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From the Editors' Desk....

Well done! Yet another step in the field of Research and Development. While presenting the Fourth Edition of the interdisciplinary journal, entitled 'GYANA', I would like to compliment all the contributors for their excellent findings on various subjects.

Our journal is four years old. But the progress made by it is superb. The endeavour and hard work put in by Editorial Board, as seen in the journal, is commendable.

Teaching and Research are indispensable from each other. If one wants to grow in the field of teaching, research is a must. It provides a platform to look deeper into a problem and thus expand the horizons of ones own logical thinking, which is a must to impart quality education to the future educationist of the country.

There is no dearth in encouragement. UGC from time to time frames several policies in this regard, which the college obliges willingly. To add to this and strengthen the research activities further, college has made available to the staff two computer laboratories with individual login Ids and internet facilities - UGC Network Resource Centre and Centre for Research.

I am sure we will reap the maximum benefit of the same.

Juao C. Costa
Acting Principal

A STUDY OF COMPUTER USAGE AMONG UNDERGRADUATE COLLEGE STUDENTS IN GOA

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Computers have become indispensable in recent times. Students too, are getting more and more exposed to computers. This study attempts to find what computers mean to college students who have their own machine, and also as to why those who do not yet have their own PC, want one. The study reveals that all is not fine vis-à-vis the usage patterns of the PC among students in Goa. There is certainly need for some intervention for the greater good.

Introduction

Computers have revolutionized the world and our lives immensely, especially since the last twenty years or so. India and Goa are in no way different – although the pace of change and access levels may differ as compared to the rest of the developed world for obvious reasons. As human nature is what it is, computers have become indispensable and an integral part of our lives - just like how the landline phones earlier and cell phones now have become likewise. In present times it is almost impossible for a day to pass wherein we do not hear or read terms/names related to computers such as IT Revolution, ITES, blogs, social networking, Orkut, Facebook, broadband, Microsoft, Infosys, BPOs, Satyam, Silicon Valley, Bill Gates, Intel, Dell, login/out, websites, laptops, palm-tops, note-books, pen-drives....*et al.*

Needless to say computers like any new gizmo, invention ...or a coin has two sides – the desirable and the forgettable. While instant access to new developments, information, and more information via the

internet, enabled many times by various search engines is one major benefit, other positives include those like speed, easy editing/steno tools, easy storage/retrieval of data, cheap cost, online financial/banking transactions, designing, multi-media...*et al.* Indeed, computers and some of the software's developed have brought in *google* [1] benefits, which even the most optimistic or poetic minds would not dare even dream of.

Computers, however, have their share of problems and fallouts too. Leave aside health related issues like the Carpal Tunnel Syndrome (CTS), *software spine*, blurry vision *et al*, or data loss due to viruses, worms, bugs and their ilk, or due to technical problems related to hardware malfunctioning or power surges..., or the misuse of computers, software, programmes or ones ignorance for hacking, *shoulder surfing*, *social engineering* and/or *phishing*, computers have also the undesirably huge potential for crime (...cyber crime, terrorism, hate sites...), and pornography. Most certainly, many of the associated problems can be avoided or reduced – for it is in our own hands...or to be more precise, on our own finger tips.

Objectives and Methodology of the Study

This study took shape due to the curiosity of finding how youth, especially undergraduate college students in Goa at present deal with computers. This curiosity arose especially seeing the rapid strides made in the field of computers, computer education and awareness, and on account of easy access to computers, courtesy rapidly decreasing costs, compulsory computer 'education' (at least at the undergraduate level), Goa Government *Cyberage* scheme, easy loan facilities, etc. The study besides the objective of finding how those having computers use them also makes an attempt to find why those who do not yet have computers want one.

The study was conducted on non-professional undergraduate college youth in South Goa. The sample comprising of 180 students, most of whom were final year students, was appropriately selected giving proportionate representation to gender, rural/urban residential

status, parental background (economic, socio-cultural, professional/occupational, academic) etc. It is appropriate to mention here that the sample is primarily representative of 'average students' only. Students from the higher strata as well as those from the extreme lower echelons of society (professionally, 'culturally' and economically), besides those pursuing computer or other professional courses were not included in the sample. Considering the size and nature of sample, the findings given herein are strictly *indicative only* of the general situation.

Computers ...to the 'Have-nots' [2]

The interaction with respondents revealed, though not much surprisingly, that most of those who at present do not have a personal computer (PC) of their own want one. It appears that practically nobody wants to be '**PC***less*'. While an overwhelming majority of close to 80 percent of the boys claimed 'necessity' to be the reason for wanting a PC, for 55 percent girls it was its 'usefulness' especially for 'studies'. Shockingly just around 19 percent of the males stated that they wanted the PC for 'study' purposes. While 4 percent of the boys wanted computers because 'everybody has one', 12 percent and 4 percent respectively wanted the same because of 'convenience' (not to go out each time to cybercafés) and 'speed' of computers. In the case of girls, 42 percent quoted 'necessity', with another 25 and 21 percent stating 'convenience' and speed' respectively. [3]

Majority of those who at present do not have a PC stated that once they have one they will **not** go for an internet connection. The figure for boys and girls was 69 and 58 percent respectively. Only 31 percent of the boys and 42 percent of the girls showed interest in going for an internet connection on getting their PC. Quite absurdly though a big number of those who do not want the internet claimed that they would use their computer for e-mailing and 'downloading' purposes for studies and/or for entertainment. Of those who intend going for computers along with internet, 75 percent of the boys claimed that they would use it for both 'studies' and 'e-mail'; 63 percent of the boys said they would use internet for 'entertainment' (downloading film-clips,

music, games...) with 25 percent revealing that they would use it for viewing pornographic content also. In the case of girls internet connection was primarily meant not for studies (studies came third!), but for 'e-mailing' and 'entertainment'. While 77 percent revealed that they would use internet for 'e-mails', with 64 percent stating 'entertainment', the figure was only 59 percent for 'studies'. Incidentally, 14 percent of the girls said they would use the *net* for viewing 'pornographic' content too. [4]

An overwhelming majority of 96 and 81 percent of the boys and girls respectively claimed that having a computer improves the quality of ones work ...and even ones personality. A big majority also claimed that having computers will in no way affect their hobbies, participation in games or social interactions - just about one third of the girls and 13 percent of the boys felt the contrary.

Computers ...to the 'Haves' [5]

The average time spent by boys on their computers is a little over 2 hours per day with the corresponding time for girls being 1½ hours [6]. About 12 percent of the students having computers have internet connection too - the figure being higher for boys than girls. While boys are on the *net* for around 1 hour 45 minutes per day, the girls spend less time (averaging 1hour 10 minutes). While most girls claim to use the internet for 'studies', 'e-mail' and 'entertainment', boys in general besides using the *net* for the aforesaid purposes also use it for viewing 'pornographic' sites. Incidentally, 28 percent of the total respondents (with and without computers) were aware of other students accessing pornographic sites with the figures being higher for boys.

Findings of another study conducted at the same time as the present one had incidentally revealed that amongst different purposes, majority of the girls use computers for playing games (71 percent), listening to music (58 percent), followed by studies and e-mail at 50 percent and 42 percent respectively (Falleiro 2007, 43; Falleiro 2008b, 8). Computers were thus made use of by girls more for games and music rather than for studies! In the case of boys, while around 74 percent

used computers for studies and music each, 78 percent used for playing games, 57 percent for pornography and 29 percent for e-mail (*ibid*).

Although the respondents were exposed to compulsory basic computer education most certainly at the UG level and were having their PCs for a substantial time, close to 43 percent had insufficient knowledge of 'e-mailing' (for instance about 'attachments'). Around 40 percent of the respondents had no email ID/address, with the reasons for the same being a combination of factors like not having internet connection at home, lack of awareness and/or initiative.

The respondents unanimously affirmed that having computers not only was very advantageous in general but that it was beneficial for studies in particular. Almost two-thirds of the boys and 41 percent of the girls felt that they would be worse-off without their PCs. Interestingly though, according to 59 percent of the girls having no computers would in no way make them worse than what they presently were. Majority of the respondents claimed that their computers have had no adverse bearings on their hobbies, participation in sports/games or social interactions. Just about 13 percent of the girls and one third of the boys revealed that computers did indeed have an adverse impact. Findings of the other simultaneously conducted study had incidentally revealed that while 25 percent of the college going girls do not play any game, around 56 percent were involved in 'physically inactive' games courtesy their computers. In case of boys the influence of computer games is much less at around 23 percent, with exclusive dependence on computer games as was the case with girls being a rarity (Falleiro 2007, 43).

Conclusion

This small study conducted on a few non-professional undergraduate college students, with and without computers, has shown interesting findings – which although may not entirely be true for others, at least will be indicative in nature for the rest of the student community. The two major causes of concern regarding students who presently do not have a PC and who want one are, '**why**' they want the PC, and '**for**

what' they want it for. The reasons quoted by the respondents are a real question mark – or as said earlier, a cause for concern. Likewise, the three major areas of concern regarding students with computers are: a] lack of awareness; b] absence of appropriate priorities; and c] misuse. It appears that the students are still unaware of the tremendous 'good' potential of computers. Instead of harnessing the true worth of computers for studies and academic up-gradation, the youth to a large extent are (mis)using the same for entertainment (music, video-clips and games) and for pornographic purposes. Thus, not only are the 'physical' computer resources misused, but time is also wasted with not much positive bearings on studies. Most certainly it could be a temporary phase of youth experimentation and/or the psychological-cum-physiological age related changes in youngsters that partially 'guides' youth towards the (mis)use of computers. Yes, time or age itself may make this 'questionable' and 'questioning' phase to pass-off. However, it needs to be remembered that there is no harm whatsoever if proper guidance is given to youth – whether by parents, educationists, discerning peers or others, on the pros and cons of computers. Likewise syllabus/curriculum designers could also assist tremendously by framing an appropriate syllabus – relevant and practical to current needs and times. Not only will these initiatives reduce the possible misuse of the machines and time wasted (besides dependency and addiction to undesirable programmes including 'unhealthy' games and pornography which have their own dangerous fallouts), [7] it will also empower the youth to make optimum use of the benefits available to boost ones own personality ...and academic performance too. Not doing the needful can be only disastrous - especially in times when students are young, immature, non-discerning, experimental and vulnerable to being misled by others. Computers in such cases can be more of a curse than a boon! As Pope Benedict XVI says, today's younger generations are exposed to a "twofold risk caused primarily by the spread of new information technologies" with on one hand users of information technology running the risk of "a growing reduction in their ability to concentrate" and to use the new information in their own lives, and on the other hand also facing the danger of "isolating themselves in an increasingly virtual reality" (as in Divine Voice 2009, 27). Thus while one's social

community can become "dispersed into thousand fragments" the individual may become more self-centered and tend "to close oneself off to constructive relations with others and those who are different from oneself" (*ibid*).

Notes

1. "*Google*" which incidentally is the famous internet search-engine, stands for number one followed by hundred zeroes.
2. Refers to those who do not yet have a PC.
3. It has to be noted that the figures exceed 100 percent since some respondents have given more than one option.
4. Ibid.
5. Refers to those students who already have their own PC.
6. There were a few who spend even 5-6 hours per day.
7. A report by the US National Study Commission on Pornography reported the extent of exposure to pornography among junior high school and high school boys and girls. Of those who admitted seeing *X-rated*, hardcore pornography, two thirds of the males and forty percent of the females tried some of the behaviour, with twenty-five per cent of the males and fifteen per cent of the females admitting doing some of the things within a few days of exposure (Holgate 2001, as in Apte 2008, 124).

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LANGUAGE-IN-EDUCATION IN GOA: POLICY AND PRACTICE

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The paper focuses on the language and early schooling scenario in Goa, especially language-in-education policy and practice. In the Goan diglossic society English is a high status language. But language-in-education policy, assuming near monolingual norms typical of western societies, has denied grants-in-aid to English medium early schools and has been promoting the regional languages only. The parents of children in early schooling institutions as well as the teaching community engaged in teaching during early schooling manifest an obvious preference for English medium of instruction. The paper takes a critical look at the linguistic behaviour of parents and teachers vis-à-vis the language-in-education policy followed in Goa.

Introduction

The paper has two main objectives: firstly, to identify the major issues confronting the parents of school going children in Goa with regard to the language-in-education policy; secondly, but more emphatically, it aims at gaining an insight in the teaching-learning process, particularly in reference to the use of languages other than the medium of instruction in the classroom.

