crop	Nature of the plot	No. of households ¹	Mean yield (in quintals)	S.D.	'F'	'T'
Sali	Owned	18	4.33	1.22	0.15	-0.08
	Sharecropped	24	4.39	3.14		
Lahi	Owned	18	2.99	0.79	0.78	-0.21
	Sharecropped	33	3.05	0.91		
HYV	Owned	16	4.94	1.24	1.67	2.89*
	Sharecropped	30	3.98	0.97		

Source: Field Survey

Note: * implies significant at 1 % level.

It is clear from table-3 that both for Sali and Lahi paddy there is no significant difference in the average productivity of land between owner cultivation and sharecropping. Our result is strikingly different in case of HYV crop where we find the alternative hypothesis is to be accepted. The mean yields on owner cultivated farms is higher than that of sharecropped farms and has been found significant both at 1 percent and 5 percent levels of significance.

RESULTS: OWNER-CUM-SHARECROPPERS

The crop-wise productivity performance of the owner-cum-sharecroppers in their owned plots and leased in plots of land is shown in table-4.

Table 4 : T-Test for Differences in Productivity of All Crops in the Owner-cum-sharecroppers Owned and Tenanted Farms.

Crops	Nature of plot	No. of cases	Mean yield (in quintals)	S.D	'T'
Sali	Owned	48	3.90	0.96	0.72
	Sharecropped	48	3.81	0.90	
Lahi	Owned	67	3.08	0.80	0.21
	Sharecropped	67	3.10	0.80	
HYV	Owned	47	4.16	1.05	1.02*
	Sharecropped	47	3.97	1.05	

Source: Field Survey

¹ In the random sampling we have come across only 18 pure sharecropper households. During cross checking of landlords and their tenants we have found that 15 more pure sharecroppers are engaged tenurial contracts with our owner-cum-landlords category of households. We have taken production data from them in order to carry out the statistical test. It is to be noted that all the farmers do not necessarily produce all the three crops.

Note: *implies significant at 20% level.

The main point to emerge from Table-4 is that like pure owner and pure sharecroppers in the case of Sali and Lahi paddy there is no significant difference in the productivity of land between owned plots and leased in plots while for HYV paddy owned plots have been found to be more productive than the sharecropped plots of lands and the difference is significant at 20% level. However, there is little inter village variations to this result (appendix-II).

IV

EXPLANATIONS

An attempt has been made in this section to provide explanations in support of our findings.

DECISION MAKING, INCENTIVE, THREAT OF EVICTION AND SHARECROPPING EFFICIENCY.

Tenants in our surveyed villages enjoy considerable autonomy in making decisions about cultivation. Generally, both landlords and tenants actively participate in taking decisions in the use of inputs. When landlords consider that their tenants have adequate skills and assets for the technology they use, the tendency is to leave them alone. In either case, the system seems to be capable of promoting efficiency. Further, short term lease with the threat of eviction has been found to be an effective means to enforce the sharecropper to work hard. In the absence of alternative employment opportunities the resulting insecurity pushes the sharecropper to show better performance or at least equal performance in the sharecropping land compared to owner cultivation.

FAMILY SIZE, AGRICULTURAL WORKERS AND SHARECROPPING EFFICIENCY.

The equal or greater productivity in sharecropped farms compared to owner cultivation can partly be explained in terms of the labour intensity of cultivation. The average family size of the owner cultivators has been worked out to be 6.17 in our surveyed villages, the corresponding figures for tenant cultivators is 5.17. Table-5 presents the test result of the difference between the mean value of agricultural workers per bigha of land in the pure sharecropped farms and pure owner operated farms.

Table 5 : T-Test for Difference in the Mean Value of Agricultural Workers per bigha on Pure Owner Cultivated and Pure Sharecropped Farms.

Mode of Cultivation	No. of Case	Mean agricultural labor per bigha	S.D.	F	t
Owner	18	0.25	0.20	1.2	-2.01*
Sharecropping	18	0.39	0.20	0	

Source: Field Survey

Note: *implies significant at 5% level.

Table-5 shows that labor intensity of cultivation is significantly higher in the sharecropped farm compared to owner operated farm. This difference is significant at 5 percent level. This result signifies that even if the average family size of the tenant households is smaller than that of the self cultivated households, the tenant households employ more labour per unit of land in the sharecropping farms. Infact, in the absence of alternative employment opportunities, the pure tenant households employ almost all of their family members (both male and female) in the agricultural farms and try to extract higher output by putting greater labour efforts.

BULLOCK LABOR AND SHARECROPPING EFFICIENCY

In the absence of mechanization, bullock labour is an important input for agricultural operations in the study villages. We have tried to differentiate the use of bullock labor per bigha of land in owner cultivation and in sharecropping. The test result is shown in table-6.

Table 6 : T-Test of Differences in the Mean Values of Bullock Labor per Bigha on Owner Cultivated Farms and Sharecropping Farms.

Mode of Cultivation	No. of Cases	Mean bullock labor per bigha	S.D.	F	T
Owner	18	0.24	0.28	4.26	-7.8 ^a
Sharecropping	18	0.27	0.13		

Source: Field Survey

Notes: (i) 'a' implies 't' value is computed when group variance are unequal.

(ii) 't' is significant both at 1% and 5% level.

Our test result suggests that tenants use larger number of bullocks per bigha of land compared to owner cultivators and this difference is significant both at 1 percent and 5 percent levels. It is to be noted in this context that one important condition to be a tenant in the study area is that he should have at least a pair of bullocks. Landowners even encouraged greater size of bullock endowments of the sharecroppers for the benefit they provide to the farm through farmyard manure, which is an important source of soil fertility.

INTERLINKED CREDIT AND SHARECROPPING EFFICIENCY

A commonly observed feature of poor agrarian economy of Assam is the persistence of the institution of sharecropping together with an informal credit contract with the landlord. The interlocking of share tenancy with consumption loan is sometimes used by the landlord to induce the tenant to work harder. The tenant must repay the dept from the tenant's share of output and hence will be compelled to work hard to produce more. The penalty of default is the loss of share contract, which may lead to unemployment and starvation. The inter linked credit and the consequent threat of eviction in the case of default payment induce the poor sharecroppers to work hard and leads to remove the inefficiency of sharecropping vis-a-vis owner cultivation.

COMMERCIALISATION OF : AGRICULTURE AND SHARECROPPING INEFFICIENCY

The agriculture for commercial purpose is, of course, based on the profit maximizing principles of the cultivators. The higher productivity of the owner cultivation in the HYV paddy, as has been found in our study area, is partly due to the growing commercial interests of the rich landowners. The market price of HYV paddy has been found to be invariably higher than that of other local variety of paddy (Sali or Lahi). Rich landowners with their able financial strength cultivate HYV paddy more intensively, which results in higher productivity of the HYV paddy in the owner cultivation compared to the sharecropping.

CONCLUSION

The empirical evidence of five villages of Upper Assam do not show any significant yield differences in the owner operated farms and in the sharecropping farms (except in the case of HYV paddy, which is partly due to growing commercial interest of the landed farmers). Hence, it would not be wise to treat the whole community of sharecroppers as efficient or inefficient in terms of the productivity of land under cultivation. However, the Marshallian hypothesis of disincentive effect and smaller work efforts under sharecropping has been rejected by our empirical test. On the contrary, it establishes the fact that sharecroppers use more labour (both family labour and drought animal) per unit of land compared to owner cultivators. Since,

the sharecropping per se has not hurt productivity of land under cultivation and since it has not been subjected to lesser work efforts of the cultivators, it can not be interpreted as detrimental to overall development of the rural economy of Assam.

APPENDIX-I

TEST STATISTICS FOR PURE OWNER VS PURE TENANT

To test the difference in the variances of the two sub-samples, the appropriate test statistics is,

$$M = \frac{(X_i - \bar{X})^2}{N_1 - 1} / \frac{(Y_j - \bar{Y})^2}{N_2 - 1}$$

Where X_i = Production per bigha in owned land of the individual, Y_j = Production per bigha in the tenanted land of the j th individual, N_1 is the number of owner cultivators while N_2 is the number of pure sharecroppers. M is distributed as $F_{N_1 - 1, N_2 - 1}$ where $N_1 - 1$ and $N_2 - 1$ are the degrees of freedom. If M indicates that there is no significant difference between the variances of the two population, the statistic that we shall use to test the difference in population mean of the two groups is

$$S = \frac{\bar{X} - \bar{Y}}{W}, \text{ where, } W = \left(\frac{1}{N_1} + \frac{1}{N_2} \right) \left[\frac{\sum (X_i - \bar{X})^2 + \sum (Y_j - \bar{Y})^2}{N_1 + N_2 - 2} \right]$$

S is distributed as 't' with $N_1 + N_2 - 2$ degrees of freedom. On the other hand, if the value of M indicates that the variances of the two populations are significantly different, for mean differences, the appropriate test statistic is given by Cochran (see Dwivedi and Rudra, 1973, p. 1291).

For Owner-Cum-Sharecroppers.

The appropriate test statistic for owner-cum-sharecroppers is

$$Z = \frac{\bar{X}}{S/\sqrt{n}} \text{ where, } X_i = Y_i - Z_i$$

$$\text{So, } \bar{X} = \bar{Y} - \bar{Z}$$

$$\text{and } S^2 = \frac{\sum (X_i - \bar{X})^2}{N - 1}$$

Where Y_i = Production per bigha in the sharecropping plot of land of i th individual,
 Z_i = Production per bigha in the owned plot of land of the j th individual.
 Z follows a 't' distribution with $n-1$ degrees of freedom.

APPENDIX - II**Table 2.1 : T-Test for Differences in Productivity of Sali Paddy in Owner-cum Sharecroppers Owned Plots and Leased in Plots of Lands.**

Villages	Crop	Nature of Plots	No. of households	Mean Yield (in quintals)	S.D.	't'
Jorabari	Sali	Owned	6	3.67	1.33	1.29*
		Sharecropped	6	3.33	0.94	
Bhogpur	Sali	Owned	9	3.51	1.09	-0.91
		Sharecropped	0	3.78	1.10	
Jaypur	Sali	Owned	15	4.25	0.65	1.64**
		Sharecropped	15	4.05	0.56	
Charai Dulani	Sali	Owned	15	3.68	0.90	-0.91
		Sharecropped	15	3.87	0.96	
Bamungaon	Sali	Owned	3	3.60	0.33	0.91
		Sharecropped	3	3.07	0.50	

Source: Field Survey

Note: (i) *implies significant at 10% level.

(ii) **implies significant at 20% level.

Table 2.2 : T-Test for Differences in Productivity of Lahi Paddy Between Owned Plot and Leased in Plot of the Owner-cum-Sharecroppers Farms.

Villages	Crop	Nature of Plots	No. of households	Mean yield (in quintals)	S.D.	't'
Jorabari	Lahi	Owned	10	2.88	0.94	-4.62*
		Sharecropped	10	3.00	0.70	
Bhogpur	Lahi	Owned	11	2.90	0.62	0.09
		Sharecropped	11	2.87	0.89	
Jaypur	Lahi	Owned	18	3.16	0.72	-1.03
		Sharecropped	18	3.57	0.63	
Charai Dulani	Lahi	Owned	18	3.155	0.87	-0.03
		Sharecropped	18	3.160	0.77	
Bamungaon	Lahi	Owned	10	3.16	0.77	1.51**
		Sharecropped	10	2.84	0.94	

Source: Field Survey

Notes: (i) *implies significant at 1% level.

(ii) **implies significant at 10% level.

Table 2.3 : T-Test for Differences in Productivity of HYV Crops Between Owned Plot and Leased in Plot of Owner-cum-Sharecroppers Farms.

Villages	Crop	Nature of Plots	No. of households	Mean yield (in quintal)	S.D.	't'
Jorabari	HYV	Owned	14	4.00	1.11	-0.17
		Sharecropped	14	4.04	0.96	
Bhogpur	HYV	Owned	6	4.33	0.87	0.36
		Sharecropped	6	4.13	1.25	
Jaypur	HYV	Owned	10	4.20	0.80	0.19
		Sharecropped	10	4.12	0.94	
Charai	HYV	Owned	12	4.46	1.21	0.90

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THE HAJONG OF MEGHALAYA : A STUDY ON SOME DEMOGRAPHIC ASPECTS*

Dipak Kr. Adak¹, Sucheta Sen Chaudhuri² and Sarit Chaudhuri³

The present paper deals with some demographic aspects among the Hajong of Harigaon village of Sesela Block in West Garo Hills District of Meghalaya. The study reveals that more than 60 percent individuals belong to the fertile age group (i.e. 15-49 years), while the individuals in prefertile (i.e. 0-14 years) and post-fertile (i.e. 50 years and above) age groups are found to be considerably lower in number. All the male individuals below 25 years and the female individuals below 20 years are unmarried reflecting higher age at marriage in the Hajong. The level of illiteracy and infant deaths both are found to be very high in the present sample. When the present findings is compared with the earlier findings it is found that in the gap of 16 years there exists no significant difference in case of different mortalities excepting juvenile mortality. However, to reduce the level of illiteracy and infant deaths it is suggested that family planning efforts and literacy drive need to be geared up in the studied population

INTRODUCTION

In its simple meaning, the term demography means writing about the people. This subject appeared as a science to portrait the trends, features and composition of population to explain their interrelationships and implications for development of human race (Pande, 1990).

Within recent years there have been many reports on demographic structure of small populations in different parts of the world (Roberts 1956, Salzano 1961, Bonne 1963, Johnston et al. 1969, Basu 1969). In India, one finds a few demographic studies of different tribes, or about the social and biological factors influencing their fertility and mortality. The scarcity of demographic data presently at hand on Indian tribes implies that analysis of such data is not only of interest but vital for developmental planning by the planners of our country. It is only during past two decades the anthropologist and demographers have joined hands to explore the possibility to look into the problems of tribes very critically so that they can be used for better developmental planning of the tribes in the country.

The North-Eastern region of the country, which is the heaven of many small and large tribal groups, has unfortunately not attracted much attention of the anthropologists excepting a few (Chakraborty 1979, Mukherjee and Chakraborty 1979) to understand the demographic make up of those populations. This paper attempts to describe some aspects of demography of the Hajong, a lesser known tribe in Meghalaya State.

The People : Hajong The Hajong are members of a Scheduled Tribe who are mainly distributed in the West Garo Hills district of Meghalaya and in the Goalpara District of Assam.

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This population represent an endogamous segment of the great Bodo race in North-Ease India (Das, 1959).

