

ISSN 2249-2518

GYANA

AN INTERDISCIPLINARY RESEARCH JOURNAL

Vol. VII No. 1 2011-12

Diocesan Society of Education's
Rosary College of Commerce & Arts
Re-Accredited by NAAC with Grade A
(CGPA Score 3.21 on a 4 point scale)
Navelim, Salcete, Goa

Ph. No. 0832-2701564 / 2736864

Fax: 0832-2736864

E-mail: rosary_1990@sify.com

www.rosarycollege.org

EDITORIAL BOARD

Rev. Dr. Simão Diniz – Chief Editor

Dr. Savio Falleiro - Convenor

Dr. Rita Braganza

Ms. Deepa Dhumatkar

Mr. Ignatius Fernandes

Published by:

Principal

Rosary College of Commerce and Arts

Navelim, Goa – 403 707.

ISSN 2249-2518

Printed by:

Vijaydeep Graphics

Navelim, Goa – 403 707.

Ph.: 2730062 / 2712398

2011

Copyright © Principal, Rosary College of Commerce and Arts, Navelim. No part of this publication may be copied or reproduced in any form or by any means without prior written permission of the Publisher.

Disclaimer:

The editorial board is not responsible for the views and findings published in this journal.

From the Principal's Desk...



We are very glad to have our VIIth issue of Interdisciplinary in-house Journal - 'Gyana'. The issues and articles therein are researched with great interest, and insights into the potentialities of education are unbounded. Contributions by our faculty and students to the journal are of good quality, wherein the contributors have surveyed current conditions and possible reformulations of educational structures. With the passing of the Bill on right to free and compulsory education, the quality level of education will definitely be raised. With the new mantra: Excellence, Inclusion and Expansion, there is a paradigm shift that will help the teachers as well as students to strive for excellence.

The other side of this move reflects an unease and a recognition of the dangers and limitations wrought by attempts to regulate a vast range of education cultures. The marketing of education prevailed in Europe, US, UK has now taken hold on the Indian subcontinent. The dangers inherent in education becoming a market economy geared towards profit and revenue is evident to all.

The present issue of 'Gyana' aims at bringing together extreme investigations into "education" as site of generation knowledge, analysis of the conditions of contemporary education, etc. The insight, knowledge and information that is generated by the faculty is enormous and praise worthy. The contents of 'Gyana' - our interdisciplinary journal are relevant, scientific and socially beneficial.

I am delighted that such insight, knowledge and information made available in 'Gyana' has made it a formidable journal providing nourishing intellectual food for students, faculty and society at large.

'Gyana' provides well researched insight and knowledge on relevant topics

contributed by our faculty. It's Rosary's way of expressing, its sustenance, growth and excellence.

My congratulations and thanks to the Editorial Board and specially to Dr. Savio Falleiro who took the responsibility of bringing up the issue, and to our authors who contributed to the Journal.

I hope and wish that '*Gyana*' will inspire and ignite many many minds.

Rev. Dr. Simão R. Diniz

Principal

GYANA

An Interdisciplinary Research Journal

Vol. VII No. 1 2011-12

1. Impact of Advertisements on Rural and Urban Students from
Goa: An Empirical Study
Dr. Juao C. Costa -- 1-8
2. A Review of the Macroeconomic Impacts of HIV/AIDS
Dr. Savio P. Falleiro -- 9-33
3. Trends in Time Series
Mr. Ignatius Fernandes -- 34-42
4. Home Loan as a Tax Planning Tool
Ms. Ancy Gonsalves -- 43-54
5. Quality of Work Life of Youth Employed in the BPO Segment
Ms. Samantha Fernandes -- 55-63
6. Innovate, Restructure and Reorganize: Challenges for Indian Inc.
Ms. Melba Fernandes -- 64-74
7. Shakespeare's Sonnet *My Mistress' Eyes* and its Relevance Today
Mr. Lisbern Fernandes -- 75-80

IMPACT OF ADVERTISEMENTS ON RURAL AND URBAN STUDENTS FROM GOA: AN EMPIRICAL STUDY

Dr. Juao C. Costa
Vice-Principal and Associate Professor
Department of Commerce

ABSTRACT

Consumers, irrespective of gender, demographic differences or educational background, have some way or the other been influenced by different, misleading and exaggerated advertisements at least once in their lifetime. The main objective of the present study is to find out the general impact of advertisements on rural and urban students from Goa. For this purpose a hypothesis was formulated and tested with the help of statistical tools such as *Percentage, Mean and Independent sample 't' test*. In all 2,108 students from all over Goa belonging to Secondary Schools, Higher Secondary Schools, Colleges and Post-graduate departments of Goa University were surveyed. Of these, while 1,118 students were from urban areas, 990 students were from rural areas. It was found that the general impact of advertising on rural and urban students from Goa was not significant. Overall, though they liked to watch advertisements which acted as a source of information, the desire to purchase an advertised product was not influenced by advertisements. It was seen that even if the students had bad habits such as smoking or drinking, it was not under the influence of advertisements. The study reveals students showing less interest in pursuing a career in the field of advertising.

Keywords: Advertisements; Impact; Television; Students; Rural; Urban

INTRODUCTION

The world of television [TV] advertising seems too good to be true. It has glamour; it offers the best things in life; and it has quick-fix solutions to almost all problems that consumers may face. TV and advertising together present a lethal combination, and have become an integral part of our modern society. It is needless to say that advertising has gained profound recognition and importance all over the globe as an indispensable tool of marketing. This recognition has led to its remarkable growth - both quantitative and qualitative. One thing certain about advertising is that in spite of growing concern towards some of its social effects, both profit and non-profit

organizations are increasingly being compelled to use the same for extrapolating their objectives. Consumers, irrespective of gender, demographic differences or educational backgrounds, have been influenced in one or another by different, misleading and exaggerated advertisements at least once in their lifetime.

REVIEW OF LITERATURE

The TV is the best selling and economical media ever invented. It has a potential advertising impact unmatched by any other media (Saxena 2005). Over a long period of time, the TV set has become a permanent fixture in all upper and middle class households, and it is not uncommon even in the poor society of urban and rural households (Shah and D' Souza 2008). India is a developing country with majority of the people living in rural areas (Census 2001). Rural consumers are fundamentally different from their urban counterparts – socially, psychologically, physiologically, and literally (Selvaraj 2007). The total size of the rural market is ₹ 1,23,000 crores, which includes ₹ 65,000 crores FMCG, ₹ 5,000 crores durables, ₹ 45,000 crores agri-inputs and ₹ 8000 crores two and four wheeler's market. The size of the rural market is bigger than the urban one for both FMCG and durables as it accounts 53 and 59 percent of the market share respectively (Kashayp and Raut 2008). Advertisements cannot only charge the emotions but also give a subliminal message. Advertisements develop a self concept in order to induce purchase decisions (Kotwal et al 2008). Gandhi and Yadav (1994) in their study on consumer behavior among adults found that TV is of paramount importance in influencing consumer's choice. In a developing country like India, TV plays an important role in shaping society and the economy. TV brings to our living room images and sounds of things and places we could never have imagined. However, over the years this medium has earned the ire of many parents and teachers. It has more often than not taken the blame for being the perpetrators of negative influence in our society. TV has permeated every corner of public and private space, shaping our consciousness, defining our realities, and drawing and pulling us apart in ways that will uniquely enshrine this age as the age of TV (Shanahan and Morgan 1990). Advertising has an influence on purchase behavior; it does affect viewers. If a message is repeated often enough, people will increasingly accept it (Goldstein 1998).

OBJECTIVE, HYPOTHESIS AND METHODOLOGY

The main objective of the present study is to find out *the general impact of advertisements on rural and urban students from Goa*. For the purpose a hypothesis was formulated and tested with the help of statistical tools such as *Percentage, Mean and Independent sample 't' test*.

H₀: General impact of advertising on rural and urban students from Goa is not significant

The data was collected with the help of *Likert* five point scales, modified suitably, and was grouped into seven important areas to find the impact of advertisements on students. The respondents were asked to rank on a scale of 1 to 4: 1 being 'Not at all'; 2 being 'Rarely'; 3 being 'Some time'; and 4 being 'Often'. In all 2,108 students from all over Goa belonging to Secondary Schools, Higher Secondary Schools, Colleges and PG Departments of Goa University were surveyed. Out of these, while 1,118 students were from urban areas, the remaining 990 students were from rural areas.

ANALYSIS AND DISCUSSION

The collected data was classified and organized in the following tables. Table 1.1 deals with the frequencies along with percentages; Table 1.2 deals with the *mean* scores and Table 1.3 deals with the '*t*' test values.