Apart from the secondary data, primary data based on interviews with teachers at primary and pre-primary schools has been made use of to substantiate the major argument of the paper. Interviews were conducted with teachers from 52 different primary level educational institutions selected using a stratified systematic random sampling

technique. The total number of teachers interviewed was 113. The teachers interviewed belonged to different types of schools, that is, different levels of early schooling, different managements, and to aided as well as unaided categories. They also represented the three important media of instruction, viz., Marathi, Konkani and English, at early schooling, which attract a substantially higher enrolment in comparison with other media.

Language-in-Education Policy

In colonial Goa, education, in general, and primary education in particular, was far from satisfactory. Towards the end of Portuguese rule in Goa, the enrolment of students in Portuguese medium schools, especially at the primary level, dwindled and the numbers of students enrolling in Marathi and English medium schools increased manifold. There were some Konkani medium schools also, but few studied in these schools. With liberation, primary education experienced a colossal expansion (Varde, 1977: 101). However, at the elementary levels, the enrolments according to the medium of instruction were tilted in favour of Marathi, English and Konkani in the above order. The Maharastrawadi Gomantak Party (MGP), which came to power soon after liberation, was a pro-Marathi party and did everything possible to further the interests of the Marathi language. Marathi primary schools proliferated in the union territory, the number of English primary schools also increased, but primary schools conducted in Konkani medium remained negligible.

On 4 February 1987, Konkani acquired the official language status. Despite this, however, as far as medium-wise enrolment in primary level schools was concerned, Marathi enjoyed the highest status with 70734 students being enrolled in Marathi primary level schools, followed by 45596 students in similar English schools and only a negligible number of 221 students in Konkani schools (Botelho, 2007: 154). Marathi and English dominated the enrolment figures at the primary level till the government introduced on 15 May 1990 a drastically different education policy. Today, the enrolment figures in Marathi are still the highest but they are much lower than they were in

1986-87, around 45 percent. Almost 40 percent of the school going children then, attended English medium schools, while today, only about 20 percent of the school going children are in English medium schools. The enrolment for Konkani medium schools has increased from the minuscule figure of 0.18 percent in 1986-87 to over 30 percent today (*Ibid.*).

There is a widespread desire among parents to educate their children in English and despite government's denial of grants-in-aid to schools conducted in English medium, English schools have not died down but are mushrooming everywhere. They charge exorbitant fees but the enrolment keeps escalating and the schools with regional language as medium lose students to English medium schools, which pick and choose students as the number of parents seeking admission for their wards in these schools keeps increasing rapidly (Botelho, 2002: 231).

The language-in-education policy is aimed at promoting the regional languages, especially the mother tongue. However, to many parents and teachers, the maintenance and advancement of regional language, including the mother tongue, has been encouraged at the cost of the educational development of the child. In this context, it is emphatically reiterated, that the language-in-education policy during early schooling followed from 1990 has raised a number of issues affecting parents and teachers in numerous ways and both the agencies have responded to these issues in a way they deem fit.

Parents vis-à-vis the language-in-education policy

In post-liberation Goa, language of early schooling has become a major site where politics of cultural identity and aspirations for mobility intersect each other and people have to negotiate between them. It appears that while essentialism urges many towards the militant championing of the cause of Konkani/Marathi, which they consider as a key factor in defining Goan identity, the instrumental identity, more often than not, makes the same people choose another language as a medium of instruction for the early childhood education.

Further, Goa in the last decade has witnessed the rise of a dual system of schooling. Firstly, the privately owned school system catering to those who can afford paying high fees and donations, and where all learning from the nursery to at least the fourth standard, if not to higher education, is in English. The elite, as well as the middle classes, making tremendous financial sacrifices, enrol their children in these schools. There is a rapid proliferation of private schools meant to cater for the demands of an emerging middle class. In a way it has led to commercialisation of education. Secondly, the government schools, using the mother tongue or regional language as medium of education are the only alternative for the vast majority of masses incapable of admitting their children in the expensive, privately owned and unaided schools. The private, especially the private unaided and the government schools dichotomy reflects the rich and poor dichotomy in society.

Again, since liberation and till 1990, English was used in education at the primary, secondary, higher secondary and higher education. This resulted in the rise of a new brand of parents who have been born and brought up in English speaking homes. English is widely accepted in commerce, courts, law, industry, bureaucracy and education. The legislative Assembly proceedings and the day-to-day administration in the state take place in English. Goa has also been a migration-oriented society. Goans, especially the Christians, are forever seeking jobs abroad or at sea, necessitating the learning of English. As English is required to 'take off' on a professional flight, there is a pronounced preference and demand for English medium education in Goa, even among those who do not have enough money to admit their wards in English medium schools. But the economically weak parents, because of financial constraints, are unable to enrol their children in English medium schools resulting in the shattering of their mobility aspirations. The exorbitant fees have led to the inequality of educational opportunities.

But even parents who can afford English medium schools are caught between the horns of the dilemma. Should they send their children to English medium schools that provide instruction at nursery,

kindergarten and primary in English or should they admit their children in Konkani or Marathi medium schools? If they choose the former they will most probably have a difficult time to look for another school where they can admit their child in the fifth standard as most of the English medium primary schools, with only a couple of exceptions, do not offer secondary education in their institutions. However, they feel that beginning school from the scratch with English as medium of instruction will improve their English skills and make them fluent in the language of future, the language that has better academic and employment potential. Choosing the latter - especially, schools run by the Archdiocesan Board of Education, which are many - they let their children go through an education system that does seem illogical and irrational to them. The topsy-turvy education system in these schools begins at nursery and kindergarten in English, followed by primary in Konkani and again secondary in English. And yet many parents choose to enroll their children in many of these latter schools as these schools are established and reputed schools.

Yet another issue is that while a majority of Goans speak Konkani at home, there is a substantial section of Goans who speak English, and few who speak Marathi. Konkani, whether in the spoken or written form, is not a homogenised entity. Goans of different religions, castes, and regions speak different dialects and also write differently. While Goan Christians usually write and are comfortable in roman Konkani, Goan Hindus use the Devanagari script. Presently the script controversy has engendered bitterness and division among the Konkani loyalists, due to the Roman script protagonists clamouring for equal recognition. The child is habituated to speak in a certain manner and even if the strictly linguistic differences between the standard Saraswat Konkani followed in schools and the dialectal forms of language are trivial, the parents do find it difficult to tutor their children at home. Most of the parents, having had English education, are more comfortable with English than with Devanagari, making the choice of Konkani at early schooling even more difficult. Many of the Hindus, however, even when they speak only Konkani at home, consider Marathi the 'high' language as their mother tongue. This is especially true in the New Conquest areas, as they consider Konkani as

a dialect of Marathi. Marathi and Konkani are two languages and the fact is that education begins for many children in Marathi, which is not their mother tongue in the sense of the language learnt from the cradle. Also many Christians in Goa speak English almost exclusively to their children, but declare Konkani to be their mother tongue, as they think they would betray their Goanness if they do not declare Konkani as such. Thus, primary education in regional languages promoted by education planners and policy makers in Goa, and forced upon such children by not giving grants to English medium schools, does not promote true mother tongue education, which is ostentatiously the prime objective of the language-in-education policy in Goa..

Thus, a number of issues confront parents on the threshold of admitting their children into early schooling institutions with different media of education and they respond to them in a manner they deem fit. Also, the teachers involved in the teaching of the young learners at the primary level institutions conducted in different media respond to the medium of instruction policy followed in their institution in a way that will be advantageous to their students in their future.

Teachers vis-à-vis language-in-education the policy

The interview technique was employed to gain an insight in the teaching learning process in the early schooling institutions, especially with regard to the use of different languages in the classroom. Interviews were conducted with teachers from 52 different primary level educational institutions selected using a stratified systematic random sampling technique. Two teachers were interviewed from the schools identified, except in the case of single-teacher schools. If a pre-primary section was attached to the primary, then a teacher from the pre-primary section was also interviewed. The total number of teachers interviewed was 113, out of which 71 were from Salcete and 42 from Bicholim. They belonged to five types of institutions of early schooling categorised on the basis of three criteria: 1) Level of early schooling, that is, pre-primary or primary, 2) Management that is, government or private and 3) If private, the aided or unaided characteristic of the school. They also represented the three important

media of instruction, viz., Marathi, Konkani and English, at early schooling, which attract a substantially higher enrolment.

As indicated in Table 1 the teachers overwhelmingly preferred English medium of instruction. Apart from other details which the teachers provided regarding the teaching learning processes at the early schooling level, they indicated a need for the use of some other language/s other than the language of instruction. Out of the total 113 teachers interviewed, 100 reported that they feel a need to use some other language, other than the medium of instruction. Details of the responses are provided in Table 2 and 3.

Table 1: Medium of Instruction Preferred by the Teachers

Medium of Instruction Preferred by the Teacher	Salcete		Bicholim		Total	%
	No.	%	No.	%		
Marathi	16	22.5	24	57.1	**40**	**35.39**
Konkani	15	21.1	3	7.1	**18**	**15.92**
English	40	56.3	15	35.7	**55**	**48.67**
Total	71	100.0	42	100.0	**113**	**100**

In Salcete, interviews were held in about eighty Konkani schools many of which have Nursery and Kindergarten in English, fifty-two Marathi schools and eighteen English schools. While schools in all the three media are physically accessible in Salcete the picture is very different in Bicholim. In Bicholim taluka ninety-six schools out of the total of 103 (approximately) primary level schools are run in Marathi. The children whose mother tongue is Konkani and who generally speak Konkani at home are admitted to Marathi schools, either because Marathi schools are accessible and at a close distance or because of the association of Marathi with Hindu religion.

Table 2: Different levels of Early Schooling, the Medium of Instruction and Need for the Use of Some Other Language

Teacher Teaching	Medium of Instruction in School	Salcete		Bicholim		Salcete/Bicholim		
		Yes (A)	No (B)	Yes (C)	No (D)	Yes (A+C)	No	Total
Nursery	*English*	3				3		3
	Eng in Preprimary Konkani in Primary	3				3		3
KG	Konkani	2				2		2
	English	4	1	2		6	1	7
	Eng in Preprimary Konkani in Primary	9		2		11		11
First Standard	Marathi	5		7		12		12
	Konkani	5		2		7		7
	English	4		3		7		7
	Eng in Preprimary Konkani in Primary	6	2	1		7	2	9
Fourth Standard	Marathi	4		8		12		12
	Konkani	5			2	5	2	7
	English	2	2	3		5	2	7
	Eng in Preprimary Konkani in Primary	6	2	1		7	2	9
All Primary classes	Marathi	1	1	10	1	11	2	13
	Konkani	2	2			2	2	4
Total		61	10	39	3	100	13	113

Table.3. Additional languages used by the Teacher in the Class

Teacher Teaching	Medium of Instruction in School	Additional Language/s Used by the Teacher in the Class															
		Nil		K		E		H		K/H		M		M/K		T	
		S	B	S	B	S	B	S	B	S	B	S	B	S	B	S	B
Nursery	English			1						2						3	
	E in Pre-P & K in P			3												3	
KG	Konkani							2								2	
	English	1		1						3					2	5	2
	E in Pre-P & K in P			5	1					4					1	9	2
First	Marathi			1	7					4						5	7
	Konkani						2	5								5	2
	English			2	1					2	1		1			4	3
	E in Pre-P & K in P	2				5	1	1								8	1
Fourth	Marathi			3	8			1								4	8
	Konkani						2	5								5	2
	English	2		1	2					1					1	4	3
	E in Pre-P & K in P	2				6	1									8	1
All Primary classes	Marathi		1		10			1		1						2	11
	Konkani	2						2								4	
	English																
Total		9	1	17	29	11	6	17		17	1	1			4	71	42

(Abbreviations: E-English, K-Konkani, M-Marathi, H-Hindi, S- Salcete, B – Bicholim, T-Total, P- Primary)

The teachers, many of whom are Konkani mother tongue speakers, explain, translate and speak in Konkani, whilst teaching the children in Marathi medium. Similarly, both in Salcete and Bicholim, in English schools, too, teachers are compelled to speak Konkani or some other language to assist the children in the learning process.