The Hajong are settled (wet) cultivator, which is akin to that of the neighbouring Bengalee and Assamese population. They have originated from the Tibeto-mongoloid stock and have settled down in the plains of the Garo hills District and the Goalpara District (Barua, 1983).

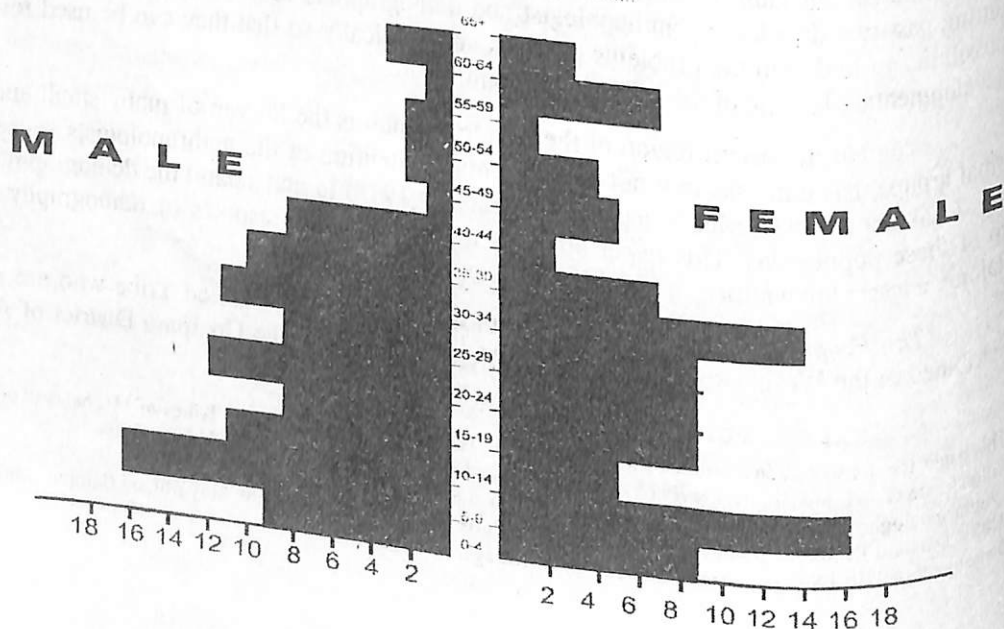
A door to door survey was conducted using structured schedule during Jan. - Feb., 1995. Field investigation was carried out in Harigaon village of Selsela block in West Garo hills District of Meghalaya. Present sample consists of 35 households. Households were selected without following any specific sampling technique, but care was taken so that each of them contained at least one ever married individual. In order to achieve the objective, comparable demographic data collected on the same population during December 1978 and January 1979 by Barua (1983) were utilised. The authors are well aware of the fact that the sample size of the present study is not adequately large and all related information could not be collected but a general picture on demographic aspects can be drawn from the study.

Age and Sex Structure : Populations differ greatly in the way their number are distributed in the various age and sex categories. Age and sex group of a population are the building blocks that construct the composition of a population (Chowdhury et al. 1994). The distribution of the Hajong individuals according to age and sex composition, are given in Table - 1.

The survey registers a return of 202 individuals in the Harigaon village. Of the total individuals 25.49% males and 20% females falls in the pre-fertile age group (i.e. 0-14 years). In fertile age group (i.e. 15-49 years) the population of males is 66.67% and females id 65%. The rest of the individuals fall in post-fertile age group (i.e. 50 years and above). The males are numerically more than the females in the age groups of 10-14, 20-24, 35-39, 40-44 years. Females on the other hand are more in the age group of 30-34, 45-49, 50-54, and 60-64 years. It is interesting to note that in females the number of individuals remain unchanged in the age groups of 15-19 years to 25-29 years.

The demographic representaiton of the age and sex composition is called "age-pyramid" or "population-pyramid". The word pyramid is used because of the conical shape of the diagram. The age pyramid is one of the important means for learning the demographic history of a population.

Fig. 1.



From the figure-1 it is evident that the Hajong show the pyramid characterizing with a narrow base in 0-4 years age group. This indicates high rate of infant mortality or dropping in fertility in the population. However, an asymmetry in the pyramid is noticed. In this connection it can be mentioned there that the studied population Hajong migrated to Harigaon village during 1960's. At that time Mr. Nalini Ranjan Hajon, who is a land owner, came first to this village from the erstwhile East Pakistan. And the other Hajong came later on as agricultural labourer. Therefore, it can be suggested that migration may have a possible bearing in the asymmetry in the population pyramid. And side by side misreporting of age by the informant may not be overruled.

Sex-Ratio : The relative strength of the males and females in number in a population is commonly measured by sex-ratio. This is a basic measure in demography. In the present study the sex-ratio is measured as the number of males per 100 females.

The sex-ratio values are set out in Table 1. In pre-fertile and fertile age groups preponderance of males is noticed, while the reverse is true in case of post fertile age group. However, the overall sex-ratio of the Hajong is almost 1:1.

Table-2 shows the distribution by age, sex and civil condition in the Hajong. It is seen that all the male individuals below 25 years and the female individuals below 20 years are unmarried. In 25-29 years age group only 2 married males are seen. However, in the age groups of 30-34 years to 40-44 years more number of married individuals are found in both the sexes. In the category of divorced or widowed the females contribute considerable number of individuals in different age groups, while the males contribute only one individual in this respect.

Bharati and Ghosh Dastidar (1990) suggested that in case of women, education can make it safe and improve child bearing and the health of entire family. Educated women are more likely to marry at a late age, postpone child bearing, may follow the family planning methods and seek consultation with the doctor for pre-natal care at the time of pregnancy.

Table-3 shows age group wise educational status of the Hajong. It is noteworthy to mention that 80 percent of the females and 60.78 percent of the males are illiterate in the present sample. A low level of primary and high school level educated males and females are noticed which being double in males (i.e. 18.63% for primary level and 17.65% for high school level education) than the females (i.e. 9% for both the primary and high school level education). However, in both the sexes very few of them are in the category of college level education (i.e. 2.94% for males and 2% for females). It is seen that in the higher age groups (i.e. 45 years and above) most of the males and females are illiterate.

The surroundings of a man and his occupation from which he earns his livelihood play an important role in his health status. A man's occupation is related to his income. Both these income and education may influence his food habit and housing condition (Bhende and Kanitkar, 1991). Table 4 shows the occupational status of the spouses in the Hajong.

It is seen that 50 percent of the husbands and wives are primarily engaged in own agriculture and then in agriculture and day labour (i.e. 30% for males and 37.84% for females). They opt for government service in a very lower frequency i.e. males being 6.67% and females being 5.41% respectively.

In demography the size of family means the total number of children born of a woman or a couple at a point of time, but in common use, family size refers to the total number of persons in a family. Here, the common definition of family size has been used. It is seen from Table-5 that medium size of family (51.43%) pre-dominates over the small (20%), big (20%) and very big size of family (8.57%) among the Hajong.

Table-6 shows the composition of family in the Hajong. Of the three categories, predominance of nuclear type of family (60%) is seen over the broken (25.71%) and extended type (14.29%) of family.

Mortality and fertility, two demographic variables which are the important measures of the micro-evolutionary dynamics and of considerable interest to the student of anthropological genetics. Mortality also indicates the loss of certain gene types in a population. Fertility and mortality conditions and their relative effects are therefore of extreme importance in reckoning the survival of a community.

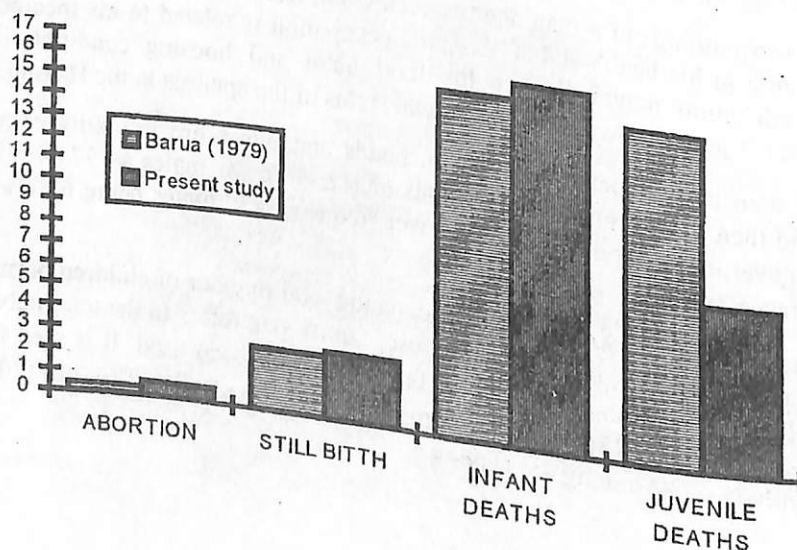
Fertility record of the evermarried Hajong women are compared with the earlier data (Barua, 1979) in Table-7. A similar trend is noticed in both set of data. It appears from the present study that mean live birth is 5 among the everpregnant women, while it is 6.87 for the everpregnant women aged 45 years and above. Since, this table is quite self explanatory it needs no further description.

In Table-8 prenatal deaths among the Hajong offspring is presented in time perspective. When the present data are compared with the earlier data it appears that in case of both the abortion and still birth rate the present sample show considerably higher rate than that of the earlier sample. While the postnatal deaths are dealt (Table-9) it is noticed that in the present sample infant death rate is slightly higher but the juvenile death rate come down considerably which is almost half than that of the sample of 1979.

Components of infant deaths by sex among the Hajong are presented in Table 10. It is seen that neonatal death (i.e. within 0-1 month) is slightly higher (8.89%) than the post neo-natal death (i.e. within 1 month to 1 year) in the present sample (7.22%). When the sex difference is considered in case of both these mortality it is seen that there exist considerable differences. The frequency of death is much higher among the males than that of the females. In figure-2 abortion, still birth, infant and juvenile death rates are shown for both the samples.

Infant mortality is used as an indicator of general health status of a population. Chandrasekhar (1972) says that mortality rate of infants may be taken as reliable and sensitive index of the total health condition of a community or a country. It is well established that there are many health related variables which are involved for survival and well being of a child. To understand these variables in relation to infant deaths it is essential to study them in different communities.

Fig 2 : MORTALITY DIFFERENTIALS IN TIME PERSPECTIVE



In this section 29 cases of Hajong infant deaths have been included. For this purpose altogether 4 variables are taken into consideration. These are : 1) age of mother at the time of delivery 2) birth order, 3) birth interval and 4) educational level of mother.

Age of mother at delivery : Age of mother at delivery, an important variable influencing infant mortality is shown merely as characteristic of the infant deaths considered here (Table 11). Most of the deaths occurred in the age group of 20-24 years of the mother s at the time of delivery. However, the age of mother does not seem to associate with such deaths.

Birth order : Unlike age, the order of birth bears a possible association with the components of infant deaths. Early (i.e. 1st birth order) and late order of birth (5+ birth order) infact seem to be more overwhelming than other orders in the Hajong (Table 12).

Birth interval : The occurrence of infant deaths associated with birth occurring within an interval of less than 2 years is preponderant (i.e. 68.42%) over the other two intervals. In the interval of more than 3 years this frequency is very low (i.e. 5.26%) in comparison with other intervals (Table -13.)

Education of mother : Education level of mother has been proved as an important determinant of infant deaths in many studies. Awareness of proper antenatal care and health of expectant mother, spacing of births etc., are expected to be higher and more effective in case of educated mother as compared to the illiterate mothers. In the present study 75 percent infant deaths is seen in case of the illiterate mother in the Hajong (Table 14).

CONCLUDING REMARKS

The study reveals more than 60 percent individuals are in the fertile age group in the Hajong, while in pre-fertile age group 20 percent individuals are found. A narrow base in the 0-4 years age group in population pyramid express a high rate of infant mortality or dropping in fertility in the present sample. All the male individuals below 25 years and the female individuals below 20 years are unmarried, which reflects the age at marriage is considerably higher in the present sample. But a very low level of literacy is noticed among them. The present study registers a return of 80 percent illiterate females and 61 percent illiterate males. In this context it can be recapitulated here what Bharati and Ghosh Dastidar (1990) suggested i.e. "in case of women, education can make it safe and improve child bearing and the health of entire family". The present findings on infant mortality corroborate with the above statement. Among the Hajong the rate of infant deaths is found to be very high (i.e. 16.11%). This also explain the reason behind the narrow base in population pyramid in 0-4 years age group. When the four health related variables are dealt in terms of infant deaths it is found that the birth order, birth interval and mother's education bear possible associaion with infant deaths unlike the age of mother at delivery. However, the comparison with earlier data reveals no significant difference in the gap of 16 years in context of different mortalities excepting juvenile mortality.

In fine, it can be said that a high rate of illiteracy as well as infant deaths may have serious socio-economic consequences which tends to offset the benefit of development in the studied population. However, to reduce the level of infant deaths and illiteracy to a considerable level it can be suggested that the family planning efforts as well as the literacy drive need to be geared up in this area. In this context the younger generation can play a greater role because they would be continuously entering in the reproductive span.

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Table 1 : Age and Sex Composition of the Hajong

Age groups (in years)	Male		Female		Total	
	No.	%	No.	%	No.	%
0-4	9	8.82	9	9.00	18	8.91
5-9	16	15.69	16	16.00	32	15.84
10-14	11	10.78	5	5.00	16	7.92
					*S.R.=	130.00
15-19	8	7.84	9	9.00	17	8.42
20-24	12	11.76	9	9.00	21	10.40
25-29	8	7.84	9	9.00	17	8.42
30-34	11	10.78	14	14.00	25	12.37
35-39	10	9.80	7	7.00	17	8.42
40-44	8	7.84	2	2.00	10	4.95
45-49	1	0.98	5	5.00	6	2.97
					*S.R.=	104.62
50-54	2	1.96	4	4.00	6	2.97
55-59	2	1.96	1	1.00	3	1.48
60-64	1	0.98	7	7.00	8	3.96
65+	3	2.94	3	3.00	6	2.97
					*S.R.=	53.33
Total	102	50.50	100	49.50	202	100.00
					*S.R.=	102.00

*S.R. = Sex Ratio

Table 2 : Distribution by Age, Sex and Civil Condition

Age groups (in years)	Male (n=102)			Female (n=100)		
	Unmarri ed	Married	Divorced / Widower	Unmarri ed	Married	Divorced / Widowed
X-14	100.00			100.00		
	(36)			(30)		
15-19	100.00			100.00		
	(8)			(9)		
20-24	100.00			55.56	44.44	
	(12)			(5)	(4)	
25-29	75.00	25.00		55.56	44.44	
	(6)	(2)		(5)	(4)	
30-34	36.36	63.64		28.57	71.43	
	(4)	(7)		(4)	(10)	
35-39	30.00	70.00		28.57	42.86	28.57
	(3)	(7)		(2)	(3)	(2)
40-44	12.50	75.00	12.50		50.00	50.00
	(1)	(6)	(1)		(1)	(1)
45-49		100.00			40.00	60.00
		(1)			(2)	(3)
50-54		100.00			75.00	25.00
		(2)			(3)	(1)
55-59		100.00			100.00	
		(2)			(1)	

60-64		100.00			28.57	71.43
		(1)			(2)	(5)
65+		100.00			33.33	66.67
		(3)			(1)	(2)

Note : Figures in the parenthesis indicate absolute values.