Table 1.1 Frequencies on General Impact (Locality)

		Urban	Rural	Total
Watching of advertisements	Not at all	37(3.3%)	52(5.3%)	89(4.2%)
	Rarely	175(15.7%)	114(11.5%)	289(13.7%)
	Some time	654(58.5%)	640(64.6%)	1294(61.4%)
	Often	252(22.5%)	184(18.6%)	436(20.7%)
Desire for products	Not at all	241(21.6%)	201(20.3%)	442(21.0%)
	Rarely	407(36.4%)	372(37.6%)	779(37.0%)
	Some time	375(33.5%)	320(32.3%)	695(33.0%)
	Often	95(8.5%)	97(9.8%)	192(9.1%)
A source of information	Not at all	192(17.2%)	167(16.9%)	359(17.0%)
	Rarely	285(25.5%)	222(22.4%)	507(24.1%)
	Some time	465(41.6%)	445(44.9%)	910(43.2%)
	Often	176(15.7%)	156(15.8%)	332(15.7%)
Role of model	Not at all	612(54.7%)	557(56.3%)	1169(55.5%)
	Rarely	197(17.6%)	150(15.2%)	347(16.5%)
	Some time	219(19.6%)	204(20.6%)	423(20.1%)
	Often	90(8.1%)	79(8.0%)	169(8.0%)
Drinking and smoking	Not at all	895(80.1%)	836(84.4%)	1731(82.1%)
	Rarely	86(7.7%)	49(4.9%)	135(6.4%)
	Some time	76(6.8%)	50(5.1%)	126(6.0%)
	Often	61(5.5%)	55(5.6%)	116(5.5%)
Modelling as career	Not at all	819(73.3%)	734(74.1%)	1553(73.7%)
	Rarely	101(9.0%)	70(7.1%)	171(8.1%)
	Some time	146(13.1%)	135(13.6%)	281(13.3%)
	Often	52(4.7%)	51(5.2%)	103(4.9%)
Influence on purchases	Not at all	383(34.3%)	369(37.3%)	752(35.7%)
	Rarely	348(31.1%)	245(24.7%)	593(28.1%)
	Some time	290(25.9%)	290(29.3%)	580(27.5%)
	Often	97(8.7%)	86(8.7%)	183(8.7%)

Source: Primary data

Table 1.2 Group statistics on General Impact (Locality)

Statements		N	Mean	Std. Dev	Std. Error Mean
Watching of advertisements	Urban	1118	3.00	.717	.021
	Rural	990	2.97	.714	.023
Desire for products	Urban	1118	2.29	.899	.027
	Rural	990	2.32	.905	.029
A source of information	Urban	1118	2.56	.952	.028
	Rural	990	2.60	.946	.030
Role of model	Urban	1118	1.81	1.015	.030
	Rural	990	1.80	1.025	.033
Drinking and smoking	Urban	1118	1.38	.836	.025
	Rural	990	1.32	.807	.026
Modelling as career	Urban	1118	1.49	.889	.027
	Rural	990	1.50	.912	.029
Influence on purchases	Urban	1118	2.09	.970	.029
	Rural	990	2.09	1.003	.032

Source: Primary data

Table 1.3 't' test analyses* on General Impact (Locality)

Statements		Levene's Test for equality of variances		t test for equality of variance		
		F	Sig.	T	df	Sig. (2-tailed)
Watching of advertisements	Equal variances assumed	.706	.401	1.185	2106	.236
	Equal variances not assumed			1.185	2077.310	.236
Desire for products	Equal variances assumed	.059	.808	-.670	2106	.503
	Equal variances not assumed			-.670	2071.664	.503
A source of information	Equal variances assumed	.483	.487	-.892	2106	.373
	Equal variances not assumed			-.892	2078.329	.372
Role of model	Equal variances assumed	.665	.415	.145	2106	.885
	Equal variances not assumed			.145	2070.242	.885
Drinking and smoking	Equal variances assumed	6.808	.009	1.655	2106	.098
	Equal variances not assumed			1.658	2090.250	.097
Modelling as career	Equal variances assumed	.676	.411	-.176	2106	.860
	Equal variances not assumed			-.176	2061.234	.860
Influence on purchases	Equal variances assumed	6.465	.011	-.084	2106	.933
	Equal variances not assumed			-.084	2057.039	.933

Source: Primary data

*At 5% level of significance

A) Watching of advertisements: Both students from urban and rural areas do like to watch advertisement, which is 96.7 percent and 94.7 percent respectively (Table 1.1). This is supported by the *mean* score which is 3.00 and 2.97 between urban and rural students (Table 1.2). However, urban students do have an edge over the rural students as far as watching of advertisements is concerned. Further, *Levene's test* for equality of variance is not significant. The '*t*' value (Table 1.3) in this case is 1.185 and its corresponding '*p*' value is 0.236. It means that there is no significant difference between urban and rural students watching advertisements though to some extent it is the urban students who overpowered the rural students in watching advertisements. The reason for the same may be that more people in urban areas own TV sets than those from rural areas, besides more cable connections and high standard of living/life style of urban students.

B) Desire for products: Again between urban and rural students a similar kind of result was seen. It can be seen from the tables the overall impact of advertising on students is negative. While around 36.4 percent of urban and 37.6 percent rural students *rarely* bought the advertised products; 21.6 percent of urban and 20.3 percent of rural students never bought the advertised products (Table 1.1). The *mean* score between the urban and rural students is 2.29 and 2.32 respectively (Table 1.2) which shows that between the urban and rural students, the latter are influenced more by the tactics of advertisers. This speaks about the maturity shown by the urban students. However, the score is not very significant to prove that advertisements influence the purchase desire of the students. The '*t*' test for *equality of variance* also proved that there is no significant difference between urban / rural population and advertised product desired by them. The '*F*' ratio for *Levene's test for equality of variance* is significant at 5 percent level of significance. The '*p*' value in this case is 0.503 which is higher than 0.05 (Table 1.3). This shows that advertising has no impact upon the minds of urban and rural students.

C) A source of information: 41.6 percent of the urban students and 44.9 percent of rural students felt that advertisements *sometimes* provide them with information necessary to buy a product. 17.2 percent of urban and 16.9 percent of rural students felt it negatively. From the figures given in Table 1.1, the rural students have a softer corner towards advertisements than urban students. The *mean* score between urban and rural students is 2.56 and 2.60 respectively (Table 1.2), which though not alarming, yet speaks positively as far as the impact of advertisement is concerned.

Again, rural students have an edge over the urban students in the matter. According to them advertisements are more informative. The 'F' ratio for *Levene's test of equality of variance* is not significant. The *p* value is 0.373 (Table 1.3) which is higher than 0.05 at 5 percent level of significance indicating that there is no significant difference between urban/rural students in thinking that advertisements provide them with information that they need.

D] Role of model: 54.7 percent of urban and 56.3 percent of rural students do not believe in the products endorsed by their favorite personalities (Table 1.1). A small percentage of student's i.e. 8.1 percent of urban and 8 percent of rural *often* believe in their favorite idol. This is revealed by the *mean* score (Table 1.2) between urban and rural students which is 1.81 and 1.80 respectively - meaning that endorsements by the popular people do not influence the minds. Further, the 't' test analysis (Table 1.3) also showed that there is no significant difference between urban/rural students who believe in their favorite model. In this case the 'F' ratio which is 0.665 for *Levene's test for equality of variance* is not significant ($P > 0.05$). The 't' value is 0.145 and its corresponding 'p' value is 0.885, which is higher than 0.005 at 5 percent level of significance.

E] Drinking and smoking: As far as drinking or smoking is concerned, students are not influenced by commercials. Around 80 percent of urban students and 84 percent of rural students responded that TV commercials do not influence their smoking or drinking habits if any (Table 1.1). The poor *mean* score (1.38 and 1.32) indicates that the drinking and smoking if any students from both the places are not influenced by the advertisements (Table 1.2). In case of 't' test analyses (Table 1.3), the 'F' ratio for *Levene's test for equality of variance* is not significant ($p > 0.05$). The 't' value is 1.655 and its corresponding 'p' value is 0.098 which is higher than 0.05. This means that there is no significant difference between urban/rural students who smoke and drink because of an advertisement.

F] Modeling as a career: Around 73 percent and 74 percent of urban and rural students are not at all interested in pursuing their career as models in advertisements. Given a chance, 4.7 percent of urban and 5.2 percent of the rural students would like to become a model in an advertisement (Table 1.1). Modeling, though a highly paid profession, failed to convince the youngsters to join the same. The *mean* score (Table 1.2) between urban and rural students are 1.49 and 1.5 which

also speaks about their negative attitude towards becoming a model for an advertisement which would provide a decent income but for a short period of time. Since the 'F' ratio for *Levene's test of variance* is not significant i.e. 'p' value is greater than 0.05 at 5 percent level of significance, we take the 't' value of equal variance assumed. In this case 'p' value is 0.860 which is higher than 0.05 at 5 percent level of significance (Table 1.3). This means that there is no significant difference between the urban/rural students to choose modeling as career.

GJ Influence on purchases: The result shows that majority of the students of urban as well as rural areas were of the opinion that their purchases are not influenced by an advertisement. 34.3 percent of urban students and 37.3 percent of rural students responded negatively in this connection (Table 1.1). Only 8.7 percent each of urban and rural students were of the opinion that their purchases are influenced by an advertisement. This means that today students do not trust the endorsements of the product done through the advertisement. The *mean* score (Table 1.2) between urban and rural students is 2.09 each. This again speaks about the extent to which advertisements influences their purchases, wherein the same is not very satisfactory. It means that their purchases are not influenced by advertisements. Since the 'F' ratio for equality of variance is significant ($P < 0.05$), we take the 't' value of equal variance not assumed. The 't' value (Table 1.3) is not significant at 5 percent level of significance ($P > 0.05$). Thus there is no significant difference between urban/rural students with reference to their purchases being influenced by the advertisements.