Some of the *Marathi medium schoolteachers*, both in Salcete and Bicholim, expressed their language behaviour in the classroom with statements such as the following:

- *'The first four months we have to speak Konkani.' Local Konkani is used to make them understand'*
- *'In the first standard they don't understand (Marathi) at all... at least six months.'*
- *'When teaching lessons, we use Marathi, otherwise while conversing, Konkani.'*
- *'Hindi is understood by all, we speak to them in Hindi'*
- *'I have to speak to them in Hindi only, because they have to understand'*

Many of the Marathi teachers in Salcete attempt to use Hindi, as that is the only language the children of the migrants are familiar with. It is the fact that many government schools in Salcete survive because of the migrants' children enrolled in these schools.

One schoolteacher said: *'We call the children ...they (their parents) do not want to admit them in schools... they don't have any birth certificates ...we, teachers, do their affidavits ... we are charged about Rs.80/- by the Notary ... Otherwise they don't come to school ... in June we have to go and convince them'. Another schoolteacher said: ' We approach the parents and get children admitted ... we go to construction sites ... we won't get any students if we don't canvass ... not one of them will come ...these parents are happy if you talk to them in English ...We can't talk to them in Konkani ... only language they are a little familiar with is Hindi ...'.*

In another instance the researcher saw a Marathi schoolteacher in Salcete teaching English to first standard students and they were writing dictation in English on slates. When asked whether they have

English in the first standard, the teacher replied that she wanted to prepare the children well to help them in the fifth standard*.

Konkani medium school teachers also, whether in Salcete or Bicholim, resist the unfavourable policy in different ways. Here are some of their comments related to the languages they speak in the class not only during the teaching of the English subject but when explaining other subjects too:

- *'We use English to prepare them for fifth standard not to make them understand lessons'*
- *'Sometimes English is used to make them understand ... sometimes to prepare them for life'*
- *'Use English because they understand English better as they have had Nursery and Kindergarten in English'*
- *'On humanitarian grounds we teach them English ... but the ADEI (Assistant District Education Inspectors), they come ...and they take children's books ...if English books are around when they come we dump them in polythene bags'*
- *'We use English for those who don't understand Konkani'*
- *'From the first standard we teach oral English ... on result we put from third standard ... I use English words so that they understand in the future ...'*
- *'We speak to them also in English as some children come from English speaking background'*
- *'First and Second standard we teach English without the department knowing it ...we explain in English because of difficulty in Fifth standard'*
- *English is not heard at all at home ... I use it so that they get a good base ... it will benefit them in the fifth standard ...'*
- *'Only first standard they speak in Hindi even to me ...afterwards they speak only Konkani ...no problem because of Konkani but I teach them English in fourth not to make them understand but to prepare them for fifth standard'*

* Presently English is being taught from the first standard, that is, the medium of instruction continues to be the regional language in government and aided schools but one subject of English has been introduced. It must be noted, however, the interviews were conducted before the introduction of English as a subject from the first standard. Earlier, English subject could be taught in the curriculum only from the third standard.

- *'As parents don't know Konkani ... so your work is difficult ... as parents cannot help them ... as parents not happy with this ...about one fourth of students will not understand Konkani ... so I have to use English ...'*
- *'Many children feel shy to communicate in Konkani and speak in English (broken) ... some children find Konkani difficult ... so you have to use English to make them understand ... to make them understand better not only to prepare them for fifth standard ...'.*

The *English medium school teachers*, especially at the Nursery and the Kindergarten levels, which are almost entirely conducted in English, with the exception of one or two schools, use some other language other than the language of instruction to make the children understand and help them learn. Here are some of the remarks of the *English schoolteachers:*

- *'We use Konkani also ... because they have to understand... so 50 percent Konkani and 50 percent English'*
- *'Everything is explained in English ... then in Konkani'*
- *'We speak to them first in Konkani and then in English... first we have to speak in Konkani'*
- *'June, July, August Konkani ... more of Konkani ... at the end of the year they talk in English'*
- *'First I explain in Konkani then in English ...everything is explained in Konkani ...two languages are used.*
- *'After some time they speak English'*
- *'First I tell in English... if not understood ... in Konkani ...rarely in Hindi'*
- *'Initially I translate in Konkani but later not much ...'*
- *'Parents tell us to teach/speak only in English ...all Goans as well as outsiders'*

The language-in-education situation, is similar to what Schiffman (1999: 431) wrote commenting on the educational scenario in Nagaland and Madura in Indonesia. He writes:

> For example, in Nagaland in northeast India (Sreedhar 1974), there exists a situation involving the overt use of English and

> covert use of Nagamese in the schools of the state as a kind of linguistic *modus vivendi*, a compromise ... the covert use of Nagamese as the (unofficial, but de facto) language of explanation (whereas English functions as the official overt language of education) ...on the island of Madura in Indonesia, Madurese is typically used as the explanatory language of education, though Bahasa Indonesia is supposedly the only official language used in teaching . This is a kind of bilingual behaviour that usually is not described in overt ways.

In Goa, too, there is a covert and overt use of languages in education. The languages used in the classroom defy the medium of instruction policy followed in the institution concerned, the policy which is largely monolingual and purist. The teachers, as well as the students, use the local or vernacular languages in covert ways. They do use the official and authorised language for the 'on-task' purposes (teaching) but they also use other languages in 'off-task' contexts (when supplementing the explanation given in the medium of instruction through the local language and when not teaching). Thus, covertly they tap into the local language and knowledge to facilitate the teaching-learning process.

The overt policy of mother tongue education is distorted. Firstly, a number of parents do not admit their children in Konkani medium schools for the overt reason of teaching them Konkani but for the covert reason of securing for them admission in the fifth standard. Secondly, the education policy itself was modified without incorporating the perspectives of the teachers. The discerning voices of the teachers at the grassroots remained indistinct and unheard. Many of the teachers themselves, and also their principals, are influenced by the assumption that the regional languages are to be reserved for local domains of use and English for public domains of school and employment later. The above statements of the teachers reveal that English is used to prepare the children for secondary and higher education, which is in English medium. It also points to the fact that some children are more comfortable with English either because they spoke it in their homes or because they were familiar with it at the preprimary.

The use of additional languages shows that children do not understand the language of instruction followed in particular schools. Teachers in Marathi medium use Konkani or Konkani and Hindi. This is particularly true in Bicholim Taluka and in rural areas. Teachers in Konkani medium use English and Hindi. English is used as many of the children are bilingual in their homes and, if not, they have already had three years of English education in Nursery and Kindergarten. From the responses given by some teachers there is also reason to believe that teachers use English, for instance in Konkani schools, not for children to understand the content matter but to prepare them for the secondary section. And teachers in English medium use Konkani, Konkani and Hindi and Konkani and Marathi. Different languages are thus used at early schooling.

The teachers are exercising their agency and resisting the unfavourable policy. Covert resistance to the medium of instruction policy and the choice, especially, of English language to teach the children in the classrooms of primary sections in Konkani is an example of negotiation between the different languages, carried on by the teachers, in favour of the children at the level of early schooling. Canagarajah (2006:160) describes such resistance and negotiation as 'an example of language planning from below' wherein 'students and teachers are initiating covert language-acquisition and communicative practices that counteract dominant policies'. In a way, the teachers acting on behalf of the marginalised subjects are resisting the established policies, constructing alternative practices and are, thereby, initiating changes that would transform unequal relationships.

Conclusion

The many issues confronting the parents who intend admitting their children in institutions of early schooling constitute the direct or indirect offshoots of the education policy imposed in a top-down fashion. The needs and aspirations of the parents have been overlooked in the process of the formulation of the education policy. Consequently, the parents resist the policy and respond variously to the many pulls

they experience at the time of the admission of their wards in to the early schooling institutions.

The use of English, whether in regional language medium or in mother tongue medium, means that teachers want their children to be prepared for English when they reach the fifth standard and later. In fact many of the teachers have explicitly said so. This situation is engendered by the fact that all secondary and tertiary education is in English. The interviews revealed how teachers resist and circumvent the medium of instruction policy in the classrooms defying monolingual policies. Teachers negotiate the policy decisions and perceptively use other codes or languages to facilitate the learning process. That is, the agency of teachers use more than one language during early schooling to assist the children in learning the school language as well as the content prescribed by the syllabus. This is, indeed, language planning from below as the teachers exercise their agency to bring in changes they think will be of benefit to the children.

Language planning and policy involve deliberate efforts made to influence others with respect to the acquisition of their language codes (Cooper 1989:45 cited in Canagarajah 2006: 153). It usually works in a top-down fashion shaping the linguistic behaviour of people in accordance with the dictates of the policy-makers. However, researchers are also becoming increasingly sensitive to the fact that there is considerable policy formulation and institutionalization of linguistic practices at the level of local communities and contexts (Canagarajah 2006: 154).

The linguistic behaviour of the parents and teachers in Goa bring out the subtle tensions between policy and practice. In fact this linguistic behaviour is a call to scholars involved in language planning and policy decisions to be attentive to what is made known by ethnography about happenings at the grass-roots level, that is to the activities of the parents, teachers and the needs of the students in whose name policies are formulated.

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INFLUENCE OF BIRTH ORDER ON EMOTIONAL INTELLIGENCE AND ACHIEVEMENT MOTIVATION

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The present study attempts to examine the differences in Emotional Competency and Achievement Motivation among first born and last born adolescents. The sample consisted of 80 adolescents belonging to the age group of 15 to 19 years, coming from both, rural as well as urban areas. The adolescents were administered the Scale of Emotional Competencies by H.C. Sharma and R. Bharadwaj, and the Rao's Achievement Motivation test by Dr. D. Gopal Rao .Results obtained through the study reveal that last born adolescents had greater emotional competency than their counterparts. Also, males were more emotionally competent than females. There was no relationship between birth order and achievement motivation.

Introduction

Everything that comes into existence in this world has its own position may be first, second, third and so on. In the same manner, human beings too are given this position in the family when the child is born. Alfred Adler points out how ones position in the family influences his/her personality in one or the other way.

Though the influence of birth order on the development of personality is a controversial issue in psychology, it is widely believed that

personality is strongly influenced by birth order. First borns want to be superior and like to boss over others and at the same time be responsible for other siblings. . The second child is more sociable. The last born is of a different character. He is the center of attention for both the parents as well as the siblings, as a result of which he becomes everyone's favourite and pampered by all.

Adolescence is a developmental transition between childhood and adulthood. Adolescence is a crucial period in ones life because this is the stage where rapid changes take place especially in areas like thinking and motivation, and the individual is faced with a lot of decision making, challenges, emotional upheaval, desire to achieve and career planning. All these factors together constitute as 'Emotional Intelligence', that is, an ability to postpone gratification, to be socially responsible, act in appropriate ways to maintain control over their emotions and to have an optimistic outlook.

'Achievement Motivation' is a desire for significant accomplishment for mastering skills or ideas, for rapidly attaining a high standard; it is also the psychological need for success in school, sports, occupation and other competitive situations.

Emotions do play a crucial role in our day-to-day lives. Emotions as an impulse towards a definite form of behavior, arouse, sustain and direct activity and play an energizing role in the expression of behavior. An emotion is a state of consciousness. Human beings are a mixture of emotions, intelligence, traits, attitudes, motivation and so on.

Objectives

The objectives of this study are as follows:

- To study differences in Emotional Competence and Achievement Motivation among first born and last born adolescents.
- To study gender differences, if any, among first born and last born adolescents with relation to Emotional Intelligence as well as Achievement Motivation.

Methodology

Sample: The sample consisted of 80 adolescents whose age ranged between 15 to 19 years, both from rural and urban areas. The sample was subdivided into four groups, namely, 20 first born boys, 20 first born girls, 20 last born boys and 20 last born girls.

Instruments used:

1. The Scale of Emotional Competencies :
   The scale of Emotional Competencies, devised by H.C.Sharma and R. Bharadwaj, was used to measure the level of emotional competency among adolescents. The scale consisted of 30 items that measured five emotional competencies:
   - Adequate Depth of Feeling (ADF)
   - Adequate Expression and Control of Emotion (AECE)
   - Ability to Function with Emotions (AFE)
   - Ability to Cope with Problem Emotions (ACPE)
   - Encouragement of Positive Emotions (EPE)

   High scores on the scale indicate higher level of emotional competency.

2. Rao's Achievement Motivation Test :
   Rao's Achievement Motivation test developed by Dr. D. Gopal Rao was used to measure the achievement motivation of adolescents. The test consisted of 20 incomplete sentences with two possible alternatives. Here too, greater score indicates higher achievement motivation.