Table 3 : Educational Status

Age groups (in yrs.)	Male (n=102)				Female (n=100)			
	Illiterate	Literate			Illiterate	Literate		
		Primary (I - IV)	High School (V - X)	College (XI+)		Primary (I - IV)	High school (V - X)	College (XI+)
5-9	68.75 (11)	31.25 (5)			87.50 (14)	12.50 (2)	12.5 (2)	
10-14	60.00 (6)	40.00 (4)	10.00 (1)		60.00 (3)		40.00 (2)	
15-19	12.50 (1)	62.50 (5)	25.00 (2)		77.78 (7)	11.11 (1)		11.11 (1)
20-24	33.33 (4)	8.33 (1)	41.67 (5)	16.67 (2)	88.89 (8)		11.11 (1)	
25-29	62.50 (5)	12.50 (1)	25.00 (2)		55.56 (5)	11.11 (1)	22.22 (2)	11.11 (1)
30-34	63.64 (7)	9.09 (1)	18.18 (2)	9.09 (1)	64.29 (9)	14.29 (2)	21.42 (3)	
35-39	50.00 (5)	10.00 (1)	40.00 (4)		57.14 (4)	28.57 (2)	14.29 (1)	
40-44	75.00 (6)	12.50 (1)	12.50 (1)		100.00 (2)			
45-49	100.00 (1)				80.00 (4)	20.00 (1)		
50-54	50.00 (1)		50.00 (1)		100.00 (4)			
55-59	100.00 (2)				100.00 (1)			
60-64	100.00 (1)				100.00 (7)			
65+	66.67 (2)	33.33 (1)			100.00 (3)			

- Note : 1. Figures in the parenthesis indicate absolute values
 2. Individuals of the age group 0-4 years were not taken into consideration as they are too young to read.

Table 4 : Occupational Status of the Spouses

Occupation	Husband		Wife	
	No.	%	No.	%
Own agriculture	15	50.00	19	51.35
Agricultural labour	1	3.33	2	5.40
Agriculture+day labour	9	30.00	14	37.84
Business	2	6.67	-	-

Govt. service	2	6.67	2	5.41
Miscellaneous	1	3.33	-	-
Total	30*	100.00	37**	100.00

* 2 cases are excluded due to old age

** 8 cases are excluded due to old age

Table 5 : size of Family

Size	No.	%
Small (≤ 3)	7	20.00
Medium (4-6)	18	51.43
Big (7-9)	7	20.00
Very big (> 10)	3	8.57
Total	35	100.00

Table 6 : Composition of Family

Types	No.	%
Nuclear	21	60.00
Broken	9	25.71
Extended/joint	5	14.29
Total	35	100.00

Table 7 : Fertility Record of the Evermarried Hajong Women in Time Perspective

	Mean No. of pregnancies per women \pm S.E.		Mean No. of live birth per women \pm S.E.	
	Barua (1979)	Present study	Barua (1979)	Present study
Evermarried women	(n=198) 5.04 \pm 0.20	(n=37) 5.03 \pm 0.47	(n=198) 4.94 \pm 0.20	(n=37) 4.86 \pm 0.44
Everpregnant women	(n=196) 5.10 \pm 0.20	(n=36) 5.17 \pm 0.46	(n=196) 4.99 \pm 0.20	(n=36) 5.00 \pm 0.43
Evermarried women aged 45 years and above	(n=51) 7.06 \pm 0.37	(n=15) 7.13 \pm 0.71	(n=51) 6.80 \pm 0.34	(n=15) 6.87 \pm 0.65
Everpregnant woman aged 45 years and above	(n=51) 7.06 \pm 0.37	(n=15) 7.13 \pm 0.71	(n=51) 6.80 \pm 0.34	(n=15) 6.87 \pm 0.65

Table 8 : Pre-natal Deaths Among the Hajong Offspring in Time Perspective

	Hajong	
	Barua (1979)	Present study
Total number of mothers	196	37
Total number of pregnancies	999	186
Total number of birth (including stillbirths and abortions)	1009	187

Total abortion		
Total stillbirths	3	1
Total reproductive wastage	28	1
Abortion rate	31	7
Still birth rate	0.30%	0.54%
Prenatal death rate	2.80%	3.23%
	3.10%	3.77%

Table 9 : Postnatal Deaths Among the Offsprings in Time Perspective

	HAJONG	
	Barua (1979)	Present study
Total number of mothers		
Total number of live births	196	37
Total number of infant deaths (0-1 year)	978	180
Total number of juvenile deaths (0-14 years)	153	29
Infant death rate	147	15
Juvenile death rate	15.64%	16.10%
	15.03%	7.22%

Table - 10 : Components of Infant Death by Sex

Population	No. of mothers	Total No. of live births	Neo-natal deaths			Post Neo-natal deaths			Total infant deaths	
			M	F	T	M	F	T	M	F
Hajong	37	180	5.00	3.89	8.89	5.00	2.22	7.22	10.00	6.11
			(9)	(7)	(16)	(9)	(4)	(13)	(18)	(11)

Note : Figures in parenthesis indicate absolute values

Table - 11 : Components of Infant Deaths by Age of Mother at the Time of Delivery

Age of mother at delivery	Hajong	
	No.	%
15 - 19		
20 - 24	6	20.69
25 - 29	12	41.38
30+	8	27.59
Total	3	10.34
	29	100.00

Table - 12 : Distribution of Infant Deaths According to Order of Birth

Birth order	Hajong	
	No.	%
1		
2	10	34.48
3-4	2	6.90
5+	8	27.59
Total	9	31.03
	29	100.00

Table – 13 : distribution of Infant Deaths by Birth Interval

Birth interval (in years)	Hajong	
	No.	%
-2	13	68.42
2-3	5	26.32
3	1	5.26
Total	19*	100.00

*Data exclude 10 cases of first order birth

Table – 14 : Distribution of Infant Deaths by Educational Level of Mother

Educational level of mother	Hajong	
	No.	%
Illiterate	22	75.86
Primary	4	13.79
High School	3	10.34
College	—	—
Total	29	99.99

CONSTRUCTION AND STANDARDIZATION OF CRITERION REFERENCED TEST IN GEOGRAPHY

Khem Chand Kapoor*

This article is concerned with the development of a criterion referenced test in Geography for the 9th class student. The sample of 180 students was drawn for the standardisation of the test from secondary schools of West Siang district of Arunachal Pradesh. The test incorporates five types of test items such as multiple choice, true-false, completion, short answer and matching in English. The final draft of the test was evaluated in terms of criterion difficulty of the test items; sensitivity to instructional effects; reliability; and validity.

INTRODUCTION

Criterion-referenced testing is the basic aspect of mastery learning approaches of teaching. An American Psychologist (Glaser, 1963) coined the concept of criterion referenced testing for the first time in his article. Popham (1978) advocated that criterion-referenced tests are constructed to permit the interpretation of examinee test performance in relation to a set of well defined competencies. Further, Popham described three uses of criterion-referenced test scores, i.e (i) to describe examinee performance; (ii) to assign examinees to mastery level; (iii) to describe the performance of specified groups of examinee in programme evaluation studies. Moreover, the criterion referenced test emphasises on behavioural objectives, individualization of instruction, sequencing of learning, the development of programmed material, etc. In non-referenced testing, the student's performance score is interpreted in terms of a group to which he belongs. But, in case of criterion-referenced testing, the student's performance is interpreted in terms of the predetermined criterion. Such system in which a specific criterion is used as reference for measuring student's performance is called a criterion-referenced test. It is constructed deliberately to yield measurements that are directly interpretable in terms specified performance standards (Glaser & Nitko, 1971). The investigator conducted an experimental study by taking the Personalized System of Instruction as a teaching strategy. The criterion-referenced test was needed for summative evaluation of students in the segment of Geography. Therefore, the investigator took the task in hand to construct and standardize a criterion-referenced test in Geography.

STEPS FOR CONSTRUCTION-CRITERION REFERENCED TEST

The investigator adopted the following steps for the construction of this criterion test in Geography :

STEP-1 : PERLIMINARY CONSIDERATIONS :

There are certain points which one is to keep in mind while constructing a criterion-referenced test. Firstly, the purpose of the test was specified that it is meant for measuring the summative performance of the students. Secondly, the socially disadvantaged group of Adi Tribe students was specified. Thirdly, the time and money factors were taken into consideration while constructing this test. Lastly, the length of the test and its procedure of scoring were determined appropriately.

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STEP-2 : PREPARING THE PRELIMINARY DRAFT :

Since the criterion-referenced test is developed on the basis of behavioural objectives, therefore, all the objectives were thrashed out and written in the behavioural forms. The preliminary draft of the test was prepared by keeping in view those objectives. Every attempt was made to give due weightage to each objective while writing the test items. At least one item was written for each objective. There were 86 objectives and 186 test items for different objectives. The distribution of 186 test items for 86 objectives is shown in Table-1. The unit-wise weightage and test items in the preliminary draft of the test are revealed in Table-2.

Table 1 : Association of Objectives and Test Items in the Preliminary Draft of Criterion Test

Objectives	Test Items	Objectives	Test Items
Unit - 1		Unit - 6	
1	1	49	56
2	165	50	57, 58, 128, 153
3	3	51	174
4	140, 115	52	59, 60, 61, 62
5	106	53	63, 64
6	4, 183	Unit - 7	
7	142	54	65, 123
8	107	55	67, 175
9	5, 117, 166	56	66, 68, 130
10	6, 116, 141	57	69, 72, 154
11	108	58	70
12	7, 8, 9, 118	Unit - 8	
13	10, 11, 12, 167	59	72
14	13, 119, 143	60	73, 163
15	144	61	74, 75, 76, 156
16	138	62	186
17	139, 2	63	77, 131, 176
Unit - 2		64	78, 79, 155
18	14	Unit - 9	
19	15, 168	65	177
20	16, 17, 18, 19, 145	66	80
21	120, 20, 121, 21, 22, 146	67	81, 82, 83
22	109	68	85, 86, 87, 88, 158, 102, 133
23	185	69	69, 90, 182
24	23, 24, 25, 169	70	91, 159
25	122, 147	71	92
26	110	72	93, 160
27	26, 27, 28, 29	73	94, 95, 96
28	146	74	178
Unit - 3		Unit - 10	
29	30	75	97
30	31	76	164
31	34, 170, 149	77	98, 134
32	33, 33, 35, 36, 37, 124	78	99, 135
33	111	79	100, 179
Unit - 4		80	136, 161
34	38	81	101
35	39, 40, 41, 42, 171	82	105
36	181	83	102, 103, 180
37	112	84	162
38	43, 125, 184	85	137
Unit - 5		86	104
39	44, 48, 126, 150		
40	113		
41	45, 151		

42	46, 172
43	47, 49, 50
44	51
45	52, 173
46	55
47	53, 54, 127, 152
48	114

Table 2 : Unit-wise Weightage of Objectives and Test Items in Preliminary Draft of the Criterion Test

Units	Total No. of Objectives	Total No. of Test Items
Unit - 1	17	32
Unit - 2	11	28
Unit - 3	5	12
Unit - 4	5	11
Unit - 5	10	21
Unit - 6	5	13
Unit - 7	5	11
Unit - 8	6	14
Unit - 9	10	26
Unit - 10	12	18
Total	86	186

The preliminary draft of this criterion test contains five types of items : (i) multiple choice; (ii) true-false; (iii) Completion; (iv) short answer; and (v) matching. There are maximum number of multiple choice items because these are the most widely applicable and useful types of test items. Gronlund (1979, P. 188) pointed out the such type of items measure a variety of more complex outcomes in the knowledge, understanding, and application areas. The distribution of different types of items and their percentages are shown in the following Table - 3 :

Table 3 : Distribution of Different types of Items in the Preliminary Draft of Criterion-Referenced Test

Types of Items	Multiple Choice	True-False	Competition	Short-Answer	Matching	Total
Number	114	25	25	17	5	186
Percentage	61.3	13.5	13.5	9.1	2.6	100%

STEP-3 : TRY-OUT OF THE PRELIMINARY DRAFT :

The preliminary draft of 186 test-items was ready. The draft was carefully edited and reviewed for the course content relevance, learning outcomes, technical accuracy, and language clarity with the help of language and subject experts for their inclusion in the final draft. Finally, the preliminary draft of the criterion test was administered to 180 students of secondary grade of West Siang district in Arunachal Pradesh. After this the scoring was done with the help of scoring key.

STEP-4 : EVALUATION OF FINAL DRAFT OF CRITERION REFERENCED TEST :

The test theory described by Gulliksen (1967) and Lord and Novick (1968) is valid primarily for norm-referenced tests. At present there is no comparable theoretical foundation for criterion referenced tests, yet due care was taken for evaluating the present criterion test. The final draft of this criterion test was evaluated in terms of the following criteria :

- (i) Criterion difficulty of the test items;
- (ii) Sensitivity to Instructional effects;
- (iii) Reliability; and
- (iv) Validity.

(i) Criterion Difficulty of the Test-Items :

The procedure suggested by Beggs and Lewis (1975) was adopted to compute the index of criterion difficulty of the test items. The index of criterion difficulty ranges from zero to one (0 - 1.0). The obtained frequency distribution and percentage of test items for various values of 'Dc' have been summarized in Table - 4.