CONCLUSION

From the above analysis and discussion, it can be proved that the general impact of advertising on rural and urban students from Goa is not significant. Thus, the hypothesis formed for the purpose is accepted. Overall, though they like to watch advertisements which act as a source of information, the desire to purchase an advertised product is not influenced by advertisements. It was also seen that if they had bad habits such as smoking or drinking, the same was not under the influence of advertisements. Further, students showed less interest in pursuing their career in the field of advertising.

References

- Costa, Juao C. (2010). Impact of advertisement on students: An Empirical study of students from Goa, *PhD thesis*, Goa University.
- Gandhi, S. and L. Yadav (1994). Media Impact on Consumer Behavior. In M.R. Dua and V.S. Gupta (eds) *Media and development themes in communication and extension*, Singapore. New Delhi: Har-Anand Publication.
- Goldstein, J. (1998). *Children and advertising* [The research commercial communication] www.europa.eu.int. (accessed August 2009)
- Korwal, Nidhi, Neelima Gupta and Arjee Devi (2008). Impact of T.V advertisements on buying pattern of adolescent girls, *Journal of Social Science*, Vol 16 (1): 51-55.
- Kashyap, P. and S. Raut (2008). *The rural marketing*. New Delhi: Biztantra.
- Saxena, R. (2005). *Marketing management*. New Delhi: Tata McGraw.
- Selvaraj, A. (2007). Rural consumers behaviour regarding non durables goods: A study in Erode district of Tamil Nadu, *Indian Journal of Marketing*, Vol. 37 (12): 35-42
- Shah, K. and A. D'Souza (2008). *Advertising promotion: An IMC perspection*. New Delhi: Tata McGraw Hill.
- Shanahan and Morgan (1990). VCRs and the effects of TV: New diversity or more of the same? In J. Dobrow (ed) *Social and cultural aspects of VCR use*. Hillsdale: Erlbaum (pp 107-123).

A REVIEW OF THE MACROECONOMIC IMPACTS OF HIV/AIDS

Dr. Savio P. Falleiro

Associate Professor, Department of Economics

ABSTRACT

HIV/AIDS has been notorious for its trail of 'destruction' ever since its detection in the 1980s. The present paper is an attempt at an integrative review of the macroeconomic impacts of HIV/AIDS. It provides insights into non-medico macroeconomic and medico-macroeconomic implications of HIV/AIDS on economies. At the end, the paper suggests the need for urgent interventions primarily through the adoption of preventive measures for the purpose of addressing and containing the adverse fallouts.

Keywords: HIV/AIDS; Macroeconomic impact of HIV/AIDS; Economic impact of HIV/AIDS

INTRODUCTION

HIV/AIDS has been a massive human and development catastrophe ever since the last two decades of the 20th century - particularly in the developing world. Though AIDS was first recognized in industrialized countries where the vast majority of the funding for research, prevention and care was concentrated, the pandemic has expanded fastest in countries with poor economies, where the economic, political and social mechanisms that keep countries poor, interact to produce a context in which AIDS thrives (WCC 2002, 97-98). The severity of the epidemic especially in some countries has been such that according to the Red Cross and Red Crescent it should be classified as a disaster' (Foulkes 2008). Presently, India has the dubious third rank vis-à-vis 'people living with HIV/AIDS' [PLWHA]; of the estimated 33.3 million infected people world-wide (UNAIDS 2010) around 2.3-3 million are said to be living in India. Goa, noted for its tourism-centric coastline, high per-capita income and literacy, has not been spared. With an estimated 16,000 PLWHA, with about three new cases detected daily until recently at the Integrated Counselling and Testing Centres [ICTCs], and with sexual mode of HIV transmission accounting for

between 83-96 percent of infections, Goa has been labeled by National AIDS Control Organization [NACO] as a *moderate* HIV-prevalence state. Incidentally, Goa is bordered by *high* HIV-prevalence states of Maharashtra and Karnataka (GSACS 2010); and has South Goa district amongst the high prevalence districts in India.

HIV/AIDS has far reaching consequences: social, medical, ethical, political, psychological, legal, economic etc. The epidemic has often been associated with severe negative public reactions, unlike reactions for other illnesses. Besides taking away lives, HIV/AIDS has separated families, destroyed and impoverished communities, besides making better-off economies/individuals/households poor and poor ones poorer. The 2005 *Human Development Report* identified AIDS as the factor inflicting the single greatest reversal in human development history (UNDP 2005, as in UNAIDS 2006, 82). In September 2000, the serious nature of HIV/AIDS made world leaders during the United Nations Millennium Summit to agree upon as one of the specific and measurable development goals - the Millennium Development Goals [MDGs] - to halt and begin to reverse the spread of HIV/AIDS (IMF 2005).

The economic impact of HIV/AIDS is witnessed at the national/macro, sectoral/occupational and individual/household/micro levels. The impact of AIDS flows from the increase in premature morbidity and mortality that it causes. In the very long term, though there could be the possibility that in some cases the epidemic may have socio-economically positive impacts; for most individuals, households and communities affected the impact will be experienced only as negative (Barnett and Whiteside 2000a, 38). The idea of impact is defined for making clear that the impact of an epidemic cannot be thought of only as a shock; but it must also be understood as a series of slow, cumulative events over a long time period (Barnett and Whiteside 2000b).

A clear understanding of the impact of AIDS is essential to formulate appropriate policy responses. If AIDS is an economic disaster, and the strength of the economy is instrumental in mitigating the impact of the disease, strategies targeting economic capabilities have to be a central part of developmental agencies AIDS programming; and if it is not, resources can remain focused on prevention and addressing the humanitarian consequences of the disease, with economic growth fueled by continued investment even where AIDS prevalence is high (Werker et al 2007, 3).

OBJECTIVE(S) AND LIMITATION(S) OF THE PAPER

The primary objective of the paper is to make an in-depth and comprehensive

review of literature pertaining to the macroeconomic impacts of HIV/AIDS. The paper is a broad attempt towards an 'integrative review'. On account of the complexity of the subject a limitation of the present paper is that one cannot fully preclude from the review other impacts, including sectoral/occupational and micro/individual/household level impacts.

THE REVIEW

For the purpose of clarity and focus the review has been presented in two broad sub-sections: *Non-medico macroeconomic impacts* and *Medico-macroeconomic impacts* of HIV/AIDS.

Non-medico macroeconomic impacts of HIV/AIDS

The macroeconomic impact of AIDS is difficult to assess, with many studies finding the estimates sensitive to assumptions about how AIDS affects savings and investment rates, and whether AIDS affects the best working employees more than others (Barnett and Whiteside 2000a, 25). Estimating the epidemic's macroeconomic effects is also complicated because while high-burden countries have been undergoing important changes at the same time that they have been experiencing HIV (UNAIDS 2008, 170), there are other factors besides HIV/AIDS that affects the long-term economic growth (Gaigbe-Togbe and Weinberger 2003, 42). Incidentally, while some studies found the macroeconomic impacts to be small, with others finding them to be significant; only a few were able to incorporate the impacts at the household and firm level into macroeconomic projections (Barnett and Whiteside 2000a, 25).

HIV/AIDS caused rise in illness/death among people formerly productively engaged has a serious impact upon national economies, with death leading to loss of economic output and national income [NI] (Reid 2000a, 21). Because of the way HIV is clustered in families, occupations and geographical areas, the impact of multiple illnesses and death is much greater than the accumulated individual losses. While lost labour becomes difficult to replace, the associated loss of output, skills, experience and aspirations can discourage investment, force closure of enterprises and lessen NI (ibid 22). In the long run HIV/AIDS can cause the consumer market to shrink, leading to a drop in production and investment, thereby affecting economic growth. By the year 2020, the World Bank estimates that the macroeconomic impact of HIV/AIDS may be significant enough to reduce the growth of NI by up to one-third in countries with adult prevalence rates of 10 percent (Sharma 2006, 127-128).

Household and sectoral level impacts of HIV/AIDS translate to macro-effects on the economy affecting GDP growth rate. Studies of Pandav et al (1997) and Anand et al (1999), indicate high costs to the economy associated with increased medical costs and loss of labour productivity; with the latter indicating that the costs could be as much as 1 percent of GDP (as in Kadiyala and Barnett 2004, 1891-92). Though difficult to estimate the effect of HIV/AIDS on a country's macro-economy, existing literature nevertheless highlights its adverse impacts on issues like growth, GDP and per capita income. According to World Bank estimates, with a prevalence of HIV/AIDS at 20 percent in 1999, South Africa's GDP was to be 17 percent less in the year 2010 than it would be without the virus (Bertozzi et al 2001). NCAER [with NACO and UNDP] reporting for the 14 year period of 2002-2016, indicated that the epidemic could push-up health spending by the State and households thereby eating into savings, crowding-out investment and hitting growth. Besides leading to a decline in economic growth and per capita GDP over the period; government savings as percentage of GDP was likely to fall by 0.67, household savings by 1.15 and investment by 1.16 percentage points (Sharma and Baxi 2007, 12). Incidentally, by not considering HIV/AIDS as a humanitarian activity alone and focusing spending money and administrative resources to check growth of HIV/AIDS, could boost India's economic growth by 1 percent per year till 2016 (*The Economic Times* 21/07/2006, 1; see also Ojha and Pradhan 2006, xxi). Cuddington (1993) and Haacker (2002) claim that HIV/AIDS epidemic is responsible for slowing the rate of growth of GNP of many heavily affected countries, with GNP even decreasing by more than 1 percent for every 10 percent HIV prevalence (as in Gaigbe-Togbe and Weinberger 2003, 42). The World Bank estimates that when HIV/AIDS prevalence reaches 8 percent, real GDP growth can fall by 1 percent; and if prevalence rate reaches 10 percent, real GDP growth can plummet by almost a third – and to aggravate this further, the informal economy is not included in measurements of GDP, with the same in developing economies being even larger than the formal sector (Drummond and Kelly 2006, 7; see also Sharma 2006, 127-128).