One major limitation of our study is the small sample size and hence these results cannot be generalized and thus cannot be considered as conclusive.

Procedure

The Scales of Emotional Competency and Achievement Motivation were administered to 80 adolescents individually. Clear instructions were given to the respondents and a rapport was established with them. No time limit was set for answering the scales. The protocols for first born and last born adolescents were scored and the corresponding interpretations were obtained in accordance to the norms provided by the authors. The raw score on Emotional Competency scale was found and converted into corresponding Z scores. The total and average achievement motivation scores were also obtained.

Results

Results obtained point out that last born adolescents were more efficient, emotionally, as compared to the first born adolescents [60> 53.5](Table 1). With respect to the five main domains of emotional competency, can be seen in Table 2, it is evident that last born adolescents scored higher than the first born adolescents on the domain of Adequate Depth of Feeling and Ability to Function with Emotions. In the remaining three domains no significant differences were found in the two groups. Gender differences in emotional competency revealed that males were more competent emotionally than females. This trend was observed in both the groups (Table 3).

With respect to achievement motivation, no significant differences were obtained in the two groups (Table 1). Gender differences in achievement motivation revealed that males possessed a greater motivation to achieve than females. Again this trend in results was found in both the groups (Table 3).

Discussion

From the results obtained we can clearly state that last born adolescents were more competent emotionally as compared to first born adolescents. Several reasons could contribute to this particular trend in the results. It has been observed that, often, last borns receive more

attention in the family wherein they gain greater emotional support from their parents and also from their siblings. Also, sometimes parents, in case of first borns, are still learning and experimenting, whereas in case of last borns they tend to be more experienced. By and large, parents today are more supportive towards their children and this promotes positive affect in adolescents that is responsible for fostering a better emotional life.

On comparing the first born and last born adolescents with respect to their Z scores on the five main domains, data reveals that last borns scored higher on the domain of Adequate Depth of feeling (ADF) as compared to the first borns. ADF refers to a feeling of being comfortable or capable. ADF is associated with effective judgement and personality integration, which ensures vigorous participation in living. On the dimension of Ability to Function with Emotions (AFE) it was found that last borns were better than first borns. This indicates that the last borns had developed a characteristic pattern of emotional reacting which prevented them from being influenced by emotions and helped them to perform actions of daily routine effectively. On the remaining three dimensions, that is, Adequate Expression and Control of Emotions, Ability to Cope with Problem Emotions and Encouragement of Positive Emotions, there were no significant differences among the two groups.

As far as gender differences are concerned, results obtained indicate that, in both the groups males had greater emotional competency than females. Jack Block, a psychologist, has described men who are high in emotional intelligence as socially poised, outgoing and cheerful and not prone to fears or worries. On the other hand he describes women who are poor in emotional intelligence as prone to anxiety, worried and hesitant to express their feelings openly.

It is evident from the above results that there was no difference in the two groups with respect to achievement motivation. We can attribute this to the increasing amount of parental involvement in children's education as well as other activities in school which also plays an important role in their children's achievement. Parents' encouragement

fosters children's cognitive development, grades and educational aspirations. Results obtained show that in case of gender differences in achievement motivation, males had a greater motive to achieve than females. Qualitative analysis of the data also reveals a high degree of achievement motivation in males since a majority of them expressed a desire to become surgeons and to become rich through hard work. They strongly believed that success depends on hard work. A very few percentage of males said that they would like to take life easily as compared to undertaking difficult tasks. Analyzing the responses of females, a lower level of achievement motivation was evident. A majority of females reported that they preferred reading a comic book to an adventurous one and admitted the desire to lead a comfortable life rather than doing something others haven't. A very small percentage of females reported that they would prefer studying for a future career, would want to do something that would make them wealthy.

Conclusion

The present study aimed at comparing first born and last born adolescents with respect to their emotional competency and achievement motivation. Observing the results we can conclude that the last born adolescents were emotionally more efficient than the first borns, more particularly in the areas of adequate depth of feeling and ability to function with emotions. Besides, males are more emotionally competent than females.

Birth order did not have any influence on achievement motivation as there was no difference observed in the two groups. However gender differences were observed. Thus, we may conclude that males possessed greater achievement motivation than females.

Table 1. Comparing first born and last born adolescents with respect to Emotional Competency and Achievement Motivation

Scores on	Birth Order	
	First born Adolescents	Last born Adolescents
Emotional Competency	53.3	60
Achievement Motivation	42.15	42.5

Table 2 – Z Scores of Emotional Competency

	5 Domains of Emotional Competency				
	ADF	AEC	AFE	ACPE	EPE
First born adolescents	52.05	50.92	48.45	53.9	59.2
Last born adolescents	62.8	51.27	73.57	55.3	58.3

Table 3. Gender differences in Emotional Competency and Achievement Motivation

	First born Adolescents		Last born Adolescents	
	Males	Females	Males	Females
Emotional Competency	55	51.6	61.8	58.3
Achievement Motivation	44.05	40.25	44.25	42.7

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HEALTH INSURANCE, "DREAMING HEALTHY INDIA"

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This article aims at creating awareness about the basic concepts of health insurance in the form of mediclaim offered by Non-Life Insurance Companies and critical illness policies offered by Life Insurance Companies. The article further highlights on health plan scams often found on the internet or through direct mail and are advertised as "health plans" or "health discount plans".

Introduction

Healthcare reform has been an important part of economic policy agenda for decades in many countries around the globe. Health insurance is a safeguard against rising medical costs. Health insurance is a contract between an insurer and an individual or a group, in which the insured pay an amount called premium and the insurer in return provides him the reimbursement for expenses associated with illnesses and injuries.

The Insurance Regulatory & Development Authority (IRDA) "Registration of Indian Insurance Companies Regulations, 2000", define `Health Insurance Business' or `Health Cover' as effecting of contracts which provide sickness benefits or medical, surgical or hospital expense benefits, whether in-patient or out-patient, on an indemnity, reimbursement, service, pre-paid, hospital or other plans basis, including assured benefits and long term care. Health insurance came into existence in the 19th century when many friendly or benefit societies were founded to insure the life and health of their members. In India, health insurance started with the launch of the Mediclaim policy in November 1986 by the General

Insurance Corporation and it covers individuals and groups with persons aged 5-80 years. Children (3 months-5 years) are covered alongwith their parents. This scheme provides for reimbursement of medical expenses (it now offers cashless scheme) incurred by an individual towards hospitalization and domiciliary hospitalization as per the sum insured. The Medical Insurance Scheme or Mediclaim was introduced under the public sector - 4 subsidiaries of the General Insurance Corporation (National Insurance Company, Oriental Insurance Corporation, United India Insurance Corporation, New India Assurance Corporation). There are eight providers of health insurance in private sectors namely, Royal Sundaram, Bajaj Alliance, ICICI Lombard, Reliance, Tata-AIG, IFFCO-TOKIO, Cholamandalam, HDFC-Chubb.

Various policies are being added continuously in this field by various players of both public and private sectors. With effective awareness campaigns and new innovation distribution channels, the insurance companies have increased the overall awareness about medical insurance and its coverage among the general public. As a result of the promotional activities of the insurance companies, the overall business of health insurance started moving up. But it led to the increase in frauds and various deficiencies in ethical standards. To monitor these frauds and deficiencies besides others, the government has passed the Insurance and Regulatory Development Act (IRDM) in December 1999, so that this sector grows year-on-year and extend its coverage in whatever form is workable and feasible.

What is Mediclaim Insurance?

Under the medical scheme, insured persons can claim re-imbursement of actual expenses, upto the sum insured, for treatment received at a hospital and/or even at his home (under some special circumstances) for any illness/diseases or injury suffered.

Diseases and Injuries covered by Mediclaim fall under three categories:

Category I

The injuries or diseases not covered in the first year of operation of the policy are :-

- Cataract
- Benign prostatic hypertrophy
- Hysterectomy for menorrhagca or Fibromyoma
- Hernia, hydrocele
- Congenital internal diseases
- Fistula in anus
- Piles
- Sinusitis and related disorders.

Note: The diseases listed above are only excluded from cover only for the first year of the policy and not afterwards

Category II

The injuries and diseases or medical conditions not covered at all are:-

- Cost of spectacles, contact lenses, hearing aids.
- Dental treatment, surgery unless it requires hospitalization.
- Convalescence or rest cure.
- Congenital external diseases.
- Sterility.
- Venereal diseases.
- Condition directly or indirectly related to AIDS.
- Pregnancy
- Circumcision, unless it is necessary under certain circumstances alone.

Category III

The injuries and diseases not covered under certain circumstances are:-

- Intentional self-injury.
- Use of intoxicating alcohol and/or drugs.
- Diseases or injuries arising in the first 30 days from the commencement of the policy (not being diseases excluded in the

first year of operation of the insurance policy). However, if a medical practitioner named by the insurance company states that the policy holder had no knowledge of the existence of the disease, then it will be covered.

All charges incurred at the hospital or nursing home primarily for diagnostic purposes such as X-rays , blood analysis, ECG, etc. will be reimbursed only if they are consistent with or incidental to the diagnosis and treatment of the ailment for which the policy holder has been hospitalized and not otherwise.

What is critical illness policy?

Life Insurance companies started to make their presence felt in health insurance business by offering critical illness cover in the form of riders. Critical illness policies provide cover against specified illness. Major illnesses covered by the critical illness policy are cancer, kidney failure, organ transplant, multiple sclerosis and coronary artery surgery.

How mediclaim differs from critical illness policy?

Though the critical illness policy covers illness, it is not a Mediclaim policy. It is a complementary policy which can be taken alongwith Mediclaim. Mediclaim policy is a reimbursement of the medical expenses whereas critical illness insurance is a benefit. Under a benefit policy on the occurrence of an event, the insurance company pays the policy holder a lumpsum amount. Whether the client spends the amount received on the medical treatment or not rests on his or her own discretion.

Beware of health plan scams

Fake health insurance and fraudulent health discount plans often target people who are harder to insure due to an existing illness or other causes looking to reduce their cost of health

insurance. These scams can be often found on the internet or through direct mail, and are advertised as `health plans' or `health discount plans'.

Here are some common warning signs

- A false policy will usually cost much less (if it is too good to be true, it is probably take).
- When asked specific questions about a policy or plan, the solicitor becomes very evasive.
- When a `health plan' requires a deposit or fee usually non-refundable, at the time of initial application.
- An advertisement or agent tells you that this is a "one-time offer" or your "last chance to save money".
- A plan promises to insure anyone, regardless of history, age or risks.
- Your request to see a copy of a policy is met with resistance.
- Many times a solicitor will ask for detailed credit and financial information, which can lead to identity theft.

Conclusion

With the liberalization of the insurance sector new health insurance products are developed and marketed by non-life insurance companies (public and private companies) and life insurance companies. However, the new products that serve the various requirements and needs of consumers in view of differing coverages, conditions and exclusions of the policies require to be examined by the prospective consumer before purchasing an insurance policy.

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ROLE OF INFORMATION TECHNOLOGY IN RELIGIOUS PRACTICES – A SURVEY STUDY

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Information Technology (IT) has made an impact on almost every field. This paper studies the impact of IT on religion along with the ways in which it can be used innovatively in religious practices.

Introduction

Information technology has brought up a revolution in the field of communication and information sharing. It has shown its effect, in every area and on almost every member of our civilization. It has acted as a powerful tool for people to communicate to each other, gather information from any part of the world, spread information and views to the members of the society just at the click of a button. With the emergence of network technology the world has really come closer with respect to communication and information sharing.

IT plays a crucial role in the area where information sharing is needed. It can be used innovatively in the fields it has never touched before. In this paper we have studied its impact on religious practices and also presented the views as to how IT can be used in religious practices along with its effects.

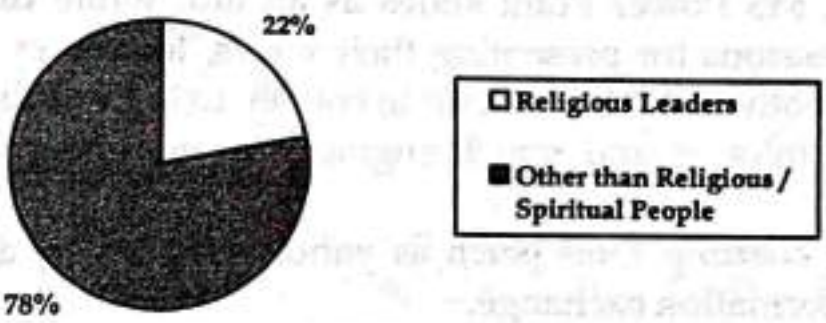
Methodology

A survey was conducted based on the questionnaire that consisted of the following questions:-

1. What, according to you is religion?
2. Do you practice it?
3. Have you ever used or seen IT in your religious practices?
4. Suggest how IT can be used in religious practices?