Table - 4 : Frequency Distribution and Percentage of the Items of Criterion Test for Various Values of 'Dc'

Value of 'Dc'	Number of Items	Percentage of Items
0.00	100	53.7
0.01 - 0.10	31	16.5
0.11 - 0.20	19	10.1
0.21 - 0.30	17	9.1
0.31 - 0.40	12	6.9
0.41 - 0.50	5	2.6
Above 0.50	2	1.1
Total	186	100

The Table - 4 reveals that 98.9 percent of the total items have value of 'Dc' between 0.00 to 0.50 and only a few items have value of 'Dc' above 0.50. This indicates that a majority of students was able to respond to most of the items on criterion test and, hence, the test was considered satisfactory for measuring the performance of the students.

(ii) Sensitivity to Instructional Effects :

The index of sensitivity to instruction effects indicates the degree to which an item reflects the intended effects of instruction occurring between the pre and post - tests. The higher the positive value of this index, the more sensitive is the test item to instructional effects. Items with zero and negative values do not reflect the intended effects of instruction. The index of sensitivity to instruction effects was computed by applying the following formula as given by Kryspin and Feldusen (1974).

$$S = \frac{R_A - R_B}{T}$$

The frequency distribution and percentage of items obtained of various values of 'S' are shown in Table - 5.

Table - 5 : Frequency Distribution and Percentage of Items of Criterion Test for Various Values of 'S'

Values of 'S'	Number of Items	Percentage of Items
Below 0.50	10	5.38
0.51 - 0.60	13	6.98
0.61 - 0.70	32	17.21
0.71 - 0.80	55	29.57
Above 0.80	76	40.86
Total	186	100.00

The Table - 5 shows that the items are valid as most of the items have value of 'S' above 0.60 and, therefore, the criterion test was considered to be satisfactory in measuring the effects in instruction. After the item analysis the final draft of 186 items are prepared and duplicated.

(iii) Reliability :

The investigator followed the procedure for computing the reliability suggested by Martuza (1977, pp 278-282); Hambleton and Novick (1973, pp 263-267) and Swaminathan, et.al. (1974). The sample of 180 students from the target population was selected. At the end of the instruction, the criterion referenced test was administered. After four days the test was re-administered on the same sample of students and for computing the value of 'Kappa - K' the following formula given by Cohen (1960) was issued :

$$K = \frac{P_o - P_c}{1 - P_c}$$

In the present case the value of 'K' came out to be 0.83 and was found to be a satisfactory index of reliability.

(iv) Validity :

Since the investigator constructed the criterion referenced test which is subjected to domain status or criterion referenced interpretation. Hence, it was essential to evaluate the test in terms of content validity. This aspect has been supported by Popham and Husek (1969), Hambleton (1972), Messick (1975), and Martuza (1977). The content validity of the test was ascertained by the investigator himself by analysing the items with regard to the unit content and instructional objectives. Moreover, the help of some Lecturers in Geography and subject experts was also taken for establishing the validity. The procedure suggested by Tuckman (1979) was also used to determine the content validity. The gain between the mean scores of pre-test and post-test came out to be 6.20 which indicated that the content validity of the test is upto the mark.

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ECONOMIC IMPACT OF TOURISM DEVELOPMENT – A LINEAR PROGRAMMING APPROACH

Kunal Chattopadhyay¹ and Chiranjib Neogi^{2*}

There is a growing need of impact studies by planning officials when making decisions regarding tourism development. This paper presents a Linear Programming (LP) model useful to municipal and regional planners. First, a model representative of a community's tourism industry is formulated. The model is then applied to Digha, a small sea-side resort of West Bengal, in order to test the applicability of LP for testing potential economic impact of tourism growth. A bench mark situation is constructed to serve as a basis for comparison.

INTRODUCTION

Economic impact studies of tourism are growing need in popularity for a variety of reasons. First, as tourism activities develop, environmental (both social and physical) side-effects may occur (Forster, 1964; Greenwood, 1976; Cohen, 1978). In fact, economic development activities rely on the use of the natural resources and usually have significant effect on environment. Development of the industry is considered technologically appropriate in a labour surplus country like India. Given its almost inexhaustible source of touristic attraction, employment generation can be fostered by tourism at a low cost since it does not require resources with a high opportunity cost. More over, being located in the remote places, some tourist spots may act as catalytic agent for local growth. Consequently, municipalities and other local bodies find it important to conduct economic impact studies. Second, impact studies can restrict or counter the industries wishing to influence legislation through lobbyists by documenting economic viability of an industry. Third, it helps in identifying the sources and extent of revenue to the local administrations. Municipal and regional planning official are often faced with making decisions on alternative tourism developments. While this may be good for the economy, the community in question may still wish to place some constraints on the use of its limited sources. These constraints on choice can be presented as a set of linear inequalities.

TOWARDS LINEAR PROGRAMMING

The problem as we proposed in our study is basically to maximise a linear objective function given a set of linear inequalities. The best technique to solve such a problem would be LP model formulated according to our objective. Choice faced by the planners can be formulated as an objective function and constraints on choice can be presented as a set of linear inequalities. In this study the main objective is to maximise the revenue from different sources of earnings (eg., accomodations, parks etc). But, in the case of an activity like tourism, which requires natural resources of limited nature and calls for sustainability, we can not take it granted that these limited sources or activities can be exploited in unbounded manner. Hence, for maximization of our objective through empirical exercise, the best method to handle this problem is LP.

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One advantage of LP is that a problem can be modelled to represent choices among types of firm or recreation centres. In any planning exercise relating to tourism, these may be important considerations. Another advantage is that a variety of constraints such as limited resources, maximum capacities etc., can be included to represent realistic situations.

For some time now, LP has been used for solving problems involving private enterprise. But in the case of tourism, an obvious objective would be to maximise benefits including things like gross income, tax revenue or number of tourists. Kottike (1987) applied this technique in New London county situation in 1982.

One useful assumption of such LP approach is that an actual existing situation can provide an appropriate benchmark from which a proposed change in development might occur. An LP framework based on these assumptions can give economic planners at the local level an opportunity to monitor on-going developments.

In order to test the applicability of LP for studying economic impact of tourism, a model can be constructed in such a way that it is representative of a community's tourism industry and at the same time allows opportunities for controlled development.

Given these requirements, the following model can be formulated with the objective :

To maximise

$$Y = \sum_{j=1}^n C_j X_j + \sum_{k=1}^p P_k V_k$$

subject to

$$\sum_{j=1}^n a_{ij} X_j + \sum_{k=1}^p a_{ik} V_k \leq B_i \quad (i = 1, \dots, M)$$

$$X_j = R_j \quad (j = 1, \dots, n)$$

$$X_j \geq 0$$

$$V_k \geq 0$$

Where

Y = total gross income attributed to tourism

C_j = gross tourism income per bench mark firm

X_j = number of bench mark firm of type j

P_k = gross tourism income per new firm

V_k = number of new tourism firm

a_{ij} = input coefficient per new firm

B_i = quantity of resources available for use by the tourism industry or projected levels of tourists visits

R_j = number of existing tourism firms by type j

AREA OF STUDY

Digha is a popular beach resort of West Bengal. It has sufficient ingredients necessary to be a success in tourist industry. It offers a clean town, mile after mile hard flat

beach. The gently rolling sea is almost screened from the town by thick Casuarina forest. The character of Digha's tourism has been shaped by the nearness of the country's largest metropolis Calcutta. Being a small place with 2300 resident population and three per cent demographic growth rate, it attracts about 15 lakh visitors a year. Average annual visitor's growth is 16 per cent between 1977 and 1988. Tourism as an industry from sun, sand and sea has also paid off financially at Digha. The gross economic turn over as estimated in 1988-89 was Rs 155.4 million (Chattopadhyay, 1995). More over, tourism development at Digha coincides with the growth in urban development of Calcutta. With a fixed physical supply of land including beach and forests, careful economic planning of future development is therefore, important.

PROJECTED GROWTH SITUATIONS

The benchmark situation was designed around Digha in 1988-89. It consisted of 230 tourism firms or enterprises. Of these firms, 126 accomodation units; 50 eating and drinking places; 5 local transport; 4 recreation units; 25 shopping and souvenir centres and 20 other support business units were identified.

A total of 1575 acres of land was used for tourism development. Of these, 225 acres of beach area was estimated with assumption of the availability of half the breadth between high tide and low tide water. Over 15 lakh tourists were estimated for benchmark situation. Of these, 9 lakh visits were at halting places and 6 lakh were day trippers.

In applying the model to the benchmark situation, five activities, three constraints and one transfer equation were included. It is to be noted that the benchmark situation was not intended to be an optimal solution. Rather, it was to serve as a base for comparing projected solutions.

Most of the data required for applying the model to the benchmark situation are provided in Table 1. Here, B_i values are shown for land, labour and visitor constraints.

The process of tourism development at Digha can be divided into three phases. Phase one being an incipient period continued upto 1980. The eighties may be identified as transitional phase ranging up to 1990. During this period, Digha began to experience new wave of summer tourism. Certain promotional measures also took place and what is more, non-regional owners of various tourism related activities started to show their interest in opening new units. Finally, the mass stage might have begun in nineties with the completion of proposed railway link with Calcutta. In addition to these evolutionary background, a planning agency engaged in impact study with future projection can not ignore the question of survival or sustainability of the industry.

Environmental considerations thus, become important at the regional level where a range of spatial strategies are proposed to be implemented. It is observed that concentration has been favoured in some coastal regions where a prime objective has been to avoid ribbon development. Here, the proposed technique is to relieve pressure of fragile area by encouraging development elsewhere or by redirecting tourist traffic. Following so called 'honey pot' strategy access may be given to another forest or camping site. In a locality like Digha, where such redirection is not possible for natural or geographical limitations, the planners are left with the task of restricting visitors to maintain the maximum carrying capacity. Acceptable level of crowding appear to differ from one society to another. While some studies observed 1000 persons per hector or 10^2 m per person as a measure of over crowding a beach, others estimate the magic figure as 15^2 m per person considering the first 50 metres from the water edge (Pearce, 1981).

Besides the reasons mentioned above, we also considered the aspects like soil condition, land use pattern (given by the state department of town and country planning), silting and marine erosion (laid down by the Geological Survey of India and department of Geology,

Presidency College, Calcutta) and sanitational constraints (mentioned by DDS). We have specified three projected growth situations for the purpose of testing the applicability of the model (Table 2).

Table 1 : Benchmark Situation for the Digha Tourism Industry

Name of Activities/Constraints Recreation Centre or Support Business Activity	Quantity	
	Number of Firms	Average Gross Income per
Accommodation	126	200.00
Food and Drinks	50	320.00
Camping Sites	6	10.00
Parks	6	12.00
Local Transport	10	72.00
Land (acres)		
Coastal Urban		1575
Coastal Rural		5006
Total		6581
Employment		
Full time		3800
Seasonal		1200
Total		5000
Visit by Tourists (numbers in thousand)		
At Accommodation Centres		900
At Support Business		500.8
Total		1400.9
Gross Income		42052000

Table 2 : Projected Growth Situations with Limitaitons and Time period

Projected Growth Situations	Projected Growth in Tourism Visits (%)	Upper Bound of Accommodation Units	Plan Period (years)
A	50	Nil	10
B	50	50	10
C	25	50	10

Table 3 : LP Solutions for Situation A, B, C as Proposed in the Study

Name of Activities and Constraints	Quantity in Number			Percentage change from Benchmark		
	Situations			Situations		
	A	B	C	A	B	C
Solution						
Accommodation	103	50	50	81.7	40	40
Food and Drink	17	26	9	34	52	18
Constraints						
Land use (acre)	650	650	650	50	50	50
Employment	1000	1000	1000	20	20	20
Number of Tourist	700000	700000	350000	50	50	25
Gross Income	2604000	1830000	1288000	61.92	43.57	30

It is observed from table 3 that if we do not fix upper bound in the number of accommodation units, 103 such units and 17 food and drink shops could be added, given the limits imposed by the projected level of resource constraints. Gross income would then increase by about 62 per cent and these would be obtained by using 50 per cent more land, 20 per cent more employment and 25 per cent tourist. Results of two other situations are also given in the same table.

SUMMARY AND CONCLUSION

The purpose of this study was to construct an LP model and test its applicability for estimating the potential economic impact of tourism growth at Digha. There are many cases where tourist spots were developed for reasons other than tourism. In other words, tourism was an after thought. But, spots like Digha were developed with primary reason, tourism. A scientific planning is therefore, imperative for the development of both tourism and Digha.

In order to provide planning officials with a method of obtaining answers to such questions like what would be the most suitable types of tourism enterprises for the community, a model was formulated to maximise gross tourism income. Growth of tourism was assumed to be constrained not only by limited availability of additional land, labour and projected levels of tourists, the opportunities for new accommodation firms were also restricted for sustainability of the industry.

The merit of the study can be challenged from many grounds. The benchmark situation with which the projected situations were compared is quite old. Upper bound fixation is subjective. The fishing industry, an already existing activity is also ignored. Nevertheless, the model shows promise of being an operational procedure for evaluating alternative tourism development proposals at a practical level.

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EXPLORING FEMINIST STRATEGIES IN MUNRO'S *WHO DO YOU THINK YOU ARE?* AND AT-WOOD'S *THE EDIBLE WOMAN**

B. N. Singh**

*The conventional centrality of man in the patriarchal social structure and the unitary authoritarian perspective in literature have led to the marginal positioning of women in the universal cultural texts. However, thanks to the resurgence that feminism experienced during the 1960's and 70's that women writers have adopted strategies to reject the male coded literary conventions. The present paper is concerned with the exploration of the feminist strategies employed by two contemporary Canadian women novelists in their texts-Alice Munro's *Who Do Your Think You Are?* And Margaret Atwood's *The Edible Woman*.*

Both *Who Do Your Think You Are?* and *The Edible Woman* subvert the conventions of realism by their protagonists' frequent shifts into fantasy. Despite being 'encoders' of gender, these texts stand out even within the confines of feminism in that in both these novels writers have 'appropriated' male-coded literary conventions for understanding the experience of women in patriarchy. They claim upon a female (matrilinial) presence in the connections between generations, hence a way of resisting the critical 'erasure' of women in the system of language. Whereas Atwood's *The Edible Woman* brings to the fore typically gender-based experience of being inhabited by another, Munro's *Who Do You Think You Are?* offers "in a sophisticated parody of metafictional strategies, a remarkable feminist challenge to the whole project of male postmodernism" (Williams 34).