Mahal and Rao (2005) indicate that work on the aggregate economic impact of AIDS fall mainly into two groups: those which make use of simulation studies and those which statistically estimate the link between HIV/AIDS and national economic performance. Studies relying on simulation models constructed for Sub-Saharan African countries conclude that the AIDS epidemic would have significant adverse effects on the levels and rates of growth of NI and NI per capita. While Arndt and Lewis (2000) concluded that over the period 2000-2010 the annual rate of

growth of real GDP in South Africa under their projected AIDS scenario would be substantially lower in comparison to a no-AIDS scenario, with the difference ranging from 1-2.6 percentage points; analyses for Tanzania and Malawi (Cuddington 1993; Cuddington and Hancock 1994) concluded that AIDS could depress the same per capita by an average of 0.25 percentage points over the period 1991-2010 (as in Mahal and Rao 2005, 590). Incidentally, not all simulation studies conclude that AIDS would reduce GDP or GDP per capita. MacFarlan and Sgherri (2001) while examining the macroeconomic impact of AIDS in Botswana for the period 1996-2021, concluded that while overall GDP under projected AIDS scenarios would be substantially smaller in 2021 relative to a no-AIDS scenario, HIV/AIDS which would reduce population substantially, could possibly make real income per capita to grow at a rate faster than in a no-AIDS scenario (as in Mahal and Rao 2005, 590).

Gaigbe-Togbe and Weinberger (2003, 44) highlight that the long-term effects of HIV/AIDS on economies may be more serious than most macroeconomic estimates, since these estimates usually do not consider loss of social capital or the long-term damage to human capital. Bell et al (2003) contend that in the absence of combating measures, HIV could lead to widespread economic collapse, not only because AIDS destroys existing human capital, but by striking mostly young adults it weakens the mechanism through which knowledge and abilities are transmitted among generations, with the consequences, progressively cumulative in nature, becoming apparent only after several generations. In the absence of measures they forecast a complete economic collapse of the South African economy within three generations (as in Mahal and Rao 2005, 591-592; Dixit 2005, 162). Incidentally, Bell et al (2004, 98) besides listing other effects of HIV/AIDS like decline in social cohesion and social capital, also indicate that collateralization in credit markets becomes difficult, thereby adversely affecting the functioning of credit markets.

Bhargava et al (2001) and Bloom, Canning and Sevilla (2001) point to strong causal linkages running from life expectancy to growth of GDP and GDP per capita, and provide support to the claim that AIDS will negatively influence national economic performance via its impact on life expectancy (as in Mahal and Rao 2005, 592). Werker et al (2007) amongst others highlight the following studies related to the said issues: According to Dixon et al (2001), AIDS which primarily affects adults can have severe economic effect especially with regards to decreasing human capital and impeding economic growth. While UNAIDS (2005) expects the AIDS epidemic to cause a 'growth drag' on GDP per capita in Africa of 0.5-1.2 percentage

points per year; ILO estimates that GDP growth will decline by 1.1 percentage points per year for the continent as a whole; with McDonald and Roberts (2006) finding that each percentage point in HIV prevalence lowering per capita income by 0.59 percent. Others who found negative impact of AIDS on growth include Bonnel (2000), and Papageorgiou and Stoytcheva (2005). Incidentally, Bloom et al (2001a), UNAIDS (2006), Greener (2004), Whiteside (2002) and UNAIDS/World Bank (2001) highlight that although AIDS epidemic does not seem to adversely affect average GDP per capita, it could still increase poverty, partly due to the possibility that AIDS will decrease economic growth as outlined by Greener (2004). Salinas and Haacker (2006) also found adverse effects of HIV/AIDS on poverty.

Unlike authors highlighting adverse influence of HIV/AIDS on issues like growth and GDP, others like Bloom and Mahal (1997) find no evidence of impact on the macro-economy (as in Gaigbe-Togbe and Weinberger 2003, 42). Bloom and Mahal by measuring the nature and strength of statistical associations between the prevalence of AIDS and the rate of growth of real GDP per capita using cross-country data between 1980-92, found that the AIDS epidemic had a statistically insignificant effect on the growth of real GDP per capita (as in Mahal and Rao 2005, 592; Werker et al 2007, 19).² Young (2004; 2005) reiterates that the AIDS epidemic is unlikely to be an economic disaster in South Africa by showing that the beneficial effect of HIV/AIDS in controlling population makes up for the adverse implications on human capital losses thereby providing the economy with extra resources which may be utilised for the benefit of the HIV infected and also of the general population (as in Mahal and Rao 2005, 591). Young argues that AIDS may not be the economic disaster in terms of per capita income by showing that AIDS reduces the labor supply, putting positive pressure on the real wage which in turn lowers fertility and sustains the rise in real wage. This effect leaves the economy with higher per capita output than in a no-AIDS scenario (as in Werker et al 2007, 18-19). The impact of AIDS on population growth will be even stronger if fertility is reduced due to factors like fear of mother-to-child transmission [MTCT], longer abstinence, widowhood, increased condom use etc.³

Werker et al (2007) found that AIDS has not had a measurable impact on several key economic variables in Africa, with HIV rates not having a significant effect on economic growth, macroeconomic growth, GDP per capita or on savings rates. According to them the statistical likelihood that AIDS had *any* negative effect on African GDP per capita was only two-fifths. They nevertheless found that while there was evidence that AIDS may have led to decrease in fertility and increase in malnutrition, supporting the perception that the epidemic has contributed to the

persistence of poverty in Africa; there was weak evidence that youth literacy levels increased more slowly than they would in the absence of AIDS. Werker et al argue that other economic factors remain more significant barriers to growth - which if kept in check, would not permit AIDS to prevent Africa's economic expansion in the medium run. Nevertheless, given the negative impact of HIV on education and poverty, governments need to target the poorer sections with educational and nutritional outreach to preserve the long-run growth potential of their population. Additionally, while AIDS may not have had a measurable impact on economic growth through 2005, it is possible that it has had an effect on the determinants of economic growth thus affecting future economic performance.

Unlike possibly extreme positions, some studies indicate a significant but not devastating cost of just a few tenths of a percentage point lost from the annual GDP growth rate even in the developing world (Drummond and Kelly 2006, 2). These assessments however could be faulted since they attach little importance to reduction in the labour force under the assumption that developing countries have excess of labour as indicated by high unemployment and low labour force participation rates (ibid). Dixon et al (2001) while showing that HIV enters the growth equation only through health capital, conclude that while the impact of HIV for low-AIDS countries is minimal, for high-AIDS countries it is unclear (as in Werker et al 2007, 19-20). Mahal (2004) while arguing that overall the evidence for a macroeconomic impact of AIDS is still weak, highlights that while the impact of AIDS will be high in Botswana and South Africa, it will be negligible in South and South-West Asia (as in Werker et al 2007, 20). Evidence suggests that HIV is likely to reduce economic growth in high-prevalence countries by 0.5-1.5 percent over 10-20 years (Piot et al 2007) - an impact that is notable but not catastrophic as was anticipated earlier (as in UNAIDS 2008, 23).

Existing empirical analyses do not predict huge adverse aggregate economic impacts for India in the near future, with even pessimistic scenarios projecting HIV prevalence rates among Indian adults to no more than 5 percent by the year 2025 (Mahal and Rao 2005, 592). However, if data obtained from Behavioural Surveillance Survey [BSS] which shows relatively high rates of sexual activity outside marriage in certain States is considered (NACO 2003), and if these behavioural patterns get translated into future high rates of HIV infection, there is the possibility that these states could face a relatively greater longer-term risk of the economic impact of AIDS (as in Mahal and Rao 2005, 592).