A sample of 153 people was taken on which the survey was conducted. The survey was made on two categories of people in the age group above 18 years. The first category included the religious and spiritual leaders. They were 33 in number. The second category included people not in the above category. They were 120 in number.

Figure 1: Sample Data collected



Observations and Findings

The survey was conducted on the representatives and members of the following organizations:

1. Parish Priests of Archdiocese of Goa and Daman.
2. Priests from Shree Bramhadev Devasthan, Pajifond Margao Goa.
3. Art of Living organization (Goa centre)
4. Saint Nirankari Mission for Universal Brotherhood (Delhi), Goa Branch.
5. Saint Shree Asaram Bapu Ashram, Goa Chapter.

From the survey conducted on category 1 i.e. Religious and spiritual leaders, 82 percent have appreciated the contributions of IT in religious practices, even though some of them have never used the same before. They have been using the benefits of IT in the following ways.

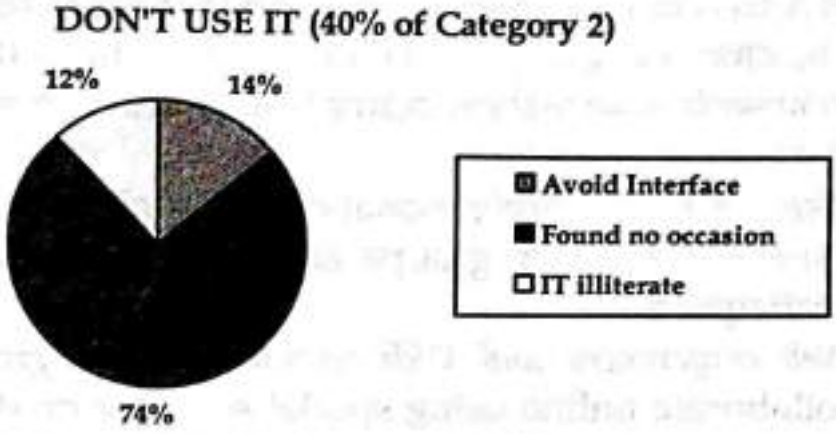
1. Using projectors or media players to spread the message to project short movies and clips.
2. Using MS Power Point slides as an aid, while delivering lectures and sessions for presenting their views, to convey information that would otherwise be difficult to convey using words only.
3. Using internet and search engines (for eg. google) for information access.
4. Using chatting tools (such as yahoo messenger) and email service for information exchange.
5. Using IT devices to address large gatherings.

From the survey conducted around 40 percent of category 2 i.e. other than religious and spiritual people, preferred to stick to the traditional ways of practice. They have never used IT in their practice of religion for some of the following reasons:

- They are IT illiterate
- Never found an occasion to involve IT in their practice
- Avoid any such interference in their practice

From the observations made, 12 percent felt that they were IT illiterate, 14 percent felt that they should avoid such interference, while the remaining 74 percent felt that they never found an occasion to involve IT in their practice i.e. even though there may be occasions where they could use It but they preferred to stick to the older traditional ways.

Figure 2: Observations made from the 40% of Category 2 people



Around 60 percent of the people have used IT in religious practices in the following way:-

- Using SMS to spread religious messages.
- Access to religious activities through religious and faith channels
- Used IT devices like cameras, laptops and projectors during religious activities for large gatherings.
- Having religious hymns as dial tones and call tones.
- Using storage media (Cassettes, CDs, VCDs, DVD s, ipods) for offline access to religious matter.
- Using websites to host information about the religious organizations and their activities.

Suggestions

The following suggestions were made as to how IT can be used innovatively in religious practices:-

- *Live transmission:* Making religious activities and events accessible by live transmission at home for those people who cannot make it at the venue.

- *Teleconferencing:* is the real-time exchange of information between people who are not in the same physical space. Conference calls let groups of people from a few to hundreds communicate by phone. Teleconferencing made it possible to recreate the impact and interactivity of real-world conferences without having to leave your desk.
- *Video conferencing:* offers the natural communication experience of a face-to-face meeting in ways that other technologies cannot. The chief advantage of videoconferencing is that audiences tend to absorb information better if they are both seeing and hearing it.
- *Web casts:* are professional-quality online video presentations, usually for larger groups and with less interactivity between participants.
- *Web conferences and Web seminars:* allow groups of people to collaborate online using special software or Web interfaces. The unique power of Web conferences and seminars is the ability to share desktops, documents and applications with all the attendees.

Limitations

Members of category 1 mentioned the following limitations about the usage of IT in religious practices:

- IT cannot be used as a substitute for the human element. Instead, it can be used only as a help. Concepts are better explained personally through body language.
- IT can be used just as an aid. Emotions, which are fine tunings of our personality, are not communicated using information technology.
- Religious events are held to get people together at a place for better understanding and thus promote unity among them. However, when IT gets that same event at the door step, people may show tendencies of avoidance, thereby defeating the afore mentioned purpose.

Conclusion

Our work has focused on understanding the current involvement of IT in religious practices. From the results of the survey made we see that IT has acted as a tool for information gathering and sharing. It has enhanced fast communication between the scholars of religion and spirituality to exchange information and their views. IT by itself cannot cause miracles of converting a lay person to a religious or spiritual one, but facilitates the information sharing process. It is the man that is the bond between IT and religion and hence it is the same man who needs to be focused on, to achieve the real goals of life. IT only aids the process.

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Mining Data Streams using Sliding Time Window

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Mining data in data streams is a challenging task. This article gives the method by which a sliding time window can be used to analyze the elements of a data stream.

Introduction

In recent years, so-called data streams have attracted considerable attention in different fields of computer science such as, e.g., database systems, data mining, or distributed systems. As the notion suggests, a data stream can roughly be thought of as an ordered sequence of data items, where the input arrives more or less continuously as time progresses [1, 4]. There are various applications in which streams of this type are produced such as, e.g., network monitoring, telecommunication systems, customer click streams, stock markets, or any type of multi-sensor system.

Data stream model

A data stream system may constantly produce huge amounts of data [1]. Regarding, aspects of data storage, management and processing, the continuous arrival of data items in multiple, rapid, time-variant, and potentially unbounded streams raises new challenges and research problems. Indeed, it is usually not feasible to simply store the arriving data in a traditional database management system in order to perform operations on that data later on. Rather, stream data must generally be processed in an online manner in order to guarantee that results are up-to-date and that queries can be answered with small time delay. The

development of corresponding stream processing system is a topic of active research [1, 2].

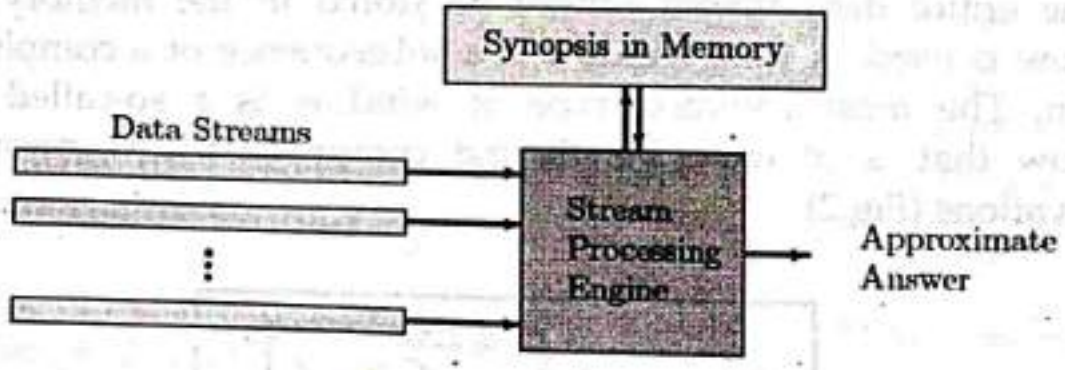

Fig. 1. Basic structure of a data stream model

The data stream model assumes that input data are not available for random access from disk or memory, such as relations in standard relational databases, but rather arrive in the form the standard relation model in the following ways [1,2]:

- The elements of a stream arrive incrementally in an "online" manner. That is, the stream is "active" in the sense that the incoming items trigger operations on the data rather than being sent on request.
- The order in which elements of a stream arrive are not under the control of the system.
- Data streams are of potentially unbounded size.
- Data stream elements that have been processed are either discarded or archived. They cannot be retrieved easily unless being stored in memory, which is typically small relative to the size of the stream. Stored information about past data is often referred to as synopsis.
- Due to limited resources (memory) and strict time constraints, the computation of exact results will usually not be possible. Therefore, the processing of stream data does commonly produce approximate results [3].

Sliding time window

As the entire data stream cannot be stored in the memory a time window is used. A time window is a subsequence of a complete data stream. The most common type of window is a so-called sliding window that is of fixed length and comprises the w most recent observations (Fig.2).

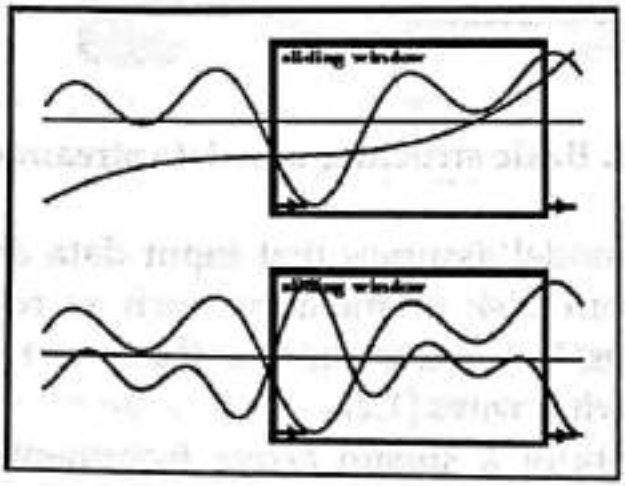

Fig. 2. Data streams within a sliding window of fixed size.

When considering data streams in a sliding window of length w, a stream can formally be written as a w-dimensional vector X = (x0, x1, . . . , xw−1), where a single observation xı is simply a data element of the stream.

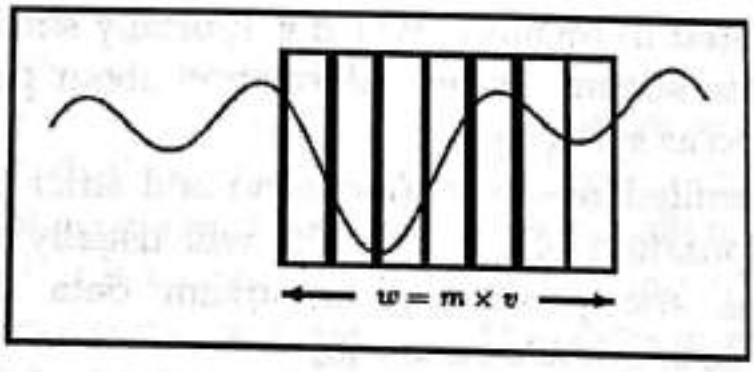

Fig. 3. A window of length w is divided into m blocks of size v.

Data streams are then updated in a "block-wise" manner each time v new items have been observed (1<=v<=w). The number of necessary updates is reduced by a factor of v. The delay is at most one block size; this disadvantage is limited at least for small enough blocks. Apart from that, a small number of observations can change a stream but slightly, hence the clustering structure in the "data stream space" will usually not change abruptly.

An update of the stream X, in this connection also referred to as Xold, is then accomplished by the following shift operation:

Xold : B1 |B2 |B3 | . . . |Bm−1 |Bm
Xnew : B2 |B3 | . . . |Bm−1 |Bm |Bm+1

where Bm+1 denotes the entering block. Size of the block may vary from 1 to w, which is the size of the sliding time window. Lower values of block size result in increase in the number of updates to the sliding time window.

Before the entry of a new block in sliding time window, a data mining algorithm is executed on the data available in the sliding time window. The results of every such execution are stored in the local memory as synopsis, which is used later to predict and generate results for the entire stream or larger sections of the stream.