Since feminist writings are not 'unified' and 'monolithic' in nature and most feminist writings also try to eschew a singular, centralised vision for a more 'plural; and 'decentred' range of approaches, the proper interpretive frame for such works are sound to be plural and decentred. While Howells's theory of fantasy in conjunction with Shklovosky's 'defamiliarizing' technique will be used to interpret Munro's *Who Do Your Think You Are?* Althusser's concept of ideology will be employed to Atwood's *The Edible Woman* to understand the experience of women in patriarchy. In view of "no clear cultural consensus in feminist thinking about representation" (Hutcheon 1989 41), the feminist writings deserve to be explained from a multiplicity of point of view. As Toril Moi (1985) points out, "to pretend that feminist theory is a univocal body of knowledge would be inaccurate and detrimental to feminism" (78). These plural and decentred range of approaches are in no way detrimental, rather they help 'deconstruct' "the forms of knowledge", which according to Derrida, "are structured around a 'centre' " (1978 278) by allowing us to construct endless 'centres' of meaning, questioning and modifying definitive, stable, authoritarian and 'fixed' interpretations. Linda Hutcheon (1988) has termed Canadian women writers as "Shape Shifters" and argued that "feminist writers in their challenges to form, as well as in their ideological critique" (108) come closer to postmodern writers as "Two of the major 'universals' contested by both post modernism and feminism are the notions of authority in its various forms and originality" (1988 108).

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Among some of the most significant modes of discourse prevalent in feminist writings to contest 'notions of authority in its various forms and originality', fantasy has received a prime place. Fantasy as a literary device figures in many science fictions but as the art of the marginal it has received adequate theoretical attention in the writings of Brook-Rose (1981) and Jackson (1981) in general and Howells (1987) in particular. For the purpose of this paper we have tried to restrict to Howells's treatment of fantasy and see it in conjunction with Shklovosky's 'defamiliarizing' technique as propounded in his essay 'Art as Technique' (1917). The simple reason for this is that their treatment of such a theme pretty well fits into the scheme of this study.

Howells points out that fantasy being "a devious discourse full of secrets and silences and sublimations" (74) can be used both as "a way of escaping the restrictions of conventions" as well as to "renegotiate connections between oneself and the outside world". Drawing distinction between fantasy and realism, she writes :

Whereas realism works on the assumption that the world is describable and intelligible rather than alien, fantasy challenges that assumption by creating a different design focussing instead on subjective fears and desires, making visible what is usually unsaid/unseen in the acknowledged order of daily life (74).

Howells also recognizes the power of female fantasy in creating "alternative worlds" with the "transformed self as heroine" and challenging "realism as an authoritative account of reality" (88). Apart from being a mere narrative technique, fantasy in case of women writers has functioned as a survival strategy enabling them to express a whole "range of feelings traditionally forbidden to women while at the same time preserving the decorum of women's fiction" (Howells 74). Projections of fantasy unsettle the narrative but function as powerful challenge to social and literary traditions, traditions that have marginalised and excluded women from power.

Victor Shklovosky, one of the most important members of the Moscow Linguistic Circle, in his essay 'Art as Technique' has argued that the art needs to shock, defamiliarize and subvert our sense of the normal as in most activities perception becomes 'habitual', 'automatic' process so that we are often unaware of, or take for granted our views of things and relations between them. The function of art is to challenge this 'habitualization' and 'automatization' and make us see things differently and anew, and return a direct grasp on things to the individual perception. This is done by the ability of poetic or literary language to make 'strange' or 'defamiliarize' the familiar world; what changes in fact is not the world or object in question but the way of perceiving it : the mode of perception. This mode of perception prevents us from ending up with 'familiar stereotypes' and imparts us "knowledge constructed from the concrete information given to us by our senses" (1965 13-14). For Shklovosky, the purpose of art is "to impart sensation of things as they are perceived and not as they are known" (Ibid). Mikhail Bakhtin, arguing along similar lines, suggests that by creating an extraordinary situation it is possible "to cleanse the word of all of life's automatism and objectness," thus forcing a person to reveal the deepest layers of both his personality and his thought (1984 111).

Thus 'defamiliarization' involves challenging existing habits and assumptions, but the Russian Formalists in general applied it for challenging linguistic habitualization only. Fantasy when seen in conjunction with the technique of 'defamiliarization' can emerge into a revolutionary status in challenging 'modes of perception', the existing habits and assumptions' which have been 'naturalised' and normalised' by patriarchy.

The power of female fantasy to make strange or 'defamiliarize' the familiar world and its values is amply manifested in Munro's *Who Do You Think You Are?* Martin (1989) has already suggested that in Munro's fiction "the familiar and ordinary becomes strange to the point

of mystery" (10) whereas Coral Ann Howells reflecting on the "distinctively female fantasy of Munro's protagonists – Rose in *Who Do You Think You Are?* and Del in *Lives of Girls and Women* – refers to the "fictional forms that girl's and women's fantasies take and the ways they relate to female desires and deprivations" (79). She writes :

Both Del and Rose grow up with dual visions of themselves as exiles or spies in their hometowns, resisting the social or gender constraints imposed on them and needing to invent more glorious possibilities than their ordinary lives seem to promise. It is only through fantasy that they can recreate the world and themselves; they endlessly make and unmake imaginative worlds which are exotic and theatrical, usually with the transformed self as heroine (79).

According to Howells, "the power of fantasy to create alternative worlds whose design conforms more closely to desire is keenly scrutinized in the central female fantasy of falling in love" (80). Female fantasy or romantic longing of falling in love figures in feminist discourse as "the pivot of women's oppression" (Firestone 1970 121) because it induces them to submit willingly to their own subordination. Nancy K Miller (1981) also talks about the "female erotics" structuring "the plots of women's fiction" and "heroine's longing to be overwhelmed by the exquisite currents of sexual desire" which ultimately leads her "awakening into resistance and then renunciation" (Howells 81). She states :

Perhaps this renunciation, this choice to go beyond love, beyond erotic longing is the figure that the ambitious women writers take? (Miller 1981. quoted in Howells 81)

Howells does not fully agree with Miller so far as the initiative taken by female protagonists in renouncing love is concerned. However, she believes that Munro's protagonists "recognize such loving as a kind of suspension of their real lives in a dream from which they will inevitably awaken" (81). By analysing some of the fantasies of Rose in *Who Do You Think You Are?* I would like to show that fantasy as a verbal strategy employed by Munro helps understanding her protagonist's experience of patriarchy, her sense of being 'other'. She gets not only positioned or 'interpellated' into subject but becomes even a victim of her own discouragement. Her fantasy makes her see events in a certain way and to think of herself as free agent in the process, unified undivided apparently able to live as she wants to but in fact manipulated and restricted by the codes and strategies of the text. In other words she failed to control the uncontrollable "(Carrington 1989), the patriarchal social order represented by Patric, Simon and even Dr. Heanshaw and Flo, her step mother.

Rose's penchant for fantasy her resourcefulness in converting familiar and commonplace into strange and mysterious is evident right from the very beginning of the novel. In the first chapter of the novel, 'Royal Beatings, she has been introduced as having "a need to picture things, to pursue absurdities that was stronger than the need to stay out of trouble" (*Who* 1). Being a sensitive and thoughtful protagonist of Munro with "investigative imagination" (Martin 102), she very often indulges into fantasy. When Flo calls incest a 'performance', she soars sky high on the viewless wings of poesy :

Before Rose understood what was meant she used to imagine some makeshift stage, some rickety old barn stage, where members of a family got up and gave silly songs and recitations (who 34).

It is this tendency of Rose that makes her both "Victim and accomplice". Rose's erotic fantasies come to the full swing in her sexual encounter with the 'minister' in "Wild Swans" (*Who* 78-85). When 'minister' sitting beside her on the train begins caressing her legs under the cover of his newspaper while pretending to be asleep, Rose instead of rejecting him, takes

recourse to sexual and erotic fantasies of "other men's hand and their possible pleasures" (Blodget 92). When the act is over, Rose is in such metaphoric consonance with world that her inseparable orgasm is not her alone" (Blodget 93). The omniscient narratore comments on Rose's fantasy which brings to the fore the bliss celestial of paradise that she has undergone:

The gates and towers of the Exhibition Grounds came to view, the painted domes and pillars floated marvelously against her eyelid's rosy sky. Then flew apart in celebration. You could have had such a flock of birds, wild swans, even, weakened under one big dome together, exploding from it, taking to the sky (Who 84).

The narrator reflects upon her state of mind : "She had a considerable longing to be somebody's object. Pounded, pleased reduced, exhausted" (Who 81). This episode refutes both Howell's and Miller's contention that erotic fantasy is followed by "heroine's awakening into resistance and then renunciation" as the narrator comments on her state of mind.

She never saw him again in her life. But he remained on call, so to speak for years and years, ready to slip into place at a critical moment, without even any regards, later on, for husband or lovers (Who 84-85).

Carrington argues that "By doing so, she makes him one of her trap doors of escape from reality" (128). Comparing Rose's seduction to the seduction of Leda by Jupiter in W. B. Yeat's poem 'Leda and the Swan' he states :

If the "exploding" swans signal Rose's climax, she feels the same "shudder in the loins" that : Leda feels when Jupiter, disguised as the swan, engenders" Henlen in her... Unlike Jupiter, the "minister is not a god, he doesn't even speak of God, as Rose intially expects him to. Nevertheless, like Jupiter, he too is disguised and he too engenders something permanent in Rose, something that causes almost as much trouble as the legendary Helen does (127 - 28).

The said remark explains as to why the minister remained on call for years together in Rose's life. Can he be taken as the representative of patrianchal social order in disguise exercising his sway over Rose. Does Rose's fantasy help her in getting out of his patrianchal octopus grip? These issues can be best examined in Rose's relation to Patrick, her fiance.

Howells has stated that Rose "has been creating for herself beguiling romantic fantasies, first as a woman in love and then as a woman deserted by her lover" (89). Ruthven states that romantic love is a 'trap' under the hypnotic spell of which "the heterosexual young women become underachiever at school and sacrifices careers of their own in the expectation that the most important thing in their lives is to marry the 'right' man and live with him happily ever after" (1989 79). But, ironically, Mr. Right once again turns out to be the same representative of 'sexist' Ideology. Rose-Patrick relationship in 'The Beggar Maid' (Who 87-130) can be explained in the said *raison d'etre*. The Chapter introduces Partrick as such :

Patric Blatchford was in love with Rose. This had become a fixed, even furious, idea with him. For her a continual surprise. He wanted to marry her. He waited for her after classes, moved in and walked beside her, so that anybody she was talking to would have to reckon with his presence (Who 87).

Despite being aware of her modest origin she gets inflated when Patrick calls her 'beggar-maid' : Rose indulges into another fantasy which too acts as a trap :

She had a look at that painting. She looked it up in an art book in the library. She studied the beggar maid, meek and voluptuous, wither shy feet. The milky surrender of her, the helplessness and gratitude was that how Patrick saw

Rose? Was that how she could be? She would need that king, sharp and barbaric, he could make a puddle of her, with his fierce desire (Who 103).

It is interesting, to note the patriarchal taxonomies implied in epithet 'the beggar maid'. Images of women in literature have been presented in such a way that their main functions remain to reinforce the sexist view. Patriarchal taxonomies has used 'binary categories' in order to classify women as "sensuous roses or virginial lilies, pedestalled goddesses or down trodden slaves, Eves or Mary, Madonnas or Magdaleness, damned whores or god's police (Ruthven 72). According to Ruthven, sometimes she is presented as the great Mother (as exemplified in Virginia Wolf's Mrs. Ramsay in *To the lighthouse*) and sometimes like the great American Bitch in Albe's *who afraid of Virginia Wolf?* (Ibid). Hutcheon rightly points out :

To accept unquestionably such fixed representation is to concede social systems of power which validate and authorize some images of women (or blacks, Asians, gays, etc.) and not other. Cultural production is carried on within a social context and an ideology – lived value system and it is this that feminist work has helped teach us (1989 21).

The expression "the beggar maid" conjures up double image of Rose : She is beggar because of her humble origins and a maid because of her being so perceived as a damsel in distress by her would be husband. "But", as Blodget points out, "it requires living through the eyes of another, which runs the risk of not only requiring a new name, but losing a sense of one's self, of who one is. This is the risk of becoming his story, not her own" (94 –95). And that is why after Simon's unexplained disappearance, Rose desolate and confused, abandons her teaching job and drives headlong westward, feeling that "In a prairie town within sight of cypress Hills she recognized the change" (*Who* 229). She is not only free of Simon but is now a "free person" (*Who* 230), and moreover "an entergrated and mature person facing the real world" (Martin 118).

Sandra Lee Bartky points out that "feminine consciousness is the consciousness of victimization" (1975 26). Another subtle way through which the patriarchy operates is the institution of marriage which creates an illusory on fales consciousness, given a false sense of security to women. First it appears 'natural' or freely chosen but like Althusser's "ideological state Apparatuses" it interpellates' (1971 171-72) women into 'subjects' in such a way that they themselves remain unaware of its oppressive effects. In other words, it surrounds them invisibly and is perhaps the most effective ideology of indirect coercion in which the women actively work towards their over subordination, "they themselves becoming", to quote Althusser, conspirators in their own exploitation" (Ibid).

Atwood's protagonist, Maria McAlpin, in the *The Edible Woman*, looses her appetite and starts indulging herself into fantasy as soon as she accepts Peter's proposal of marriage. Patricia Waugh (1989) has pointed out that the images of women afflicted with bodily symptoms such as eating disorder, hysteria, illness, fantasy etc. are very much pronounced in feminine discourage. These bodily symptoms constitute an attempt to resist their objectification within the social relations of patriarchy (1989 179-1989). The alienation and estrangement from their bodies experienced by the female protagonists as a consequence of "gender positioning" prey upon their sanity and they find themselves in a world to which they cannot relate. Marian first loses her appetite as soon as she accepts Peter's proposal of marriage. She goes to the refrigerator and finds herself wondering "whether she could face an egg" (*Edible* 83). When Peter suggests marriage, "a tremendous electric blue flash, very near, illuminated inside of the car" (83), reminiscent of wellknown scene in Charlotte Bronte's *Jane Eure* in which Rochester proposes (280). She sees herself held in Peter's gaze; "...I found myself gazing into a multitude of eyes" (82). The "gaze" and "mirrors" have specific connotation in feminine discourse. Janet Frame points out, they

... Offer an illusory image of wholeness and completeness, the promise of the security of possession, but they too are agents of oppression and control, enticing us (women) with their spurious identifications. Quoted in Waugh (210) Bromberg believes that mirrors symbolize not the moral and psychological limitations of the female protagonist, but rather the crippling emphasis that the society places on the female image as a consumer item (13) Marian feels alienated as she knows she cannot see herself with her own eyes as "the tool for representing, for objectifying one's experience in order to deal with it, culture, is so saturated with male bias that women almost never have chance to see themselves culturally through their own eyes" (Firestone quoted in Waugh 157). Duncan's speech well conveys her situation:

Once I went to the zoo and there was a cage with a frenzied armaaillo in it going around in figure eights, just around and around in the same path ... They say all caged animals get that way when they're caged, its a form of psychosis, and even if you set the animals free they go like that, they'll just around in the same pattern (95).