HIV/AIDS is deepening poverty even in less-affected countries outside Africa. Even within economies that are steadily growing HIV can create a poverty-

trap that ensnares the most vulnerable (Bell et al 2004, as in UNAIDS 2008, 170). With greater burdens borne by poor households, HIV/AIDS widens inequality, which can further increase vulnerability to HIV. *Ceteris paribus*, to the extent HIV/AIDS is associated with declines in the rate of growth of per capita income, it increases the proportion of people living in poverty; with cross-country evidence suggesting positive correlation between poverty rates and magnitude of economic inequality with HIV prevalence (Bloom et al 2001b, as in Mahal and Rao 2005, 592). A study involving Burkina Faso, Rwanda and Uganda, has calculated that AIDS will increase the percentage of people living in extreme poverty from 45 percent in 2000 to 51 percent in 2015, besides reversing progress in poverty reduction (UNDP 2003, as in Avert 2008). Economic analysis by Asia Development Bank [ADB] and UNAIDS indicate that HIV will slow the annual rate of poverty reduction between 2003-2015⁴ (as in UNAIDS 2008, 170). As per the Commission on AIDS in Asia [2008] it is estimated that HIV imposes an additional US\$ 2 billion in costs each year on affected households in Asia (see *ibid*). Incidentally, sickness and death of skilled workers could also increase inequality by reducing overall labour demand and decreasing the wages of unskilled workers (Dorward and Mwale 2004, as in *ibid*). In the Caribbean region HIV/AIDS is undermining human resource development initiatives of the *post-economic* adjustment period by selectively reducing workforce through sickness, absenteeism, voluntary/forced redundancy or death. The economic impact estimated at US\$ 20M in 1995 is projected to reach US\$ 80M by 2020, representing about 6 percent of the regions GDP due to direct/indirect costs (see CARICOM).

With regards to workers, HIV/AIDS has implications both for sending and receiving countries. While workers could get excluded from certain countries on grounds of possible HIV infection with implications on foreign earnings [and labour remittances]; receiving countries will be concerned in reducing the transmission within the migrant labour community to the local population (Rao 2000a, 54). AIDS has the potential to reduce the labour supply, leading to higher wage levels and lowering investment from overseas (*ibid*). Sharma (2006, 130) shows that while lower enterprise productivity caused by HIV/AIDS can push companies to relocate to countries less affected by the epidemic leading to a decrease in direct foreign investment; increases in unit labour costs will make the comparative advantage of economies with high HIV/AIDS prevalence rates to increasingly be based on natural resources (see also Rao 2000b, 495).

Citing predictions based on studies conducted in Botswana, Sharma (2006, 125 & 128-129) shows that while HIV/AIDS lowers unemployment among

unskilled workers, shortage of skilled workers could cause skilled wages to rise - leading to a rise in capital-output ratio and factor-substitution away from labour. While HIV/AIDS can cause unemployment in households, in case of countries having high unemployment there may not be much impact. Incidentally, loss of workers and generation of orphans who by 2021 could represent up to 10 percent of the population of some African countries can put strain on economies that lack social safety nets, with the loss of skilled workers and entry of self-supporting orphaned children into the labour market lowering the average working age and skill level. Sharma also highlights that as fewer employees will reach retirement age, contributions to pensions and social security systems will decline thereby putting pressure on statutory and enterprise schemes, and increasing government burden due to rising expenditure on treatment, pension and death benefits. The same, coupled with declining tax revenues, can make governments have even fewer resources to invest in economic development.

According to Drummond and Kelly (2006, 3 & 10) for developed countries attention to HIV/AIDS goes beyond humanitarian motives. The potential collapse of economies worst hit by HIV/AIDS could deprive future markets of imports and exports. Incidentally, the already bad situation can deteriorate further in terms of costs on account of failed states, flow of refugees, disillusionment etc. The AIDS crisis in some nations is so large that international assistance can have unintended adverse effects. While because of the relatively small economic size of many affected countries sudden demand for medical supplies has even led to inflation in the health sector; when inflow of international aid makes up a large percentage of the poor country's GDP, the inflow can actually cause the exchange rate of the developing nation to appreciate, thereby increasing the costs to the national economy by making the developing nations' exports more expensive.

With regards to developing nations Drummond and Kelly (2006, 10-11) highlight the added straining of fiscal budgets due to HIV/AIDS. Weak governments, poor infrastructure, corruption, and the pre-existing high levels of poverty, illness and illiteracy limit the abilities of nations to face the AIDS crises through increased social spending via increased taxes. With AIDS devastating the younger working-age population and shrinking the tax base, governments divert spending from education, economic development and health/welfare programmes meant for future development, to manage an existing crisis. While HIV/AIDS can also come in the way of countries paying-off their international debt, inability to raise revenues and/or cut spending on development projects can make countries spend more than what they earn, besides relying on international loans/charity to

off-set the deficit.

Mawar et al (2005, 479) highlight how strong stigma comes in the way of seeking solutions to HIV/AIDS. Not getting the needful done can have strong short and long-run adverse economic implications. Discrimination by employers and co-workers can be economically harmful as it potentially excludes qualified/able workers from the labour force, unnecessarily increasing the burden on the social security system, and making those infected to change jobs unnecessarily (Medhini et al 2007a, 153 & 161). Incidentally, fear of stigma/discrimination can encourage individuals to ignore their HIV status, with denial being a natural ally of discrimination (Jain 2008, 11).

The overall impact of AIDS on the global population has not yet reached its peak - its demographic effects are likely to be felt in the second half of the 21st century. Current projections suggest that by 2015, in the 60 countries most affected by AIDS, the total population will be 115 million less than it would be in the absence of AIDS (UNAIDS 2006, 81). Earlier studies have shown while HIV/AIDS decreases life expectancy it is likely to increase child mortality rate (UNDP 1997, 67). According to United Nations (2003), life expectancy at birth has already fallen by more than 10 years in the most affected countries - those with adult HIV prevalence of 20 percent or more (as in Gaigbe-Togbe and Weinberger 2003, 24). In countries that are severely affected, HIV/AIDS is responsible for stopping or reversing the long-term decline in mortality which was being registered; with the population of seven most affected countries projected to be 35 percent lower than it would be in the absence of AIDS by 2025 (ibid). Gains achieved from child survival programmes being halted or reversed due to HIV can also be found in Rao (2000b, 494). In Uganda it has been estimated that there will be 2 million fewer people by 2010, 12 percent less than without HIV/AIDS (Dixit 2005, 106). Incidentally, studies like Bloom, Canning and Sevilla (2004); Bloom, Canning and Malaney (2000); and Mason (2002) show rise in output, labour productivity, per capita income and/or economic growth through improved life expectancy and/or low infant mortality (as in ADB 2004, 45).

Elizabeth Reid (2000b, 782-783) reiterates that HIV undermines national capacity to plan, manage and deliver in countries with high infection rates in urban areas. While initiatives of planners and agents of development get affected, economic growth and mechanisms for redistribution get undermined. Additionally, the epidemic besides reducing private/public savings, necessitates public interventions, and reduces productivity particularly of skilled and experienced personnel.

Medico-macroeconomic impacts of HIV/AIDS

HIV/AIDS epidemic is a health problem as well as a serious threat to national development. The impact of HIV/AIDS on health services is severe particularly in countries with mature epidemics. In some hospitals in Africa and South-East Asia, 40-70 percent beds are occupied by people with AIDS. A World Bank study has shown that a typical adult AIDS patient has 17 illness episodes requiring 280 days of care – with 20 percent being in hospital. Each AIDS case treated can cost about US\$ 290 in nursing and drug expenses alone (Rao 2000b, 494). Falleiro and Noronha (2011) in their study on HIV-positive people in the state of Goa, India, also record high number of illness episodes and days of hospitalisation per year, besides high medical expenses borne by respondents. In some Caribbean States while even 25 percent of the hospital beds are occupied by patients with HIV/AIDS, drugs used to treat people, including those with opportunistic infections [OIs] remain for most part unaffordable (see CARICOM). In Sub-Saharan Africa the direct medical costs of AIDS excluding antiretroviral therapy [ART] have been estimated at about US\$ 30 per year per infected person, at a time when overall public health spending was less than US\$ 10 per year for most African nations (UNAIDS 2002, as in Avert 2008). Likewise, an HIV test cost around US\$ 12 at a time when per capita health expenditures in Uganda were a mere \$3 per year (Cohen 2000, 185).

Though not directly pertaining to HIV/AIDS but to health in general, India lost \$8.7 billion in NI in 2005 alone due to chronic diseases, with the figure likely to rise to \$54 billion in 2015, i.e. about 1.27 percent of India's GDP (Bisserbe 2008, 6). While health problems can condition development, development affects health conditions both positively and negatively. Though development can contribute to the spread of HIV/AIDS through ways like urbanization and increased mobility of people; economic development nevertheless generates conditions needed to fight HIV/AIDS, by increasing financial resources, spreading public health systems and/or improving education (UNESCO/ESCAP 2004, 4).

ADB (2004, 46-47) highlights four key channels, all positive influences, through which health affects wealth and economic performance – the same are important to understand the economic impacts of AIDS whose key features include: large number of cases, costly treatment, and mortality that is concentrated among working-age adults:- i) health has positive effect on labour productivity [according to Weil (2001) health differentials account for 17 percent of the difference in worker productivity between countries, giving health roughly the same influence on productivity as physical capital and education]; ii) health has a positive

effect on education [an extra year of life expectancy is estimated to increase schooling levels by 0.25 years (Bils and Klenow 2000)]; iii] health has a positive effect on savings/capital accumulation [individuals tend to save more in anticipation of a long retirement, with savings being invested in infrastructure that are essential for economic prosperity]; iv] health has a positive influence on the country's age structure [improvements in health result in decline in the dependency burden].