Since the end results are generated from the synopsis stored in the memory the results are approximate with chances of error.

Conclusion

Processing and analyzing data streams is a challenging task mainly due to non-availability of stream data for analysis in offline mode as the data elements are discarded after processing online. Sliding time window allows processing of segments of data stream. Results of such analysis are stored in local memory and referred to as synopsis. Any further kind of data mining can be done only on the synopsis of the data stream. Hence the results obtained are mostly approximate.

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Human beings: Agents of Environmental change

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The objectives of this article are: to make the reader aware of the need to recognize the importance of biological diversity to their own well-being; to save endangered species from extinction; and to focus on human-modified landscapes and seascapes where biodiversity is at risk due to habitat loss, disrupted ecosystems, and other environmental changes.

Introduction

The life on the planet earth has evolved to the present stage through millions of years of interaction between the organism and its environment. It is a truism that the very existence, survival and progress of man on earth depend on the quality of environment. The thinking man, *Homo sapiens* is a product of his environment.

The history of human civilization is a unique contradiction of strange paradoxes. On the one hand, we have developed agriculture, medicine, and industry, and on the other we are oblivious of some of the consequences. We have tempered with the environment we live in and have overused it to an extent that today the whole human civilization is in peril. The role of primitive 'man' was that of a user. But as science and technology developed, the role of 'man' changed from ***user***, through a ***modifier*** and a ***changer***, to a ***destroyer*** of the environment. This has drastically changed the man-environment relationship from pre-historic times to the present age. As a result while human health is jeopardized; the flora and fauna are gradually becoming extinct (Sylvette 2005: 85-89)

This drastic change in the environment is now threatening the very existence of human beings. Human interference with the natural environment has increased in recent years. It has given rise to severe environmental problems because the changes brought about by human beings cannot be adjusted by the in-built, self-regulatory mechanism of the natural environment. Some examples in this regard are:

- *Human impact on the atmosphere and climate:* The burning of fossil fuels has resulted in the increase of atmospheric temperature and has caused the greenhouse effect, and air pollution.

- *Human impact on vegetation and animals:* Human beings have destroyed forests by cutting or burning them, to provide land for cultivation or habitation. Uncontrolled and deliberate fires have resulted in the depletion of the biodiversity, desertification and other environmental problems. Large fields are easier for machinery but mean that hedgerows and the habitats they provide are destroyed.

- *Human impact on hydrological cycle:* The amount and distribution of rainfall is modified by cloud seeding, atmospheric pollution, forest clearance etc.

- *Human impact on weathering and denudation*: Rocks are destroyed due to mining and quarrying. Deforestation and soil erosion adversely affects aquatic life, gives rise to floods, landslides, erosion of beaches and destruction of settlements in the coastal areas. Large fields without hedges can suffer from soil erosion as winds sweep across them, blowing away the topsoil.

- *Human impact on soil*: Human activity, however, can destroy the surface layers of soil or cause changes in soil property, thus making it less useful or even useless for plant life. Modern intensive farming relies on chemicals to put nutrients back into the soil and kill pests.

These chemicals can seep into river systems, polluting the water and damaging the habitats of many living things.

- *Human impact on water*:-earlier, human influence on water resources was limited, but now the quantity and quality of water has deteriorated because of re-channelization of water, modification of watersheds, pollution etc.

All the above human interferences or activities has recklessly damaged or destroyed the environment. This has brought about many changes in the environment. And one such dangerous change has been the extinction and the endangering of species.

The most serious aspect of the loss of biodiversity is the extinction. Occasionally a major extinction event occurs when a very large number of species disappear suddenly from the fossil record. A species becomes extinct when the last existing member of that species dies. Extinction therefore becomes a certainty when there are no surviving individuals that are able to reproduce and create a new generation. A species may become functionally extinct when only a handful of individuals survive, which are unable to reproduce due to poor health, age, sparse distribution over a large range, a lack of individuals of both sexes (in sexually reproducing species), or other reasons.

The catastrophic events responsible for extinction are thought to have been triggered by factors such as changes in world climate, loss of habitat and food sources, effect of giant meteorites or volcanic eruptions and/or attack by predators. Humans are a cause of some extinction (*Encyclopedia 2007: 14-15,192-195,220-22; Dash.1995: 298-330; Sharma 2005: 85-89; Tomar 2007: 55-82)*

Living things usually become extinct because of a change in their environment. The best known of these extinctions happened some 65 million years ago when a giant meteorite crashed into the present day north coast of the Yucatan Peninsula close to the Gulf of Mexico, causing the dinosaurs to become extinct, ending the Cretaceous period and heralding in the Tertiary period (*Sylvette 2005: 51-55).*

During the last few hundred years, the extinction rates, as a result of human activities, have really rocketed. Extinctions by indirect human influence are almost certainly far more widespread than as a direct result of human activities such as poisoning and hunting

One common and indirect cause of extinction results from the introduction of species. For e.g. the predatory ant on the Hawaiian Island destroyed several endemic insect species (Sharma 2005: 80-84).

Some species vanished completely as a result of drastic changes or increasing environmental resistance created by excess predation or disease. These are some of the plants and animals that were once part of our flora and fauna in the regions of USA (Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin), but are now extinct. They no longer exist on earth. Given below are some examples of living beings, now extinct.

Tyrannosaurus Rex (extinct 65 million years ago) (fig: 1)
Tyrannosaurus Rex was one of the largest land carnivores of all time, measuring up to 43.3 feet long, and 16.6 ft tall, with an estimated mass that goes up to 7 tons. Like other tyrannosaurids, Tyrannosaurus was a bipedal carnivore with a massive skull balanced by a long and heavy tail. Relative to the large and powerful hindlimbs, Tyrannosaurus forelimbs were small and they retained only two digits. *(http://en.wikipedia.org /wiki/tyrannosaurus).*

Quagga: half zebra, half horse (extinct since 1883) (fig: 2)
One of Africa's most famous extinct animals, the Quagga was a subspecies of the plains zebra, which was once found in great numbers in South Africa's Cape Province and the southern part of the Orange Free State. It was distinguished from other zebras by having the usual vivid marks on the front part of the body only. In the mid-section, the stripes faded and the dark, inter-stripe spaces became wider, and the hindquarters were a plain brown. The Quagga had been hunted to extinction for meat, hides, and to preserve feed for domesticated stock. *(http://en.wikipedia.org/wiki/Quagga.)*

Thylacine: the Tasmanian Tiger (extinct since 1936) (fig: 3)
The Thylacine was the largest known carnivorous marsupial of modern times. Native to Australia and New Guinea, it is thought to have become extinct in the 20th century. It is commonly known as the Tasmanian Tiger (due to its striped back), and also known as the Tasmanian Wolf, and colloquially the Tassie (or Tazzy) Tiger or simply the Tiger. The Thylacine became extinct on the Australian mainland thousands of years before European settlement of the continent, but survived on the island of Tasmania along with a number of other endemic species such as the Tasmanian Devil. Intensive hunting encouraged by bounties is generally blamed for its extinction, but other contributory factors may have been disease, the introduction of dogs, and human encroachment into its habitat. *(http://en.wikipedia.org/wiki /thylacine & hhtp://books.google.co.in/)*

Steller's Sea Cow: the defenseless beast (extinct since 1768) (fig: 4)
Formerly found near the Asiatic coast of the Bering Sea, it was discovered in in 1741 by the naturalist Georg Steller, who was traveling with the explorer Vitus Bering. The sea cow grew up to 7.9 meters (25.9 ft) long and weighed up to three tons, much larger than the manatee or dugong. It looked somewhat like a large seal, but had two stout forelimbs and a whale-like tail. According to Steller, "The animal never comes out on shore, but always lives in the water. Its skin is black and thick, like the bark of an old oak..., its head in proportion to the body is small..., and it has no teeth, but only two flat white bones— one above, the other below". It was completely tame, according to Steller. Fossils indicate that Steller's Sea Cow was formerly widespread along the North Pacific coast, reaching south to Japan and California. Given the rapidity with which its last population was eliminated, it is likely that the arrival of humans in the area was the cause of its extinction elsewhere as well.*(http://www.sirenian.org/stellers.html & http: //en. wiki pedia.org/steller's-sea-cow)*

***Irish Deer**: the largest deer that ever lived (extinct about 7,700 years ago) (fig: 5).*

The Irish Elk or Giant Deer, was the largest deer that ever lived. It lived in Eurasia, from Ireland to east of Lake Baikal, during the late Pleistocene and early Holocene. The latest known remains of the species have been carbon dated to about 5,700 BC, or about 7,700 years ago. The Giant Deer is famous for its formidable size (about 2.1 meters or 7 feet tall at the shoulders), and in particular for having the largest antlers of any known cervid (a maximum of 3.65 meters/12 feet from tip to tip and weighing up to 90 pounds). Discussion of the cause of their extinction has still focused on the antlers (rather than on their overall body size) and some have suggested hunting by man was a contributing factor in the demise of the Irish Elk as it was with many prehistoric megafauna, even assuming that the large antler size restricted the movement of males through forested regions or that it was by some other means a "maladaptation". *(http://www.itsnature.org/rip / dinosaurs/irish-elkgiant-deer/&http://en.wiki pe dia.org/wiki/Irish_Elk*

***Caspian Tiger**: the third largest (extinct since 1970) (fig: 6)*

The Caspian Tiger or Persian tiger was the westernmost subspecies of tiger, found in Iran, Iraq, Afghanistan, Turkey, Mongolia, Kazakhstan, Caucasus, Tajikistan, Turkmenistan and Uzbekistan until it apparently became extinct in the 1970s. Of all the tigers known to the world, the Caspian Tiger was the third largest. The body of this subspecies was quite stocky and elongated with strong legs, big wide paws and unusually large claws. The ears were short and small, and gave the appearance of being without hair on the tips. Around the cheeks the Caspian tiger was generously furred and the rest of its fur was long and thick. The colouration resembled that of the Bengal tiger. Male Caspian Tigers were very large and weighed 169-240 kg. Females were not as large, weighing 85-135 kg. *(http://www.itsnature.org/rip/recently/caspian-tiger/&http://www.Lairweb.org.nz /tiger/caspian.html*

***Aurochs**: a very large type of cattle (extinct since 1627) (fig: 7)*

One of Europe's most famous extinct animals, the Aurochs or Urus (Bos primigenius) were a very large type of cattle. Aurochs evolved in India

some two million years ago, migrated into the Middle East and further into Asia, and reached Europe about 250,000 years ago *(http://www.geocities.com/magicgoatman/aurochs.html&http://en.wikipedia.Org /wiki/Auroch)*

***Great Auk**: largest of all auks (extinct since 1844) (fig: 8)*
The Great Auk was the only species in the genus Pinguinus, flightless giant auks from the Atlantic, to survive until recent times, but is extinct today. It was also known as garefowl, or penguin. Standing about 75 centimetres or 30-34 inches high and weighing around 5 kg, the flightless Great Auk was the largest of the auks. It had white and glossy black feathers. In the past, the Great Auk was found in great numbers on islands off eastern Canada, Greenland, Iceland, Norway, Ireland and Great Britain, but it was eventually hunted to extinction *(http://biology.mcgill.ca/undergra/c465a/biodiver/2000/great-auk/great-uk.htm & http://en.wikipedia.org/wiki/Great_Auk)*

***Cave Lion**: one of the largest lions ever* (extinct 2,000 years ago) (fig: 9)
The Cave Lion, also known as the European or Eurasian cave lion, is an extinct subspecies of lion known from fossils and a wide variety of prehistoric art. This subspecies was one of the largest. It apparently went extinct about 10,000 years ago. *(http://en.wikipedia.org /wiki/Cave_lion)*

***Dodo**: the archetype of extinct species (extinct since late 17th century) (fig: 10)*
The Dodo (Raphus cucullatus) was a flightless bird that lived on the island of Mauritius. Related to pigeons and doves, it stood about a meter tall (three feet), lived on fruit and nested on the ground. The dodo has been extinct since the mid-to-late 17th century. It is commonly used as the archetype of an extinct species because its extinction occurred during recorded human history, and was directly attributable to human activity. *(http://en.wikipedia.org/wiki/Dodo &http:// www.amnh.org/exhibitions/expeditions/treasure_fossil/Treasures/Dodo/dodo.html?dinos)*