The above remark of Duncan introduces a central image of Marian's physical and psychological entrapment. Keith observes that despite her determination to "break out, "she not only returns to the cage but also returns to the traditional patterns of wifely behaviour" (41). She reverts to the conventional assumptions adhering to the sanctioned pattern "to marry someone eventually and have children, every one does" (102). and hence acceptance of Peter's proposal is "a very good step to take" (101 - 102). Martin discovers certain commonalities between Peter and Leonard Slank, the college friend with a reputation for seduction : "anything over seventeen is too old for him". The important side of Peter's character is represented by his collection of weapons : "two rifles, a pistol, and several wicked - looking knives" (50) Peter hunts wild animals and Leonard young girls, but Marian begins to feel herself as the potential prey of both. Over Peter's description of shooting a rabbit (69) which is replete with feminine pronouns (as the rabbit more than once has been addressed as 'her'), she begins to identify herself with the victim. Consequently she lopes along the dark streets pursued by Peter in his car and Len on foot. Considering it a surreal and macabre love-chase, Keith observes that "Hunting imagery gives way to that of military operation : this is the war between the sexes. The effect is only momentary but it certainly establishes Peter as macho hunter in solidarity with Leonard slank, the womanizer and arch-seducer" (Keith 37). The image of the hunter and hunted becomes more clear when Marian decides that running from both Peter and Slank is the better part of "feminine flavour", as they seem "Monopolizing her" (77). Bored by the talk of cameras and lenses, Marian succumbs to an irresistible urge to hide in "the dark cool space between the bed and the wall" (75). Again the image of Peter as an archetypal hunter gets confirmed as he appears as the camera-shooting hunter and "make her a perfect target" (244). Alan Dawe Points out :

The image of the hunter and the hunted becomes even stronger... The weapon the hunter carries is ... only a camera, but it is aimed right at her, and it goes off in a blinding flash of light. It is not difficult to isolate the common denominator in all these comic scenes of terror : the male characters are not the victim. (1).

She realizes instinctively that she must rush for her life but again "It all depended on getting as far as Duncan as "He would know what to do" (244). With Duncan she goes out in search of "some sort of hotel" (248) which echoes Prufrock's search of restless nights in one night cheap hotels". And "streets that follow like a tedious argument /of insidious intent" leads her "to an overwhelming question", a frightening sequence illustrating modern alienation. Love is supposed to resolve all problems, but the mechanical and

laborious sexual act implied here seems closer to a demonic parody of love. When she desires to consult a psychiatrist as she "wants to be adjusted" (263), Duncan gives her a sane advice : "Oh no, don't do that" (263). "Adjustment is only desirable if the social world involved is itself normal. If society is recognized profoundly abnormal, the psychiatric adjustment is both superfluous and pointless" (Keith 59).

Marian's recognition of her situation takes the form of a symbolic neurosis. She finds herself in the crazy and verbally insensitive world to which she cannot relate. The test "simple and direct as litmus paper" (167) which she devises in the last two chapters of the book to deal with the problems of Peter (where she offers the cake-women to Peter to eat) has been inferred by critics as Marian's refusal of self sacrifice. Patricia Waugh writes :

Increasingly unable to consume as the novel progresses, she can, finally through her symbolic baking of cake-woman offered to Peter (her erstwhile fiance), ritualistically mark the end of rite of passage which has led her to the knowledge of the possibility of refusing self sacrifice. Peter may now eat the 'cake-woman, but he may no longer cannibalize Marian's own body, and Marian can break her own identification with the consumable, the confection; she can refuse the signifying process which endlessly substitute for her own sense of corporeal identity (1989 179).

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SOME ENDOGENIZING EFFORTS IN GROWTH THEORY

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Endogenous growth theory portrays economic growth as a self propulsive process. The immediate cause of the emergence of endogenous growth theory is the failure of neoclassical growth theory to accommodate increasing returns the phenomenon which constitutes the essence of growth. However, efforts have been made since Adam Smith to incorporate increasing returns into the theory of growth but in pre-Solow period these isolated efforts could not fructify into a well-developed growth theory. In post-Solow period several efforts of endogenization of technical progress and growth laid sufficient ground which Romer's theory of endogenous growth was built. This paper highlights different building blocks of endogenous growth theory.

The long-run growth-paths of the developed countries with their recent convergence indicate a self-propulsive nature of growth. In case of these countries it seems that 'growth begets growth', Currie and Sandilands, (1997, pp. 414). The possibility that the process of growth might contain in itself some forces which promote further growth constitutes the heart of endogenous growth models, the paradigm which has received a high research attention since 1986, the year which saw the publication of Romer's 'Increasing Returns and long-run Growth' (Romer, 1986). With the proliferation of research in this area, a heavy crop of output has emerged in recent years, some notable examples being Romer (1990,1994), Lucas (1988), Grossman and Helpman (1991), Caballe and Santos (1993) and many others. The immediate cause of the emergence of endogeneous growth models, as noted by Romer (1994) is the failure of the neoclassical growth theory to explain empirically the growth performance of different countries. The roots of this theory, however, go deeper. I try, in this paper, to shed some light on the main sources providing the building blocks of the endogenous growth theory. I also point out some shortcomings of this theory in its application to the analysis of growth especially in respect to the developing countries.

The endogenizing efforts of growth theory can be divided into two phases-Pre-Solow and Post-Solow. In the Post -Solow phase, contributions from two well-marked sources have emerged, one is Kaldor who based his theory on Young and the other is economists following more or less neoclassical model.

Pre-Solow Background :-

The idea that the capitalist economy is a self-regulating system which for its operation does not require any external guidance from government or any other agency is the basis of classical theory. Despite its being self-regulating and autonomous, the classical economy is not a self-growing one. In this economy growth cannot sustain itself, that is, growth does not beget growth. The technology and growth-promoting capacity of specialization associated with division of labour got sufficient analytical depth in Smith, but its full potential was not utilized in the post-Smith classical models. So, technology failed to receive a proper endogenous treatment, while population became endogenous. The incorporation of population, but not of a full-blown technical progress in classical model reduced its efficacy as a description of actual

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growth dynamics. The growth income in this model is translated into the rise of population which tends to reduce income so that in the long run a stationary state emerges.

Classical stationary state never materialized in those countries which got industrialized. Propelled by an almost continuous growth of technology, income of those countries rose steadily in spite of population growth. The classical failure to grapple with technology and population encouraged the neoclassical economists to treat both technology and population as exogenous variables. This treatment gave rise to a tradition which only recently the endogenous growth theorists have tended to successfully invert by considering technology and human capital as endogenous variables.

In spite of being a very powerful analytical tool, Smith's division of labour did not in general, find much use in growth theory, till it was incorporated by Young into his theory of increasing returns and economic progress (Young, 1928). In Smith, division of labour is instrumental in developing dexterity, saving time and promoting inventions, but it is limited by the extent of the market. The market is thus taken to be an exogenous factor in Smithian model. Young extended this Smithian idea of division of labour a step further. Market becomes exogenous when a single commodity is considered, but when more than one commodity is considered market becomes endogenous. Young's reciprocals demand a relation in which the demand of a commodity is fed on the demand of the other commodity so that demands can raise their outputs continuously-relaxes the limit set by the Smithian single commodity market. The specialization induced by division of labour then leads to increasing returns and promotes a disequilibrium growth.

Young's theory thus laid the foundation of endogenous growth model but it did not receive the attention it deserved. This neglect was occasioned by two factors one is theoretical and the other is situational. On the theoretical plane, increasing returns and perfect competition were thought to be incompatible, and since in reality, competition was a common occurrence and monopoly a rarity, so increasing returns were also thought to be a rarity. Situationally, 1930s was the period of great depression which made the study of business cycle or short-term economic problems more relevant than growth whose perspective is long-run.

In pre-Solow era two other isolated contributions having bearing on endogenous growth appeared. One is Schumpeterian theory of economic development which, propelled by the forces of innovation and creative destruction, follows a disequilibrium path. Schumpeterian innovation is, however, not fully endogenous. The other contribution came from Hicks, who formulated a theory of induced innovation. Hicksian innovation is driven by the changes in relative prices. A rise in relative price of a factor is supposed to act as a spur to innovation which economizes the use of that factor (Hicks 1932). However, in pre-Solow era none of these contributions could succeed in formulating an endogenous theory of growth in a full form.

POST SOLOW DEVELOPMENT:-

In post-Solow era, the basic problem was to explain the behaviour of total factor productivity. The various efforts associated with the identification of the sources of total factor productivity led to the emergence of the endogenous growth theory. From neoclassical growth model we get the time-path of total factor productivity (which is also called Solow residual or technical progress) as.

$$\log A(t) = \log Y(t) - a \log K(t) - b \log L(t) \dots (1)$$

where $A(t)$ is Solow residual or exogenous technical progress or total factor productivity, defined exogenously as a function of time, t , Y is total output, K is total capital and L is total labor. Since $a+b=1$, we can take average output and capital instead of their absolute values:

$$\text{Log } A(t) = \log Y_a(t) - a \log K_a(t) \quad \dots (2)$$

where $Y_a(t) = Y(t) / L(t)$ and $K_a(t) = K(t) / L(t)$.

If we take the growth rate then

$$GA = GY - GK \quad \dots (3)$$

where G is the rate of growth.

Studies conducted in the 1950s and 1960s found a high value of GA . Solow (1957) estimated a value of 87 percent for GA and only 13 percent for GK for U.S. economy during the period 1911-49. Some other studies, for example, Denison (1962), Abramovitz (1956), etc. found the result comparable to Solow's. With the refinement of estimation and development of insights into the possible sources of $A(t)$, the value of relative contribution of $A(t)$ declined but it remained above 50 percent. This implies that capital and labour together contribute less than 50 percent to the growth of output.

In pre-Solow era accumulation of physical capital was thought to hold the key to the growth of income. The growth-accounting literature that was developed in the post-Solow era dispelled this idea. With the loss of paramountcy of physical capital in the process of growth came the question as to the possible source of the total factor productivity or the Solow residual, $A(t)$. The origins of this residual seemed to be lying in an area which Abramovitz (1993) called the area of ignorance. Efforts were then made to shed light on this dark area from which springs the main impulse to the growth of productivity. Two such efforts which produced a big impact on the whole of development literature and which created sufficient theoretical basis for endogenous growth are Schultz's human capital model (Schultz 1961) and Arrow's model of learning-by-doing (Arrow 1962).

Schultz (1961) derived the role of human capital from the relative unimportance of physical capital. Since the growth of physical capital and labour can explain not more than 50 percent of the growth of income, the growth in skill and efficiency of labor might be responsible for the growth of productivity. Schultz showed the process of human capital formation and this process is parallel to the process of physical capital formation. Since skill formation requires investments in education, training, health services, etc. such investments can be considered to form capital, and this capital is human capital. Human capital was supposed to provide the explanation of the total factor productivity or the Solow residual.

Human capital in Schultz is defined broadly, its components being formal and informal education, training, health and migration. In Arrow (1962), the sources of human capital are narrowed and the process of its formation is related to the accumulation of experience which is supposed to be the spring of technical change underlying the growth of productivity. The experience in Arrow's model is measured by 'cumulative production of capital goods'. To quote Arrow, "Each new machine produced and put into use is capable of changing the environment in which production takes place, so that the learning is taking place with continually new stimuli." (p. 157). In measuring experience by cumulative gross investment or cumulative production of capital goods Arrow differs from Verdoorn (1965) who related learning curve to national output. If cumulative gross investment is G , then the learning curve used by Arrow (p.159) is

$$f(G) = bG^{-n},$$

n being a measure of experience is greater than zero. The production function used by Arrow shows increasing returns in G and labour. In Arrow's model the private productivity of new investment is less than its social marginal productivity so that the accumulation of capital has a positive spillover effect.

Another model which is a further step towards endogenous growth theory along neoclassical line is Uzawa's two-sector model (Uzawa, 1965). In the meantime a large number of studies which arrived at the explanation of the growth of technology emerged. An important study which is extreme in treating technological change as being induced by demand is Schmookler (1966). In this study the production of inventions and technological knowledge is compared to that of any other commodity. Demand is supposed to be as fundamental in technological change as it is in the production of bread.

Kaldor made some seminal efforts towards endogenization of growth along non-neoclassical line. His initial formulations, Kaldor (1957, 1958) Kaldor and Mirrlees (1962) followed Keynesian-Cambridge models. Unlike neoclassical growth model where saving rate is determined exogenously, in Kaldor saving rate is determined endogenously. Technical progress is also determined within the model. In spite of these, Kaldor's models did not get much popularity because of neoclassical anathema to Kaldor's saving function which is based on the distribution of income. His technical progress function embedded in accumulation of capital lacked micro-foundation, a desirable property of a sound macro model.

Kaldor's next formulation was based on Young's increasing returns and it developed disequilibrium model of growth (Kaldor, 1985). The root of this theory as mentioned before is Smithian division of labour. Specialization based on division of labour produces efficiency, an instrument of increasing returns at the firm level. The outcome of the increasing returns is not equilibrium growth, rather a situation is set in motion in which as market approaches equilibrium, equilibrium recedes so that market cannot achieve it. Kaldor's formulation, though rigorous, found again not much positive response because of mainly two reasons. In the first place neoclassical fascination with linear homogeneity placed Kaldor in the same position in which was placed Young in the 1920s. Secondly, the period from mid-sixties to mid-eighties witnessed the growth theory going out of serious research. In this sterile period for growth theory neither Kaldor's ideas nor neoclassical approach to endogenization got any headway. However, prior to this period sufficient ingredients for endogenous growth theory were developed which Romer (1986) took up.