Werker et al (2007, 3) highlight with supporting studies as cited that while microeconomic analyses demonstrates beyond reasonable doubt that improved health leads to improved economic outcomes at the individual level (Strauss and Thomas, 1998; Miguel and Kremer, 2004; Schultz 2002) there is less certainty about the impact of health at the macroeconomic level. Thus, while correlation between health and output [and growth] at the macro-level is accepted, debate remains whether there is causal relation between health and wealth, with the majority viewpoint being in the affirmative (Gallup and Sachs 2001; WHO 2001; Bloom and Canning 2005; Weil, 2005; Lorentzon et al 2005); though challenged by studies like Acemoglu and Johnson (2006) and Young (2005). Pertaining to the last two, while the first suggests that improving health may have a negative impact on GDP per capita, the latter indicates that the net impact of a health crisis may be positive.

On the issue of health, resources and effectiveness, Gupta and Panda (2002, 190-191) indicate that allocation of resources needs be decided by cost-effectiveness analysis and priorities, both within the health sector and within programmes in the health sector. Priority areas are often discussed in terms of burden of diseases [BOD] and not just mortality indicators in order to consider quality of life that is affected when disability or morbidity strikes an individual. The quality adjusted life years [QALYs] approach focuses on developing methods for measuring individual preferences for time spent in different health states for a particular intervention. The newer disability adjusted life years [DALYs] concept is more widely used in the BOD approach. It is based on an incidence perspective and provides an estimate of the number of years of life lost due to premature death and the number of years of life lived with a disability arising out of new cases of disease/injury (Murray and Lopez 1994, as in *ibid*). These two components yield the total DALYs lived due to disease/injury. Calculation of DALYs require data on duration of life lost to different diseases, the value of life lived at different ages, comparison of the time lived with a disability with the time lost due to mortality, and the time preference (Murray 1994, as in *ibid*). Based on its calculations of the BOD in India, the World Bank (1997b) estimates the trends in DALYs lost due to selected diseases in four Indian states and concludes that communicable diseases still predominate in terms

of disease burden especially in low age groups. A projection till 2020 based on alternative assumptions indicate that DALYs lost due to HIV in India are expected to rise significantly up to the year 2010, and decline thereafter (Gupta and Panda 2002, 191; Ramamurthy 2004, 234).

HIV/AIDS poses a challenge to the medical community (WHO 1995, 18). Though not the first chronic or fatal disease of young adults, in many countries such diseases were relatively invisible prior to AIDS. Economic analyses pose difficult questions about how 'benefit' is defined and how priorities are to be set in caring for this group of patients. Incidentally, attempts made to quantify the direct and indirect costs of AIDS on national economies in general and on health care systems in particular are difficult to compare since many of these are based on different assumptions and methodologies (Rao 2000b, 494).

Presently the burden has increased with the establishment of a link between HIV and tuberculosis [TB]. In the Caribbean, TB is the number one killer of PLWHA (CAREC/PAHO/WHO 2004, in UNAIDS 2006, 90). In many African countries as well as in Mumbai, TB has shown an increase of 100-200 percent attributed primarily to HIV. This situation is bound to dent the already scarce health-care resources. Incidentally, HIV infection impairs antimalarial immunity also (Mount et al 2004, in UNAIDS 2006, 90). In areas where malaria is endemic, HIV infection increases the risk that an individual over 5 years of age will become infected with malaria and experience malaria-related diseases. WHO estimated that high HIV prevalence in rural areas of Africa increased malaria incidence by 28 percent and more than doubled the malaria death toll (Korenromp 2005, in UNAIDS 2006, 90).

Schoub (1995) brings forth the ethical dimension to the cost and treatment of AIDS. He highlights the conflict of using scarce resources in the costly treatment of HIV/AIDS when there are other ailments also competing for the same. He shows US government spending disproportionately more on AIDS despite fewer deaths, as compared to spending on cancer and heart diseases having much higher death figures. Another ethical challenge is the inequality and misdistribution of health care resources between developed and developing nations as indicated by their relative expenditures on AIDS. Though 80 percent of all new AIDS cases occur in the Third World, about 92 percent of the global expenditure on AIDS takes place in the developed world. While the average cost of treatment for an AIDS patient in the developed world is \$32,000, it is only \$400 in Africa. The unequal distribution of resources for treatment/care/prevention of HIV/AIDS can also be found in WCC (2002, 66).

Akin to Schoub, Dugger (2009, 9), by quoting the UNICEF head on the debate whether richer nations are spending too much on AIDS which requires life-long medications compared to diarrhea and pneumonia [leading killers of children which need inexpensive treatment only] highlights how the attention has gone to more 'glamorous diseases' while basic ones like diarrhea are forgotten. In India also, resource allocation is greatly skewed in favour of HIV/AIDS primarily due to foreign funding for the National AIDS Control Programme [NACP] such that the allocation is almost the same as the combined allocation for the control of TB, leprosy, trachoma, blindness and iodine-deficiency disorders (Ramachandran and Rajalakshmi 2009, 23). Varma (2007, 5) highlights that it is time to focus on the silent killers like heart diseases/stroke and diabetes affecting a much larger section of population unlike AIDS which incidentally gets the bulk share of assistance; though according to the WHO Burden of Diseases estimates for the Indian subcontinent less than 10 percent of all deaths due to communicable diseases are on account of AIDS. Mukherjee (2007, 3) on a divergent note however mentions that there is no substance that AIDS gets excess resources at the expense of other diseases, for after all the total budget for NACP-3 at the then exchange rate was about \$500 per year - which translates to about \$1 per adult in the most vulnerable age group, with the allocation covering a variety of programmes.

Mead Over (2004, 311-312) shows how before 2001 the annual cost of a three-drug combination ART regimen for a patient in a poor country was approximately \$10,000-25,000. While only a few of the richest developing countries like Brazil and Thailand could attempt to finance ART for their AIDS patients, in most developing countries patients receiving ART were the very rich or those having access to rationed, low-price supplies through pilot/research projects; with the majority having little access to the same. Since 2001 however, while generic versions of ART have become available in poor countries at a cost of as little as \$150 a year, the countries are also finding new external sources of assistance for AIDS medication like the Global Fund for AIDS, Tuberculosis and Malaria; World Bank; WHO; besides national governments and private foundations (see also Medhini et al 2007a, 145). Incidentally, introduction of the third amendment in the Patents Act in 2005 allows for product patents for pharmaceutical products (ibid). The same can prevent generic companies from making innovations in the future. The possible rise in drug prices that could follow coupled with the fact that the HIV virus could get resistance to the current line of drugs can make the economic burden worse in the future (Mahal and Rao 2005, 583).

Though introduction of *highly active ART* [HAART] and availability of drugs

for OIs has led to a decline in HIV/AIDS mortality, interrelated factors determine access to essential drugs, including cost, supply management, drug selection, legislation/regulation, manufacturing constraints, and R&D decisions (Medhini et al 2007a, 139). With only 5 percent of the planned targets vis-à-vis *first-line* ART treatment being attained and with just about 10 percent of those who need are getting the same in India, successful provision of *second-line* drugs does not appear a near reality (ibid 110 & 570). Although *first-line* ART is available and relatively inexpensive at about Rs. 45 per day, for most Indians it is still costly and unaffordable, especially if one adds cost of travel, out-of-pocket expenses and need for frequent check-ups (ibid 109; Falleiro and Noronha 2011). In case of children it is far worse with ART often costing up to 10 times as much as that for adults (Medhini et al 2007a, 570).

Mead Over (2004, 315-318) highlights amongst others the effect of AIDS on demand and supply for care before ART was available. He shows that even as it increases the demand for care, the AIDS epidemic will reduce the supply available at a given price in three ways, with the magnitude of the effects being larger on poorer country's and where the epidemic is more severe/widespread: i] increased cost of maintaining a given level of safety for medical procedures; ii] increased attrition/absenteeism of health-care workers who get infected with HIV; iii] additional pay health-care workers demand to compensate for increased risk of infection. Increased demand and reduced supply have two related impacts: while health-care becomes scarcer and more expensive with national health-care expenditure rising; the size of impacts depends partly on the elasticities of demand for and supply of care.

CONCLUSION ...THE WAY FORWARD

The review brings some distinct macroeconomic impacts of HIV/AIDS on economies, developed and developing, showing how the epidemic has been a major humanitarian and developmental crisis. To put things in perspective, the macroeconomic fallouts themselves have shown the urgent need for intervention; things only get more complex and difficult if one considers alongside the micro and sectoral-level economic fallouts, both of which were not part of the scope of the present paper. The review has shown that though things may not be as bad as predicted at least on certain fronts the fallouts nevertheless are serious and a sure cause for concern, particularly for developing countries having high HIV prevalence.

Considering the magnitude of the economic fallouts of HIV/AIDS and the

existence of market failures vis-à-vis HIV-prevention, government intervention is a must for the purpose of 'redressal' (see Israni 2001). According to Israni effectiveness of public programmes should be measured as difference between outcomes with and without the programme. HIV/AIDS prevention interventions have additional positive effects that get overlooked if cost effectiveness calculations consider only the impact on HIV/AIDS. Interventions at the nascent stage are more effective and likely to involve far less total cost than if implemented after HIV has saturated sub-populations with high risk behaviour.