The Cave Bear (an extinct species) (fig: 11)
The Cave Bear is an extinct species that lived in Europe during the Pleistocene. They were about 30 percent bigger than their closest relative the Brown Bear. They had a steeper forehead than the Brown Bear. It was an omnivore that ate grass, herbs, berries and occasionally smallanimals*(http://en.wikipedia.org/wiki/Cave_bear&http://www.Britannic a nica. com /EBchecked /topic/100604/cave-bear).*

The Atitlán Grebe (Podilymbus gigas) *(extinct since late eighties) (fig: 12)*
The Atitlán Grebe (*Podilymbus gigas*) also known as Giant Grebe, Giant Pied-billed Grebe, or Poc is an extinct relative of the Pied-billed Grebe. It was endemic at the Lago de Atitlán in Guatemala in an altitude of 1700 msl. The Atitlán Grebe reached a length of about 46 - 50 cm. The call and the look were similar to the Pied-billed Grebe. The plumage was mainly dark brown with white flecked flanks. The under parts were dark grey flecked with white. The head was almost black and the neck was flecked with dark brown in the spring and white in the winter. The legs were slaty grey. The bold bill had a black vertical band in the middle. The color of the bill varied from white in the spring to brown in other seasons. The iris were brown. It had small wings and was flightless. The population of the Atitlan Grebe declined from 200 individuals in 1960 to 80 in 1965. The population recovered to 210 in 1973. Unfortunately after the earthquake in Guatemala in 1976 the lake bed became fractured. An undersea drain lead to the falling of the water level and to a further severely decreasing of the grebes. In 1983 only 32 individuals were left of which the largest part were hybrids. The last two birds were seen in 1989 and after they have disappeared the Atitlan Grebe was declared officially extinct. *(http://www.petermaas. nlextinct/speciesinfo/atitlangrebe.htm.http://en.Wikipedia.org/wiki/Atitl%C3 % A1n_Grebe)*

The Hawai'i 'Ō'ō (extinct since 1934) (fig: 13)
The Hawai'i 'Ō'ō was extensively hunted by Native Hawaiians. Its striking plumage was used for the royal robes and capes. The Europeans too saw the striking beauty of this bird and hunted many of them for specimens in personal collections. Some were even caught and were put in cages to be sold as song birds only to live for a few weeks

or days before diseases from mosquitoes had befallen them. The decline of this bird was hastened by both natives and Europeans by the introduction of the musket which allowed hunter and collectors to shoot birds down from far away places and from great heights and numbers. In the year of 1892, the birds were shot in great number, almost 1,500 of them were killed and this major shooting had been occurring for almost every year from the time it was first discovered by Europeans back in 1786, meaning the bird has been able to survive for nearly 130 years with major decreases in the population. After this the birds became too rare to be shot in any great quantities but they continued to be found for nearly 30 more years. It was last heard in 1934 on the slopes of Mauna Loa. (*http://nlbif.eti.uva.nl /naturalis/detail?lang=uk&id=26&http://www.uwsp.edu/geo/faculty/heywood/Geog358/endangr/extinctb/HawaiiOo.htm)*

Eastern Elk (extinct since 1880) (fig: 14)

Eastern elk (*Cervus canadensis canadiensis*) is one of six subspecies of elk that inhabited northern and eastern United States, and southern Canada. The Eastern Elk was larger than its western cousins. A full-grown bull could weigh up to 1200 pounds, stand five feet tall at the shoulder, and carry a rack of antlers six feet in length. The last Eastern Elk was shot in Pennsylvania on September 1, 1877. The subspecies was declared as extinct in 1880. (*http://www.pigeonrivercountryforest.org /articles/article3.htm)*

Carolina Parakeet (extinct since 1920) (fig: 15)

The Carolina Parakeet (*Conuropsis carolinensis* was the only parrot species native to the eastern United States. It was found from the Ohio Valley to the Gulf of Mexico, and lived in old forests along rivers.It was called *puzzi la nee* ("head of yellow") or *pot pot chee* by the Seminole and *kelinky* in Chikasha. The Carolina Parakeet died out because of a number of different threats. To make space for more agricultural land, large areas of forest were cut down, taking away its habitat. The colorful feathers (green body, yellow head, and red around the bill) were in demand as decorations in ladies' hats, and the birds were kept as pets. Finally, they were killed in large numbers because farmers

considered them a pest. *(http://www.ivorybill.com/g/carolinaparakeet.htm & http://en.wikipedia.org/wiki/Carolina_Parakeet)*

Blackfin Cisco (extinct since 1960) (fig: 16)

The Blackfin Cisco (*Coregonus nigripinnis*) is a member of the whitefish sub-family. This silvery, deep-bodied fish with black fins, large eyes, a blunt snout and a terminal mouth, is one of the largest species of ciscoes.Blackfin Ciscoes measure up to 510 mm (21 inches in length). Its preferred habitat is cold lakes at depths of up to 180 meters. The decline of the species has been largely caused by overfishing and predation from the invading sea lamprey. *(http://biology.mcgill.ca/undergra/c465a /biodiver/2000/blackfin-cisco/blackfin-cisco.htm& http://en.wikipedia.org/wiki/ Blackfin_cisco)*

***Blue Pike / Walleye** (extinct since 1983) (fig: 17)*

The blue walleye (*Sander vitreus glaucus*), was a subspecies of the walleye that went extinct in the 1980s. Until the middle of the 20th century, it was a commercially valuable fish. The subspecies is now considered extinct. *(http://www.nativefish.org/articles/BluePike.phphttp:// en.wikipedia.org/wiki /Blue_walleye)*

***Leafshell** (extinct since 1988) (fig: 18)*

The Cumberland leafshell or Steward's Pearly Mussel, *Epioblasma stewardsonii*, was a species of freshwater mussel, an aquatic bivalve mollusk in the family Unionidae, the river mussels.This species was endemic to the United States. Its natural habitat was rivers. Has not been found alive in over 75 years and since 1988 has been considered extinct.*(http://en.wikipedia.org/wiki/Cumberland_leafshell)*

***Bigleaf Scurfpea** (extinct since 1990) (fig:19)*

The Fabaceae or Bigleaf are herbs, vines, shrubs, trees, and lianas found in both temperate and tropical areas. They comprise one of the largest families of flowering plants, numbering 630 genera and 18,000 species. The leaves are stipulate .The fruit is usually a legume, sometimes a samara, loment, follicle, indehiscent pod, achene, drupe, or berry. The seeds often have a hard coat with hourglass-shaped cells, and sometimes bear a u-shaped line called a pleurogram.

(http://www.earthwitness.com/Plants.htm & http://www.fws.gov/ midwest /endangered/lists/extinct.html)

Thismia Americana (extinct since 1995) (fig: 20)
Thismia Americana was a mystery right from its discovery. Instead of drawing energy from the sun, *Thismia* fed on fungi that grew in its roots, spending much of the year underground. In midsummer, a tiny tube-like flower pushed upward an inch or so, and only the upper quarter actually emerged from the soil. Its three petals remained linked at the top of the tube, leaving arch-like entries for small insects to pollinate. Lacking chlorophyll, the entire plant was smooth and translucent white, with hints of pale blue-green stripes that deepened at the tip of the flower. By September, the blossoms seeded and withered, and the plant disappeared underground for another year. *(http:// hortiplex.gardenweb.com/plants/p1/gw1040191.html)*

Beside these extinct species, there are also ***endangered species***. Endangered species means the species which are likely to be extinct or are at the verge of extinction, like for e.g.:- Cheetah, Ivory-billed Woodpecker, White Rhinoceros, Horned Guan, Whooping Crane, San Joaquim Kit Fox, Giant Rafflesia, Wood Cycad, Slipper Orchid, etc. It is the imperative that human being take measures to save or conserve these endangered species.

White Rhinoceros (fig: I)
The White Rhinoceros or Square-lipped rhinoceros (*Ceratotherium simum*) is one of the five species of rhinoceros that still exist and is one of the few megafauna species left. Behind only the Elephant, it is probably the most massive remaining land animal in the world. It is well known for its wide mouth used for grazing and for being the most social of all rhino species. The White Rhino is the most common of all rhinos and consists of two subspecies, with the northern subspecies being rarer than the southern. The northern subspecies may have as few as 13 remaining world-wide - 9 captive and 4 wild. *(http://en.wiki pedia.org/wiki/White_rhino).*

***Cheetah** (fig: II)*
The Cheetah's chest is deep and its waist is narrow. The coarse, short fur of the cheetah is tan with round black spots measuring from 2 to 3 cm (0.79 to 1.2 in) across.The tail usually ends in a bushy white tuft. The cheetah has a small head with high-set eyes. Black "tear marks" run from the corner of its eyes down the sides of the nose to its mouth to keep sunlight out of its eyes and to aid in hunting and seeing long distances. It is one of the endangered species. *(http://en.wikipedia.org/wiki/Cheetah & http://www.awf.org/content/ wildlife /detail/cheetah)*

***The Ivory-billed Woodpecker** (fig: III)*
The Ivory-billed Woodpecker (*Campephilus principalis*), a very large member of the woodpecker family, Picidae, is officially listed as an endangered species.*(http://en.wikipedia.org/wiki/Ivory-billed_Woodpecker & http://www.birds.cornell.edu/ivory)*

***The Horned Guan** (fig: IV)*
The Horned Guan, *Oreophasis derbianus* is a large, approximately 85cm long, turkey-like bird with glossed black upperparts plumage, red legs, white iris, yellow bill and a red horn on top of head. The breast and upper belly are white, and its long tail feathers are black with white band near baseThe only member in monotypic genus *Oreophasis*, the Horned Guan is distributed in humid mountain forests of southeast Mexico-(Chiapas) and Guatemala of Central America. It is found in altitude up to 3,350 metres. Its diet consists mainly of fruits, green leaves and invertebrates. Due to ongoing habitat loss, small population size, limited range and hunting in some areas, the Horned Guan is evaluated as Endangered or Threatened Species. *(http://www.arkive.org /horned-guan/oreophasis-derbianus/info& (htmlhttp: //en.wikipedia.org/wiki / Horned_Guan).*

***Lady's Slipper** (fig: V)*
Lady's Slipper is a term used to describe the orchids in the subfamily Cypripedioidea, which includes the genera *Cypripedium, Mexipedium, Paphiopedilum, Phragmipedium* and *Selenipedium*, distinguished by their slipper-shaped pouches which function by trapping insects so that they

are forced to climb up past the staminode, behind which they collect or deposit pollinia..The subfamily Cypripedioideae is monophyletic and consists of five genera. *Cypripedium* are found across much of North America, as well as in parts of Europe. The state flower of Minnesota is the Showy Lady's Slipper (*Cypripedium reginae*). The Pink Lady's Slipper, (*Cypripedium acaule*), is the official state wildflower of New Hampshire. The Lady's Slipper is also the official provincial flower of Prince Edward Island, a province of Canada. *(http://www.flickr.com/photos/lingmao/2562646178/in/pool-america_americahttp://en.wikipedia.org / wiki/Lady's_Slipper)*

San Joaquin kit fox *(fig: VI)*

The San Joaquin Kit Fox (*Vulpes macrotis*) is a relatively common North American fox. Its range extends into northern Mexico. The long-tailed San Joaquin kit fox, one of eight subspecies of kit foxes, has an average body length of 51 centimeters (20 in) and stands about 30 centimeters (12 in) high at the shoulder. It has a generally gray coat, with rusty tones, and a black tip to its tail.The ears are conspicuously large and densely covered on the inside with stiff, white hairs.It feeds on rodents and other small animals, including blacktailed hares, desert cottontails, mice, kangaroo rats, squirrels, birds, and lizards.Kit fox live for as long as seven years, but the average age of the breeding population is about two and a half years. It is now considered as endangered species. *(http://en.wikipedia.org/wiki/Kit_Fox&http://www.vulpes.org/foxden/information /san-joaquin-kit-fox.htm)*

Wood Cycad *(fig: VII)*

Encephalartos woodii is a cycad famous for being extinct in nature, and for the fact that there is no known female specimen on Earth.(http://davesgarden.com/guides/pf/go/59525/& http://www.lantzafrica.com/plantefg/encephwoodii.htm)

Giant Rafflesia *(fig: VIII)*

Rafflesia is a genus of parasitic flowering plants. It was discovered in the Indonesian rain forest by an Indonesian guide working for Dr. Joseph Arnold in 1818, and named after Sir Thomas Stamford Raffles, the leader of the expedition. It contains approximately 26 species

(including four incompletely characterized species as recognized by Meijer 1997), all found in southeastern Asia, on the Malay Peninsula, Borneo, Sumatra, and the Philippines. The plant has no stems, leaves or true roots. It is an endoparasite of vines in the genus *Tetrastigma* (Vitaceae), spreading its root-like haustoria inside the tissue of the vine. The only part of the plant that can be seen outside the host vine is the five-petaled flower. In some species, such as *Rafflesia arnoldii*, the flower may be over 100 centimetres (39 in) in diameter, and weigh up to 10 kilograms (22 lb). Even the smallest species, *R. manillana*, has 20 cm diameter flowers. The flowers look and smell like rotting meat, hence its local names which translate to "corpse flower" or "meat flower". The vile smell that the flower gives off attracts insects such as carrion flies, which transport pollen from male to female flowers. *Rafflesia* is an official state flower of Sabah in Malaysia, as well as for the Surat Thani Province, Thailand. *(http://en.wikipedia.org/wiki/Rafflesia)*

Is it important to save endangered species?