Romer (1986) is an equilibrium growth model. The intertemporal utility function is

$$U(c(t)) e^{-\rho t}$$

The economy modelled has n firms which are assumed to be identical. The production of the i th firm is

$$Y = f(K_i, x_i, K),$$

K_i is human capital or knowledge and K is the total human capital in the economy, x_i is labour f is subject to increasing returns. However, the production of K_i is subject to diminishing returns. Since K has positive externality, the equilibrium is possible. Because of increasing returns, per capita income in this model can grow indefinitely. There is no need of convergence of income among the countries. Since human capital has positive externality, the amount of human capital used by each firm is less than what is socially optimal. This calls for government intervention in the provision of human capital or knowledge.

Endogenous growth theory has successfully integrated increasing returns into the main body of economic theory and in this respect it marks an improvement over its predecessors.

However some perennial problems of increasing returns remain with this theory. One problem, as noted by Solow (1994) is the possibility of per capital income rising without bound and if the elasticity of output with respect to knowledge or other input is significantly greater than one, output may tend to infinity within a finite time. Such a picture seems to be unrealistic. Another problem with this theory is its inability to incorporate any specific characteristic of developing countries. Using this theory it may be possible to explain growth but not stagnation; however this theory is yet to see much empirical application not only with respect to developing countries but also with respect to developed countries.

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FROM PYGMALION TO NARCISSUS : A STUDY OF ROBERT BROWNING'S 'PORPHYRIA'S LOVER'*

Y.K.Sinha**

This study is occasioned primarily due to the lack of a specific critical approach to Browning's treatment of women in his works. It seeks to investigate the paradoxical use of the pygmalion motif in Browning's 'Porphyria's Lover'. Browning has used the pygmalion legend in this poem in order to explore the conflict between the male protagonist's aspiration and his achievements. The textual study of the poem aims to understand the mechanisms and discourses that facilitate the interrelations and intends to see whether the pygmalion motif is a reliable vehicle to provide and maintain stable meanings.

Browning's works, more often than not, represent the muted or silenced voices of women. Browning, in his entire corpus of poems, portrays several types of women who fall outside the regulation of victorian patriarchy. Even though these women are not necessarily rebellious, they are certainly not in tune with the image of an angel in the house. Browning's narratives regard these women with utter victorian disdain and treat them with punishment. It is, however, discernible that the narratives also contain contradictions, conflicts and questions about them that undermine a mid-victorian domestic ideology that is otherwise promulgated by the text.

Browning, as argued by critics, is obsessed with the myth of Andromeda's rescue by Perseus and it appears to be a reaction to a larger mythical influence where the poet attempts to show that preservation by the male is not necessarily synonymous with rescue and liberation.¹ Browning's real obsession, however, lies in working out the pygmalion motif in his works and particularly in *Porphyria's Lover*.

Browning is essentially concerned with Ovid's story of Pygmalion² who carves an ivory statue of a maiden and then hopelessly falls in love with the statue he has sculpted. The Goddess Venus, however, takes pity on him and animates the statue so that it can become his flesh and blood bride. The statue, however, represents his ideal of womanhood, his own mirror-image, a sort of narcissistic impulse as Pygmalion is basically a misogynist who would be disgusted by the woman he sees around himself. Browning, in fact, brings to the fore this misogyny of Ovid's Pygmalion who cannot find any living woman good enough, who cannot be called perfection of beauty according to his own androcentric point of view. Browning's male protagonists are found more comfortable with the substitutes than with the real thing. We see them replacing the women with statues, pictures, corpses etc. thus amply displaying that they feel threatened by the female's independent spirit. Browning's poems thus indulge in the process of inverting Ovid's myth which results in the male protagonist's reduction of a woman, even through her death, to a product of their own creativity, the value of which is fixed like static art objects reflecting their self-estimation.

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¹ Adrienne Munich and William Clyde De Vane have taken up this point of view which is not entirely justifiable.

² Ovid has not named Pygmalion's bride however.

Porphyria's Lover is one of the earliest of Browning's monologues³. It is a commentary through myth, through the Pygmalion story. The poem builds up its energy, it seems, by a repetitive borrowing from the active to passive reversal of action. Porphyria acts in the first half but the second half changes the action of the first in a very macabre fashion. We find Porphyria's sudden lover as a silent and willfully passive being as the proceedings. The lady composes the scene and even choreographs his posture bringing him to life again, to arouse the lover's response.

This poem is a dramatic monologue where nothing is provided by way of context beyond the title and words of the poem but from these, it is generally possible for the reader to infer the circumstances in which the monologue is delivered, who the listeners are; and how they are receiving what they hear. "The monologue's power is primarily dependent on its being a potential dialogue and it is the presence of the listener that brings it to birth, forcing the crisis of utterance and hence of revelation, the clarity of discovery."⁵ The reader is put in possession of the material he needs, in a dramatic monologue, to assess the speaker and thus to come to a conclusion about the issues raised in this poem.

As *Porphyria's Lover* is a monologue, here also we find that all these things are being narrated by the lover-creator-speaker of the poem. We, however, see the lady Porphyria only through the speaker-lover's eyes. This speaker-lover is in fact the creator of the lady. We find ourselves, in the poem, amidst the crises engulfing the creator and the created. The crisis is ventilated through the portrayal of the created lady as a free agent which is further used by the creator-speaker's subliminal indignation at her self-determination. In the process, we come across manoeuvrings of various discernible contraries— male and female, active and passive, rich and poor, socialite and solitary. These contraries, in turn, happen to be an endeavour to upset even more threatening oppositions such as assailant and victim, life and death, art and murder. The speaker tries to create such kind of a camouflage throughout the poem but the difference between the lover and the beloved Porphyria is manifest. Even though the lover had tried to represent the behaviour of her beloved as a selfcentred one, it appears quite distinctly that the lady's intention is basically to arouse and awaken while the male protagonist simply tries to fix and preserve her. However, "it is impossible to fix life which is the meaning of *Porphyria's Lover*."⁶

The lover's narrative, with its linear recounting of events, is impressive but the speaker's retrospective reading of Porphyria is an attempt to carve her in his own mirror-image. Here, the lover-speaker emerges as a pygmalion who continues to work his designs on the body of his beloved long after he has achieved his end, not only by his projection of his desire as her 'Will' (53), but also by turning her into a lifeless statue and making her a version of himself and therefore a lesser Pygmalion.

Critics have found resemblance in the name of Porphyria and Porphyro of *Porphyria's Lover* and Keats' *The Eve of St. Agnes* respectively.⁷ Keats's allusion to 'Will' (53), but also by turning her into a lifeless statue and making her a version of himself and therefore a lesser Pygmalion.

fulfilment of Madeline's own private fantasy. It has also been termed as "masturbatory dreaming"⁹ which awakens her from sleep into the reality she desires. We find that the dream of Madeline is correctly enacted by Porphyro in the *The Eve of St. Agnes* whereas the lover in *Porphyria's Lover* virtually sets down to Porphyria's desire as a part of his erroneous self-justification. Browning's poem seems to be either a direct challenge to Keats's romantic vision or an aggreration of the ambiguities lurking beneath the placid surface of *The Eve of St. Agnes*, suggesting the story as less than ideal.

Ovid's account of Pygmalion has strong auto-erotic element in it to the extent that both lovers act out their fantasy without reference to the conscious desire of the other. Their consummation derives more from these auto-erotic impulses. Their desires coincide by happy fortuity and not by true consensuality. This pattern of desire provides elements of which Browning transferred into his de-idealising monologue. Lady Porphyria seems to be like the heroic Porphyro when she 'glides in' the cottage 'shutting the cold out' to awaken her lover from his death-like enervation. Both are faces of Pygmalion, preserving the sense of an actor who visualises himself as the source of animation. Both versions are ultimately narcissistic reflections of the speaker, who is the true Pygmalion of the poem. The speaker reduces his women to sculpture in the second part of the poem, where the woman is represented by neuter pronoun :

The smiling rosy little head
So glad it has its utmost will.¹⁰

(52 - 53)

The speaker's Pygmalion-like wish, to see the woman he has murdered as somehow animated through the force of the desire he has attributed to her, forms the final irony of the poem. Lady Porphyria is virtually remade, recarved in his image and in his eyes she is reconciled to her better self. This better self is fixed and fashioned for her only by the speaker-lover and her life-likeness, even after her lifeless body, suggests that she is more alive for him than 'dead'. Her life-likeness, Browning very artfully suggests, is the refined essence as he says:

That all it Scorned at once is fled
And I, its love, am gained instead

(54 - 55)

This 'refined essence' represents the uncontainable energy which Browning associates with the feminine and with the imagination that destroys the endeavour for possession, capture and completion. In the poem, it seems that the other is not really other and this other - the lady Porphyria - is virtually the mirror image of his desire. It seems as if Narcissus's reflection in the pool had come alive and could return his love. But this movement from Pygmalion to Narcissus entails the death of the other. The gratification derived from the admiration of his own mental as well as physical attribute - the mirror-image of himself in the dead Porphyria - ironically presents the lover of Porphyria as voyeur and ravisher.

The achievement ultimately is Narcissus - like transformation although Pygmalion - like gratification is being indicated. This movement from Pygmalion to Narcissus trivialises the whole purport of the poem as the lover strives to capture the lady and holds her beauty in an eternal stasis divorced from earthly love and morality. It appears to be a kind of brilliant disfiguration which momentarily irradiates the shifting imaginative terrain that grounds Composition.

⁹ Marjorie Levinson is more frank in referring to this term 'Masturbatory dreaming'.

¹⁰ I have used the Penguin selection throughout to quote the poem.

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ENGLISH LANGUAGE NEEDS ANALYSIS : A SURVEY AT ARUNACHAL UNIVERSITY *

Raashid Nehal^{***}

The paper attempts to report the findings of English language Needs Analysis survey carried out in 1996-97 in the four affiliated colleges of Arunachal University and Post Graduate Department of English. Quantitative Survey questionnaire was administered on a sample size of 181 students. The main objective of the study was to assess the language needs and requirements of the students enrolled in the first year undergraduate and postgraduate students in English. The implications of the study indicate the possibility of major reorientation of the curriculum and to establish a database of information concerning the English language demands in general courses, the areas of difficulties encountered, students assessment of the usefulness of English language instructions given.

1.1 Introduction : Needs Analysis

Needs Analysis is designed with a view to strengthening the teaching and learning of English taking 'learner-centered approach' (NPE, 1986). Grundy and Brookes (1988) stress the importance of needs analysis to justify the learner-centred approach of English for Academic Purpose (EAP). Needs analysis based academic writing takes a more humanistic view of language learning "recognising the learner as the true language resource" (Grundy and Brookes, 1988 : 100). Teaching once directed to and made flexible to students need yield significant outcomes. For a successful English Language Teaching (ELT) programme, needs analysis helps in developing criteria for specifying the objectives of the syllabus design, designing materials, analysing errors and providing feedback (Aslam 1995).

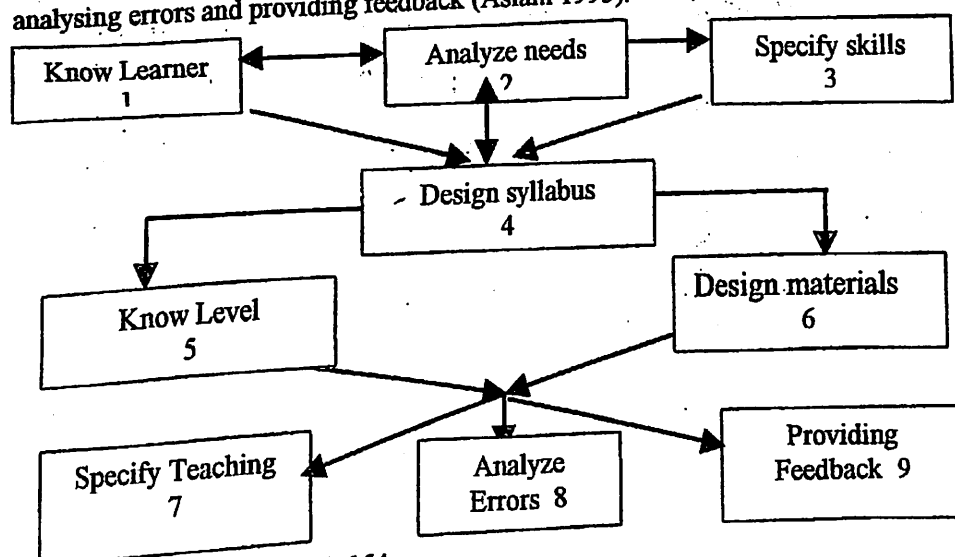


Fig. 1 Aslam, 1995: 154

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The purpose is to show that academic needs analysis can suggest many other possibilities of improving the curriculum which has a realistic and direct bearing on students' interest and motivation. It maintains a direct linkage between needs, aims, materials design and the actual classroom happenings and student's perception (Seedhouse, 1975). Although Munby's (1978) taxonomy of learners needs can be applied to homogenous whole only (Aslam, 1995). Later Munby (1984) modifies his own views and admits that learner-predicted needs profile must go together for making the course meaningful and effective. Objective and subjective analysis of needs are crucial for designing course which are 'learner-centred' and 'communication oriented'. (Numan, Brindley, Johnson *qut.*, in Aslam P.163).-

In keeping with the objectives of the study the needs analysis based survey the aim is not only to identify elements but to establish the relative importance of the four skills i.e. Listening, speaking, reading and writing (LSRW).

1.2 The Study And The Methodology

The study attempts to analyse student's response to their language needs, language learning environment, motivation and attitudes towards English language skills.

Subjects

The target group of this study were students from four degree colleges of Arunachal University and Post Graduate Department of English. These colleges run Undergraduate programmes in Science, Commerce, Arts & Humanities. The Undergraduate population is almost entirely from Arunachal Pradesh. The majority of the students enter the first year B.A / B.Sc. / B.Com. courses with English as one of the subjects at 10 + 2 level.

The language learning population involve a mix of tribal students speaking distinct dialects and non-tribal speaking students speaking Assamese, Hindi, Nepali etc., as their mother tongue. Out of the 500 copies of questionnaire distributed among the target group only 181 were found complete in all respects. Subject of the study consisted of 181 Humanities / Social Science students of Arunachal University 168 students were from First Year Degree Courses offering compulsory/Elective courses and 13 students from the Post Graduate Department of English.

Quantitative information was obtained from 168 undergraduate and post graduate students of Arunachal University by administering the needs analysis questionnaire.