Ideally any intervention, be it for government or others like NGOs, has to be selected on the basis of cost-effectiveness, especially for developing countries where resources are scarce (Gupta and Panda 2002, 190). Cost-effectiveness analysis requires attention be paid to aspects like indirect benefits to others besides those directly affected, indirect benefits in other ways to the same individuals, and having a societal perspective rather than a health-provider perspective (World Bank 1997a). A guiding principle is the avoidance of the 'crowding-out' effect; there should be an overall net gain rather than replacement in efforts to control/prevent HIV/AIDS and alleviate its impact. It has been recognized by donors like World Bank that involving others and not just the government can improve cost-effectiveness since each has its own comparative advantage (*ibid*), thereby making up for lack of skills and saving on scarce resources (in Gupta and Panda 2002, 190).

The best preventive measure to tackle the fallouts of HIV/AIDS is controlling the spread/transmission of HIV through initiatives centering on education. 'Education vaccine' can indeed be the cheapest and yet the priceless option, or protective barrier, for preventing the spread of HIV/AIDS (Pradhan et al 2006, 99; see also Falleiro 2011; 2010). According to World Bank reports \$1 invested in prevention is equal to about \$67 saved on care and support (HRLN 2008, 34). Marseille et al (2002) provide the cost of averting a single case of AIDS in Kenya as \$8-12 (in Bell et al 2004, 123). Though cheap, given the nature of the disease and of people, this is an annual recurring expenditure. Choosing a bundle of diverse preventive measures the cost per DALY saved is estimated at \$12.50. At the other end of the range much of the expenditure is incurred to treat those with the disease. Such treatment covers OIs and ART. These measures besides keeping infected individuals healthier can extend lives, thereby raising lifetime family income and improving parental care (Bell et al 2004, 124). Marseille et al (2002) put the cost of saving one DALY by these means at \$395 with the assumption that the drugs are low cost generics and that the costs of technical and human infrastructure needed to support an effective HAART regimen can be ignored (as in Bell et al 2004, 124).

Albert and Williams (1998) who reveal that the *economic burden of HIV/AIDS is significant* because the number of cases are rising, infected people are living longer, and new therapies are expensive, reiterate that there will be savings if movement takes place from a *status quo* situation to more effective epidemic control; with there being instead a massive rise in costs if the epidemic shifts from the *status quo* to becoming uncontrolled. They also highlight that *while* to the extent new therapies permit PLWHA to return to normal patterns of living, with the economic burden in terms of lost productivity and participation in society being reduced, and with savings in indirect costs covering the increased costs of treatment; there is a strong economic incentive for investment in HIV prevention and education.

In fine, to encapsulate the present review as in ADB (2004, viii): i] HIV/AIDS is likely to spread at a modest rate in Asia as compared to Sub-Saharan Africa, with general prevalence levels above 5 percent being unlikely; ii] despite the modest rate the epidemic is to have a negative impact on Asia's economic development; and iii] spending on HIV prevention and AIDS care is justified by the high economic returns that can be expected to flow from such spending.



Notes

1. An event beyond the scope of any single society to cope with.
2. However, there were factors that could potentially confound the results, particularly considering that the study was undertaken at a time when HIV prevalence rates were too low, and that it did not consider longitudinal data (as in Mahal and Rao 2005, 592).
3. Paradoxically, AIDS could increase fertility due to precautionary demand for children (Kalemli-Ozcan 2006) in response to a higher expected mortality per child, if women reduce breast-feeding to prevent MTCT, or if women reduce post-partum abstinence to discourage husbands from extra-marital sex that increase HIV risk (Ntozi 2001) [in Werker et al (2007, 19)].
4. In case of India by 23 percent.

References

- Acemoglu, Daron, and Simon Johnson (2006). Disease and development: The effect of life expectancy on economic growth. *Mimeo*. Cambridge, MA: MIT.
- ADB (2004). *Asia's economies and the challenge of AIDS*. Asian Development Bank <http://www.adb.org/Documents/Books/Asia-AIDS/> [accessed July 2008]
- Albert, Terry and Gregory Williams [with collaboration of B. Legowski and R. Remis] (1998). *The economic burden of HIV/AIDS in Canada*. CPRN Study No. H1021. Ottawa: Renouf Publishing Co. Ltd. http://www.cprn.com/documents/18422_en.pdf [accessed August 2008]
- Anand, K., C.S. Pandav and L.M. Nath (1999). Impact of HIV/AIDS on the national economy of India. *Health Policy*, 47: 195-205.
- Arndt, Channing and Jeffrey D. Lewis (2000). *The macro implications of HIV/AIDS in South Africa*. *Africa Region Working Paper Series*, No. 9. Washington DC: The World Bank.
- Avert (2008). <http://www.avert.org/aidsimpact.htm> [accessed May 2008]
- Barnett, Tony and Alan Whiteside (2000a). *Guidelines for studies of the social and economic impact of HIV/AIDS*. Geneva: UNAIDS.
- (2000b). *The social and economic impact of HIV/AIDS in poor countries: A review of studies and lessons*. Geneva: UNAIDS www.iaen.org/impact/unaidsimpact.htm [accessed July 2008]
- Bell, Clive, Shantayanan Devarajan and Hans Gersbach (2003). *The long-run economic costs of AIDS: Theory and an application to South Africa*. Washington DC: World Bank http://www1.worldbank.org/hiv_aids/docs/BeDeGe_BP_totla2.pdf, [accessed June 2003]
- (2004). Thinking about the long-run economic costs of AIDS. In Markus Haacker (ed.) *The macroeconomics of HIV/AIDS* (pp 96-133). Washington DC: International Monetary Fund. <http://www.imf.org/external/pubs/ft/AIDS/eng/> [accessed July 2008]
- Bertozzi, Stefano, Marjorie Opuni and Juan-Pablo Gutiérrez (2001). *The Economic impacts of HIV/AIDS*. http://ipsnews.net/aids/page_5.shtml [accessed August 2007].
- Bhargava, A., D. Jamison, L. Lau and C. Murray (2001). Modeling the effects of health on economic growth. *J Health Econ.* 20: 423-40.
- Bils, M. and P. Klenow (2000). Does schooling cause growth? *American Economic Review* 90:160-183

- Bisserbe, Noemie (2008). Corporate India wakes up to health risks. *The Economic Times*. 12/02.
- Bloom, David and David Canning (2005). *Health and economic growth: Reconciling the micro and macro evidence*. Freeman Spogli Institute for International Economics Working Paper Series [February]
- Bloom, David E., David Canning, and Pia Malaney (2000). Demographic change and economic growth in East Asia. *Population and Development Review* 26: 257-290.
- Bloom, David, David Canning and Jaypee Sevilla (2004). The Effect of Health on Economic Growth: A Production Function Approach. *World Development*. January: 1-13.
- (2001). The effect of health on economic growth: Theory and evidence. Working paper #8587. Cambridge, MA: National Bureau of Economic Research.
- Bloom, David and Ajay Mahal (1997). Does the AIDS epidemic threaten economic growth? *Journal of Econometrics*. 77(1): 105-124 [Mar].
- Bloom, David E., River Path Associates and Jaypee Sevilla (2001a). Health, wealth, AIDS and poverty. *HIV/AIDS and Development in the Asia Pacific Ministerial Conference*. The Australian Government Overseas AIDS Program.
http://www.ausaid.gov.au/publications/pdf/health_wealth_poverty.pdf [accessed Sept. 2008]
- Bloom, D., A. Mahal, J. Sevilla and RP Associates (2001b). AIDS and economics. Draft. Boston, MA: Harvard School of Public Health, Department of Population and International Health.
- Bonnel, René (2000). HIV/AIDS: Does it increase or decrease growth in Africa? Mimeo. Washington DC: World Bank.
- CAREC/PAHO/WHO (2004). *Status and trends analysis of the Caribbean HIV/AIDS epidemic 1982-2002*. Port of Spain, Caribbean Epidemiology Centre, Pan American Health Organization, World Health Organization.
- CARICOM. *Model Caricom Youth Summit: HIV/AIDS in the Caribbean*. Caribbean Community Secretariat. http://www.caricom.org/jsp/community_organs/aids.jsp?menu=cob [accessed Feb. 2008]
- Cohen, Desmond (2000). The HIV/AIDS epidemic in Uganda: A programme approach. In D.B. Rao (ed.) *HIV/AIDS: Issues and challenges - Part I* (pp 168-216). New Delhi: Discovery Publishing House.
- Cuddington, J.T. (1993). Modeling the macroeconomic effects of AIDS, with an application to Tanzania. *World Bank Economic Review*. 7: 173-189.