Living things depend on each other in complex ways. The loss of one species may change the balance of a habitat, leading to the loss of other living things. And once a plant, for example is extinct, it is too late to find out that it might have supplied a life-saving drug or helped to feed people or animals.

Extinction will undoubtedly increase unless we make conscious efforts to curb population growth and properly manage our renewable resources and non-renewable resources. Conserving biodiversity and preventing the extinction of individual species are ethical and practical imperatives. Forest, sustainable agriculture, wetland and water/marine projects are critical to the health of the eco-systems that support life on earth.

The conservation of flora and fauna is a key to maintaining ecosystems, and there are cultural, ethical, aesthetic and economic reasons to conserve species. Also needed are individual responsibility and actions to undo man-made damage. We must learn to make decisions based on their impact on the Earth and their contribution to sustainability.

Restoring natural systems and the plant and animal communities that once thrived in them will help ensure a sustainable flow of natural resources as well as innumerable benefits to mankind.

It is our moral duty to look after our planet and pass it on in a good health to our future generations. The decisions we make now, as individuals and as a society, will determine the diversity of genes, species and ecosystems that remain in future.

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EXTINCT SPECIES

Fig. 1

Fig. 2

Fig. 3

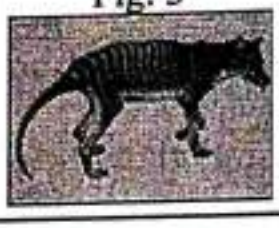

Fig. 4

Fig. 5

Fig. 6

Fig. 7

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Fig. 13

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Fig. 15

Fig. 16

Fig. 17

Fig. 18

Fig. 19

Fig. 20

Fig. No. I

Fig. No. II

Fig. No. III

Fig. No. IV

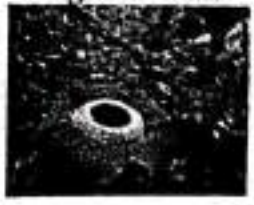
Fig. No. V

ENDANGERED SPECIES

Fig. No. VI

Fig. No. VII

Fig. No. VIII



THE GROWING INTERNET PANORAMA

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The present-day world cannot go sans the use of Internet. Be it business, entertainment, research or the likes, Internet is indispensable. Having started as the first wide area university network by United States National Science Foundation in 1983, Internet has brought socio-cultural changes in the society and has led the world to enter into an "information age" where everything is available at click of the mouse. Internet has come a long way today to cover the entire globe and to serve multiplicity of purposes. This article tries to unfold nuances of Internet usage for the purpose of educating and transforming a common man into an Internet-savvy person.

The Structure

Internet is worldwide network of interconnected computers. The computers are connected with one another through wired and wireless channels. Apart from complex physical connections that form a part of Internet infrastructure, it is supported by multilateral commercial contracts or protocols, which define the ways in which data is transferred among computers across networks. TCP/IP and HTTP are the most widely used protocols for the Internet.

The user of Internet connects itself to the network through the facility provided by the Internet Service Provider [ISP] and accesses websites that are available/ uploaded on the network. A website is the basic source of information and platform of activity on the Internet. The owner of the website is the owner of information available on that site.

Every new website, before getting uploaded on the Internet through ISP, must be assigned a unique identifier. This is known as 'Domain Name'. For a website to work on Internet, its 'Domain Name' must be registered with Domain Name System [DNS]. It is a globally unified system of names in which there is only one holder of each name.

Each website and information available on it has an address through which it is accessed. This address is known as Uniform Resource Locator (URL). An example of an URL may be http://www. hot mail. com. Here 'http' refers to the 'Hypertext Transfer Protocol', a protocol for data transfer over the network. 'WWW' indicates that the website will use 'World Wide Web' service of the Internet in which each web page contains hypertext and hyperlinks. 'Hotmail' is the name of the website which is given by the owner of the website. 'Com' refers to the Domain Name registered with Domain Name System.

As Internet is a distributed network - a collection of interconnected computers all over the world, there is no central authority, which governs the flow and content of information over Internet. However, Internet Corporation of Assigned Names & Numbers (ICANN) is an authority that coordinates assignment of unique Domain Names of each newly created website. The organization is headquartered in California, USA and is overseen by an international board of directors drawn from across the Internet technical, business, academic & non-commercial communities. The US Government continues to play a primary role in approving changes to the domain name system. The scope of ICANN's authority extends only to the Internet's system of domain names and their assignment and registration. It has, however, no control over type and authenticity of information flowing over Internet.

Internet can be accessed by the user through the following types of connections provided by the ISP.

Dial-up connection
Broadband connection - DSL [Digital Subscriber Line] & Cable
Wi-fi connection

Dial-up Internet connection is the most common and cheapest type of Internet connection. It allows Internet connection by connecting to the local server using a phone line and 56K [Kilobytes] modem. Whenever one has to get the computer connected to the Internet using dial-up connection, the computer dials a phone number provided by ISP and is connected to the server and the Internet. Data transfer capacity of this type of connection is low and also the connectivity is very poor. Moreover, phone line is busy as long as one is connected to the Internet.

Broadband Internet connection is a high-speed Internet connection. In general, any connection to the customer of 256 kbit/s(0.256 Mbit/s) or more is considered as broadband Internet connection.This connection works by splitting phone line into two separate channels, one for data (Internet) and the other for voice (phone calls). It means that the user can talk on the phone and simultaneously be connected to the Internet. While one of the important broadband technologies is Asymmetric Digital Subscribers Line (ADSL), the other one is Internet through Cable. The latter offers very fast and reliable connections for a fixed monthly fee. Cable connection uses cables for transfer of data in the same way as cable TV connections do.

Wi-fi provides wireless access to Internet. A user having Wi-fi - enabled computer can connect itself to the internet only when being in proximity of an access point or 'Hot Spot'. Hot Spots can range from a tiny area of a room to as large as a few square kilometers. It is the most convenient type of connection for people who are on the move. Furthermore, it does not involve cabling.

In India, dial-up connection still forms a major part of Internet connection, although broadband is fast catching up. Major service providers for Broadband and Wi-fi connection are Satyam, BSNL, Airtel, Reliance, TATA Indicom, etc.

World Wide Web [WWW]

WWW is an Internet service commonly used for accessing websites. This service uses 'Hypertext' to access information available on the Internet. 'Hypertext' is a format, which links web pages. A web page in Hypertext format contains highlighted words that connect to other documents or web pages. These words are called links and are selectable by the user. Clicking on any of the hypertext link leads to a new page either on the same website or on a new one. WWW is such an integral and core service of Internet that it is often misconstrued as Internet itself.

E-Mail

E-mail means electronic mail. It is a messaging service over Internet. A user of e-mail service can send text messages and files electronically to another user through Internet. There are various websites, which provide e-mail services. A user wishing to avail this facility registers himself/herself with the website providing such services. He/she is given a unique Identification Number [e-mail ID]. Against each E-Mail ID, a mailbox [small amount of memory space] is created on the server computer of the said website. Whenever a user sends a message through e-mail from his/her computer connected to the Internet, the message travels across various networks and finally reaches the recipient's mailbox. Accessing of E-Mail box is restricted through password for security reasons. Popular e-mail based websites are Hotmail, Yahoo!, Gmail, etc.

Internet Banking

Internet banking allows customers to conduct financial transactions on a secure website operated by the concerned bank. Internet banking supports various features. These are:

1. Transactional feature under which a user is allowed for :
   - Electronic Bill presentation and payment [EBPP]
   - Fund transfer among various accounts
   - Purchase or sale of shares and debentures
   - Loan application and the related transactions
2. Non-Transactional features, such as online statement, standing instructions, check links, etc.

The user of Internet banking facility logs on to bank's website by putting user name and password provided to him/her by the bank and performs desired operation. Normally, banks provide two sets of usernames and passwords. One is for logging on the site and the other is for authorizing payments. This is done to make Internet banking more secure. However, despite many security features being adopted by banks, these sites are vulnerable to hacking and online frauds.

Ticket Reservation through Internet

Internet is also being frequently used for booking air, train and bus tickets. The websites offering such facility provide real-time data of seat availability, ticket amount, schedule, etc. to the user. These websites have tie-ups with various banks for online payment. The user intending to book ticket initially has to feed his journey details online. Thereafter, for making payment, he is redirected to his chosen bank's website. Here the user has to put his user name and password and authorize the payment. On receipt of the amount by the administrator of the main website, ticket is issued and dispatched on specified address. Centre for Railway Information System (CRIS) is the most comprehensive site for

ticket booking. It books tickets for Indian Railways. The airlines too have their own websites for this purpose.

E-Commerce

Doing business through Internet is Electronic Commerce. It allows paperless buying and selling of information, products and services through Internet using various network-based technologies such as World Wide Web [WWW], Electronic Data Interchange [EDI], Electronic Payment System, E-mail etc. In this virtual market, a seller displays his products on its website. The buyer places order for the products of his/her choice online. Through Electronic Payment System using smart card, debit card, credit card etc, the money is transferred online from customer's bank account to the seller's bank account. Home-delivery of product is made using usual delivery channels such as courier, etc. Online retailers are sometimes known as e-tailers and online retail is sometimes known as e-tail. In addition to above, E-commerce is also used by traders to exchange electronically business documents, such as quotation, purchase order, invoice etc.

Searching Information

Internet is a vast repository of information on almost everything that exists on the earth. To facilitate users looking for information, various web-based Search Engines are available. To search a particular information on Internet, a user has to specify set of words that relate to the desired information. The website then searches for the requisite information on the web and displays it on the screen. Popular search engines are Google, Yahoo! and MSN.

VoIP [Voice over Internet Protocol]

VoIP is a protocol for transmission of voice over Internet. It allows users to make long-distance telephone calls using basic telephone instrument and the Internet. This technology is highly cost-effective compared to traditional telephony because Internet carries actual voice

traffic. VoIP is also known as Internet Telephony. Skype and Vonage are popular web-based VoIP services.

E-Learning

E-Learning, also popularly known as 'Virtual University' is used to describe any organization that provides higher education programs over Internet. Under this system, universities provide online courses. The activities involved here are online registration, online study material, and online examination. E-Learning is beneficial to those who cannot attend regular university classes. In India, Indira Gandhi National Open University [IGNOU] is one of the biggest universities providing E-Learning.

Online Gaming and Entertainment

Online gaming means playing games over Internet. Some of popular online games are World of warcraft, Guild wars etc. The websites providing online games utilize streaming video, audio, and a whole new set of user interactivity. Online Entertainment includes watching, listening, downloading and uploading of music and videos. A new feature of online entertainment is Internet Television and IPTV. Internet TV refers to transport of data streams over IP networks (normally the Internet). It uses a broadband Internet connection and a set-top box programmed with software (much like a cable or DSS box) that can handle viewer requests to access many available media sources.

E-Democracy

E-Democracy is a combination of the words 'electronic' and 'democracy'. It utilizes Internet for enhancing democratic processes in a country through electronic participation of citizens in opinion building and public decision making. It is also referred to as 'cyberdemocracy' or 'digital democracy'. E-Democracy includes in its scope electronic voting. Electronic voting is a way of registering votes on national and international issues electronically over Internet. It is commercially used

by various companies like TV channels for gathering public opinion on various issues.

Thus one finds that Internet has grown manifold and multi-directional over the years. Its uses too have attained a big panorama. The process of expansion is still on the way. A time will come when one will breathe Internet.

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