Categories	Table Number	Item Number
The Multilingual context	1.1, 1.4	1a, 1b, 7
Motivation for learning English	1.2	2, 3a, 3b
Exposure to English	1.3	4, 5, 6
Spoken English in different contexts	1.5	8
Order of Priority in rating the skills (LSRW)	1.6	9
Marks secured in the last examination	1.7	10

1.3 Results & Discussion

1.3.1 The Multilingual Context

There are sharp region-specific variations in local languages besides other languages used by the non-natives speakers of the state. The use of the local language is restricted to oral communication within the specific linguistic groups¹.

Table 1.1: Percentage Distribution of the Monolingual Bilingual and Multilingual Speakers of the Target Group Surveyed.

Monolingual	Bilingual	Multilingual
(N = 124) 68.50%	(N = 35) 19.33%	(N = 22) 12.15%

Bi-/ multiculturalism marks a predominant characteristics of speech community which clearly opposes the Chomskian view of ideal speaker-hearer relationship in a homogeneous speech community (Rajagopal, 1994). The Bilingual and Multilingual % distribution indicate the possibility of harnessing the relative merit of a learner's acquisition of second language with the support derived from mother tongue fluency or other languages used. (Agnihotri & Khanna, 1995). Further, it can be inferred from the Table 1.4 given below that language (s) are used in different contexts. It shifts from the exclusive use of mother tongue at the home to uses of English along with other languages at different places.

Table 1.4 : Percentage Distribution of Response to Item Measuring Language(s) Used in Different Contexts.

Item 7 Language(s) used in different context (N=181)

At home use of mother tongue	With neighbours English*12) other languages	In school English (95) Hindi	English class English only(142)
100%	6.62%	52.48%	78.45%

It is clear that 52.48% respondents prefer to use English along with Hindi in school. Majority of the respondents (78.45%) communicate in English in the English classes. Thus English is being used in different context along with other languages indicates multilingual/bilingual classroom communicative situations. In a context like this, English is a language used effectively for all practical purposes. In a context like this, English is a language effectively used for all practical purposes. Still its effective learning outcomes at elementary stage needs certain structural support from in other tongue education as a resource language (CIEFL, 1995). However, it is difficult to say, what would be the policy framework of teaching English as a second language in the light of region specific linguistic situation in the state.

1.3.2 Percentage Distribution of Responses To Items Measuring Integrative And Instrumental Motivation

¹ The Khampti tribe and Mahayana sect of Buddhism have a script of their own. The former follows the Tai script, while the latter adopted the 'Bhoti' script. These two scripts have been introduced in primary and middle schools in Manpa and Khampti areas of the state.

Table 1.2 : Motivation for Learning English

Item 3(a) Integrative Motivation (to know about English culture and Society)	Item 3(b) Instrumental Motivation (English prepares for jobs / career)
(N=25) 13.81 %	(N=156) 86.19 %

Item 3a and 3b of Table 1.2 elicited information about motivational reasons for learning English. The student's responses were assessed to classify their orientation towards English language learning. It is felt that such information will be very useful in planning of English Courses (Boosakorn at al., 1985). 86.19% of student's categorically assign instrumental reasons for learning English. (This is confirmed by items 5, 6, 7, 8, 9). The percentage distribution of respondents instrumentally oriented are far greater than integrative reasons, (13.81). This can have implications for the designs of courses more instrumentally oriented than the integrative one. Students need English more for transactional /instrumental purposes and for pursuing knowledge in their specific field of study. Issues related to English culture, life, society can be a part of integrative-specific curriculum. This can be used in redesigning English teaching course tailored to the market needs of effective communication skills in English.

1.3.2.1 Respondents comments on Motivation for learning English

Item 2 elicited information about informant's awareness about the importance of English. Students were asked to give brief comments on it. The responses given to the item (2) are the following.

English is important because it is

1. Window to the knowledge or school of all learning.
2. An internationally recognized language/ Language recognized by all.
3. An internationally expanding language.
4. A link language for people using different language.
5. Helpful in competition.
6. Helpful in preparing for jobs/career.
7. Helpful in studying other subjects in English.
8. Helpful in facing interviews.
9. Helpful in talking to foreigners.
10. Useful for purposes of travelling and tourism.
11. Helpful in giving a sense of civilization.
12. More effective despite Hindi is a national language.
13. Useful for literate man.
14. Equalizers of all classes of the society.
15. A sign of intellect and more knowledge.
16. Helpful in developing personal qualities.
17. Helpful in showing smartness and achieving status.

18. Essential as local language of Arunachal Pradesh does not solve the problem of common man.

19. A compulsory subject in Arunachal Pradesh.

20. A medium for instruction in Arunachal Pradesh.

It is not surprising that overwhelming majority of respondents have a highly positive attitude towards English practically for all purposes. Students give social, psychological, intellectual and contextual reasons for assigning the importance of English. To them, English has not only acquired an international, national importance but also the contextual significance of its uses in Arunachal Pradesh is worth mentioning.

1.3.3 Exposure to English : (Percentage Distribution of Responses to item measuring exposure to English outside of the curriculum.

98% of student's target group read magazines in English. Some of the most popular magazines read in Arunachal Pradesh are the following :-

i) Sunday	:-	(N = 47) - 25.96%
ii) Competition Success Review(CSR)	:-	(N = 42) - 23.20%
iii) India Today	:-	(N = 42) - 23.20%
iv) Femina	:-	(N = 20) - 11.04%
v) Sportstar	:-	(N = 15) - 8.28%
vi) Competition Refresher (CR)	:-	(N = 14) - 7.73%
vii) North East Sun	:-	(N = 13) - 7.73%
viii) Women's Era	:-	(N = 12) - 6.62%
ix) Reader's Digest	:-	(N = 12) - 6.62%

1.3.3.1 Reasons for reading English Magazines (item 6)

Table 1.3 : Percentage Distribution of Responses for Reasons for Reading English Magazines.

1) For Improving English	2) For Relaxation	3) For Information on current events	Needs improvement & wants to be informed of current events
N = 59 32.59%	N = 3 1.65%	N = 80 44.19%	N = 38 20.99%

Table 1.3 indicates that 32.59% wants to improve their English while 44.19% are keen to know about current events. Common to both of them, 20.99% wants to be informed of current events and also eager to improve the language. This clearly indicates that writing activities can be stimulated in the classroom teaching based on general and common topics of interest selected from the reading list (See 1.3.3). Reflecting on social, political, economic issues 'tasks' and 'activities' can be devised in developing writing and reading skills.

1.3.4 Spoken English in different contexts

Items 8 of the questionnaire was designed to elicit information on the student's use of spoken English in different contexts. Looking at the percentage distribution, 52.48% respondents converse in English with the teachers and the classmates (See Table 1.5 below).

Table 1.5 : Percentage Distribution of Responses to Item Measuring Spoken English Used in Different Contexts (Item 8).

Item 8 Spoken used in different contexts (N = 181)

Speaking English to Teachers only	N = 48 ~ 26.51%
Speaking English to Classmates only	N = 20 ~ 11.04%
Speaking English to Parents only	N = 5 ~ 2.96%
Speaking English to Teachers & Classmates	N = 95 ~ 52.48%
Speaking English to Parents, Teachers & Classmates	N = 13 ~ 7.18%

It is quite evident that students are generally aware of the importance of English (See 1.3.2.1 reasons given), the need for spoken English might arise on social, personal occasions, which otherwise are not fulfilled by the limited exposure during the course of their interaction with teachers and classmates.

1.3.3.5 Order of Priority in Rating the importance of Skills (LSRW)

Table 1.6 Percentage of response to items measuring priority given to the skills (LSRW)

Reading			Speaking			Writing		
1 (Very High)	2 (High)	3 (Low)	1 (Very High)	2 (High)	3 (Low)	1 (Very High)	2 (High)	3 (Low)
N = 62	N = 40	N = 34	N = 56	N = 30	N = 58	N = 61	N = 55	N = 29
34.25	22.03	18.78	30.95	16.57	32.04	33.70	30.38	16.02
%	%	%	%	%	%	%	%	%

The percentage distribution of reading, speaking and writing skills indicate (See Table 1.6) that reading gets top priority (34.25%). The need for reading skills refer to reading books on the subject concerned or other subjects, to read official notes, articles, text books, newspaper, to read magazines on topics of general interest and for pleasure (Sood, 1995). Next to reading skills is the writing skills (30.38%). Speaking skills is rated in the third category (32.04%). Although offices and Administrations, students rating of speaking skills is in the third category. This could be because of minimum level of interaction available outside the classroom. Yet the need for spoken English is quite apparent and essential. It includes maintaining and establishing relations with classmates, friends, Govt. officials and other known users of English languages. Further the need for having conversation with teachers and friends on academic interest and topics of general interest might be quite a real one.

1.3.6 Marks secured in the last examination.

The % distribution of the marks secured by the students of first year degree and P.G courses are tabulated separately.

Table 1.7 : Percentage Distribution of Marks Secured by the Students

Item 10 Marks % secured in last examination	
First Year Degree students (N = 168)*	
Group A ~ less than 35% (N = 10)	5.95%
B ~ 35% ~ 44% (N = 52)	28.72%
C ~ 45% ~ 54% (N = 58)	34.52%
D ~ 55% ~ 64% (N = 33)	19.64%
E ~ 65% ~ 74% (N = 14)	8.33%
P.G students, Dept. Of English (N = 7)*	
Group A 40% ~ 55% (N = 4)	30.76%
B 46% ~ 55% (N = 1)	7.69%
C above 55% (N = 2)	15.38%

*The % relates to those who have mentioned the marks

In case of first year degree students, 62.24% fall between 35% ~ 45% marks. Thus, students perceived themselves to be relatively inadequate achievers in fulfilling their present needs of using the English language skills at a social, psychological and intellectual level. Inadequate linguistic resources, points out the problem areas quite dissatisfying to the needs of the learner.

1.4 Conclusion

1. The target group of this study were found to be more instrumentally oriented in the English Language-learning courses.
2. The overall language learning environment is by and large Bilingual/Multilingual. Classroom communicative situations can derive immense support from the Bi-/Multilingual resource of the learner.
3. Opportunities for learning-teaching process can be created on the basis of the 'real life' and 'authentic' task based materials. This is clearly obvious in students' exposure to the uses of English in the magazines they prefer to read.

*The % relates to those who have mentioned the marks

4. There is a tremendous potential for the learners to acquire the spoken English skills, provided the suitable contexts and opportunities are created.
5. Though students rate the need for acquiring reading skills in the highest category, but the demand for writing as well as spoken skills is no less important for them.
6. On the whole, students rated themselves as below average in their overall performance of the English exam. Nevertheless one significant findings emerges that students show highly positive attitude towards English language.

The study clearly highlights that the demand for need based curriculum is high and therefore courses should be designed to suit to their requirements and present job market conditions and expectations.

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APPENDIX 1**NEEDS ANALYSIS QUESTIONNAIRE ON ACADEMIC WRITING**

1. Name :-
2. Class :-
3. Subject(s) Offered :-
4. Sex M / F (Tick here) :-
5. College / Institution :-
6. Tribal / Non-Tribal (Tick here)
(Mention Tribe) :-
7. High School (Name of the Institution,
Board, Place) :-
8. Medium of Instruction used in Schools :-

SECTION I (GENERAL)

1. Native Language
 - a) Mother Tongue :-
 - b) Second Language (If English
State it) :-
 - c) Other languages Known :-
2. Do you consider English Language important ?

OR

Are you aware of the advantages of learning English (Write in the space given below)

-
3. I am interested in Learning English (Tick any one)
 - a) because I want to learn about English Culture & Society.
 - b) because English will help me in preparing for wider job opportunities and future career.
 4. Do you read magazines published in English. Yes / No (Tick here).
 5. Name at least two (2) magazines of your choice
 - i)
 - ii)
 6. Reasons for reading them (Tick here).
 - i) To improve my English

- ii) To have some relaxation.
iii) To know what is happening.
7. What Language do you speak
- i) At home :-
ii) With your neighbours :-
iii) In your school :-
iv) In English Class :-
8. Do you sometimes use English in talking to (you can tick more than one).
- i) Your teachers
ii) Your Classmates
iii) Your parents
9. Which of the following skills is most important for you.
- | | |
|----------|-------------------|
| Reading | use 1 ~ very high |
| Speaking | 2 ~ high |
| Writing | 3 ~ low |
10. What was your marks (%) in the last English Exam.

GUIDELINES FOR CONTRIBUTORS

1. All contributions should be submitted in duplicate typed on A4 size paper in double space and with adequate margin on the left side.
2. The cover page of the typescript should contain : (i) title of the article, (ii) names(s) of authors(s), (iii) professional affiliation, (iv) an abstract of the paper in less than 150 words, and (v) acknowledgements, if any. The first page of the article must also provide the title, but not the rest of the items of cover page.
3. The length of the articles should be within 20 typed pages including tables, appendices, etc.
4. Tables should preferably be of such size that they can be composed within one page area of the journal. The source should be given below each table containing data from secondary sources of results from previous studies.
5. Figures and charts, if any, should be professionally drawn using such material (like black ink on transparent papers) which allow reproduction by photographic process.
6. Indication of notes should be serially numbered in the text of the articles with a raised numeral and the corresponding notes should be given at the end of the paper.
7. A reference list should appear after the list of notes. It should contain all the articles, books, reports, etc., referred in the text and they should be arranged alphabetically by the names of authors or institutions associated with those works.
 - (a) Reference to books should present the following details in the same order: author's surname and name (or initials): year of publication (within brackets) title of the book (underlined): publisher and place of publications. For example,
Chatterjee, S. K. (1986), Emergence of Dynamic Economy, Associated Publishing House, New Delhi.
 - (b) Reference to articles in periodicals should present the following details in the same order: author's surname and name (or initials): year of publication (in brackets): title of the article (in single quotation marks): title of periodical (underlined): number of the volume and issue and page numbers.
Thakur, ALK. (1998), 'State Formation in Arunachal Pradesh', NEHU Journal of Social Sciences and Humanities, Vol-I, No.1, pp.73-87
 - (c) Reference to institutional publications where no specific authors(s) is (are) mentioned should present the following details in the same order: institution's name; year of publication; title of the publication (underlined), place of publication.
Government of Arunachal Pradesh (1994), Economic Review of Arunachal Pradesh, Itanagar.
 - (d) Reference in the text or in the notes should simply give the name of the author or institution and the year of publication, the both within brackets; e.g. (Srivastava, 1997), page numbers too may be given wherever necessary, e.g. (Srivastava, 1997, pp. 530-532)
8. Non-English words should be underlined. Spelling should be in Roman script. Quotations of more than 50 words from published or copy rights sources should have the permission of the author/publisher enclosed with the manuscript.