- Cuddington, J. and J. Hancock (1994). Assessing the impact of AIDS on the growth path of the Malawian economy. *J Dev Econ.* 43:363-8.
- Dixon, Simon, Simon McDonald and Jennifer Roberts (2001). AIDS/HIV and development in Africa. *Journal of International Development.* 13: 411-426.
- Dixit, A.P. (ed.) (2005). *Global HIV/AIDS trends*. Delhi: Vista International Publishing House.
- Dorward, A.R and I.M.Mwale (2004). Labor market and wage impacts of HIV/AIDS in rural Malawi. In *The macroeconomics of HIV/AIDS* Washington DC: International Monetary Fund.
- Drummond, Don and Richard Kelly (2006). The economic cost of AIDS: A clear case for action. *TD Economics – Special Report*; TD Bank Financial Group www.td.com/economics [accessed June 2008]
- Dugger, Celia W. (2009). Aid for child illnesses stalls amid focus on AIDS fight. *The Hindu*. 31/10
- Falleiro, Savio (2011). Education vaccine: the priceless option towards HIV prevention. *GYANA*. Vol. VI (1): 1-13 [February]
- (2010). Sex education in times of HIV/AIDS. *Goa Today*. Vol. XLV (1): 72-74 [August]
- Falleiro, Savio P. and S.M. Noronha (2011). Newer perspectives on the burden of HIV/AIDS on medical expenditures of individuals and households. *Journal of Health Management.* 13(3): 301-338.
- Foulkes, Imogen (2008). *Aids epidemic - a global disaster*. <http://news.bbc.co.uk/2/hi/health/7474600.stm> [accessed February 2011]
- Gaigbe-Togbe, Victor, and Mary Beth Weinberger (2003). The social and economic implications of HIV/AIDS. *African Population Studies Supplement B to vol 19*; United Nations - New York: Population Division, Department of Economic and Social Affairs. <https://tspace.library.utoronto.ca/bitstream/1807/5825/1/ep04034.pdf> [accessed Aug 2008]
- Gallup, John Luke and Jeffrey D. Sachs (2001). The economic burden of malaria. *American Journal of Tropical Medicine and Hygiene* 64(1,2) S, 85-96.
- Greener, Robert (2004). The impact of HIV on poverty and inequality. In Markus Haacker (ed.) *The macroeconomics of AIDS and poverty*. Washington DC: IMF.
- GSACS (2010). *HIV/AIDS in Goa*. <http://goasacs.nic.in/goa-HIV-data2010.pdf> [accessed Jan. 2010]
- Gupta, Indrani and Samiran Panda (2002). The HIV/AIDS epidemic in India: Looking ahead. In Samiran Panda, Anindya Chatterjee and Abu S. Abdul-

- Quader (eds.) *Living with the AIDS virus: The epidemic and the response in India* (pp 179-196). New Delhi: Sage Publications.
- Haacker, Markus (2002). The economic consequences of HIV/AIDS in Southern Africa. *IMF Working Paper* 02/38. Washington, DC: IMF.
- HRLN (2008). *A judicial colloquium – HIV/AIDS and the law*. New Delhi: Human Rights Law Network.
- IMF (2005). *The IMF's role in the fight against HIV/AIDS: A factsheet*. September 2005. International Monetary Fund.
- Israni, A.S. (2001). *HIV/AIDS and STD: An information manual*. New Delhi: Commonwealth Publishers.
- Jain, Dipika (2008). *Against mandatory pre-marital HIV testing in India*. New Delhi: HRLN.
- Kadiyala, Suneetha, and Tony Barnett (2004). AIDS in India: Disaster in the making, *Economic and Political Weekly*. May 8: 1888-1892.
- Kalemli-Ozcan, Sebnem (2006). AIDS, reversal of the demographic transition and economic development: Evidence from Africa. *NBER working paper No. 12181* [May].
- Korenromp, E.L. (2005). Malaria attributable to the HIV-1 epidemic, sub-Saharan Africa. *Emerging Infectious Diseases*. 11(9):1410-9.
- Lorentzon, Peter, John McMillan and Romain Wacziarg (2005). Death and development. *NBER working paper No. 11620* [September]
- MacFarlan, M. and S. Sgherri (2001). The macroeconomic impact of HIV/AIDS in Botswana. *Working paper #WP/01/80*. Washington D.C: International Monetary Fund.
- Mahal, Ajay (2004). Economic implications of inertia on HIV/AIDS and benefits of action. *Economic and Political Weekly*. March 6: 1049-1063.
- Mahal, Ajay and Bhargavi Rao (2005). HIV/AIDS epidemic in India: An economic perspective. *Indian J Med Res* 121 [April]: 582-600.
- Marseille, E., P.B. Hoffman, and J.G. Kahn (2002). HIV prevention before HAART in Sub-Saharan Africa. *The Lancet*, Vol. 359, No. 9320: 1851-56.
- Mason, Andrew (2002). Population and human resource trends and challenges. *Key Indicators of Developing Asian and Pacific Countries 2002*, Vol. XXXIII. Manila: Asian Development Bank.
- Mawar, Nita, S. Sahay, A. Pandit and U. Mahajan (2005). The third phase of HIV pandemic: Social consequences of HIV/AIDS stigma & discrimination & future needs. *Indian J Med Res* 122: 471-484 [December]
- McDonald, Scott and Jennifer Roberts (2006). AIDS and economic growth: A human capital approach. *Journal of Development Economics*. 80: 228-250.

- Medhini, Laya, Dipika Jain and Colin Gonsalves (eds.) (2007a). *HIV/AIDS and the law – Volume I*. New Delhi: Human Rights Law Network.
- (2007b). *HIV/AIDS and the law – Volume II*. New Delhi: Human Rights Law Network.
- Miguel, Edward and Michael Kremer (2004). Worms: Identifying impacts on education and health in the presence of treatment externalities. *Econometrica*, Vol. 72, Issue 1: 159-217.
- Mount, A.M. et al. (2004). Impairment of humoral immunity to plasmodium falciparum malaria in pregnancy by HIV infection. *Lancet*, 363(9424):1860-7.
- Mukherjee, Anit (2007). The economics of AIDS numbers. *The Economic Times*, 01/12.
- Murray, C.J.L. (1994). Quantifying the burden of disease: The technical basis for disability-adjusted life years. In C.J.L. Murray and A.D. Lopez (eds.) *Global comparative assessments in the health sector: Disease burden, expenditures and intervention packages*. Geneva: WHO.
- Murray, C.J.L. and A.D. Lopez (eds.) (1994). *Global comparative assessments in the health sector: Disease burden, expenditures and intervention packages*. Geneva: WHO.
- NACO (2003). *National baseline general population behavioral surveillance survey*. New Delhi: National AIDS Control Organisation.
- Ntozi, James, P.M. (2001). *Impact of HIV/AIDS on fertility in Sub-Saharan Africa*. United Nations Economic and Social Council. 28/07.
- Ojha, Vijay P. and Basanta K. Pradhan (2006). *The macroeconomic and sectoral impacts of HIV and AIDS in India: A CGE analysis*. New Delhi: NACO, NCAER, UNDP.
- Over, Mead (2004). Impact of the HIV/AIDS epidemic on the health sectors of developing countries. In Markus Haacker (ed.) *The macro economics of HIV/AIDS*. Chp. 10: 311-344. IMF.
- Papageorgiou, Chirs and Petia Stoytcheva (2005). What do we know about the impact of AIDS on cross-country income so far? *Department of Economics Working Paper Series, 2005-01*. Baton Rouge, LA: Louisiana State University.
- Pandav, C S, K. Anand, B.R. Shamanna, S. Chowdhury and L.M. Nath (1997). Economic consequences of HIV/AIDS in India. *The National Medical Journal of India* 10(1):27-30.
- Piot, P., R. Greener and S. Russell (2007). Squaring the circle: AIDS, poverty and human development. *PLoS Med* 4:e314.
- Pradhan, B.K., R. Sundar and S.K. Singh (2006). *Socio-economic impact of HIV and AIDS in India*. New Delhi: NACO, NCAER and UNDP.

- Ramachandran, R. and T.K. Rajalakshmi (2009). Unhealthy trend. *Frontline*. (pp 21-25) 10/04.
- Ramamurthy, V. (2004). *Strategic approaches to HIV and AIDS prevention and control*. New Delhi: Authors Press.
- Rao, Digumarti Bhaskara (ed.) (2000a). *HIV/AIDS: Issues and challenges – Part I*. New Delhi: Discovery Publishing House.
- (2000b). *HIV/AIDS: Issues and Challenges – Part II*. New Delhi: Discovery Publishing House
- Reid, Elizabeth (2000a). The HIV epidemic as a development issue. In D.B. Rao (ed.) *HIV/AIDS: Issues and challenges – Part I*. (pp 18-25) New Delhi: Discovery Publishing House.
- (2000b). Challenges for UNDP in a changing world 1990-2000: Social trends. In D.B. Rao (ed.) *HIV/AIDS: Issues and Challenges – Part II* (pp 778-785) New Delhi: Discovery Publishing House.
- Salinas, Gonzalo and Markus Haacker (2006). HIV/AIDS: The impact on poverty and inequality. *IMF Working Paper 06/126*. Washington DC: IMF.
- Schoub, Barry D. (1995). *AIDS and HIV in perspective*. Great Britain: Cambridge University Press.
- Schultz, T. Paul (2002). Wage gains associated with height as a form of health human capital. *The American Economic Review*, 92(2): 349-353 [May].
- Sharma, Savita (2006). *HIV/AIDS and you*. New Delhi: APH Publishing Corporation.
- Sharma, S.N. and Amitabh Baxi (2007). Crippling corporate. *The Economic Times*. 12/08.
- Strauss, John and Duncan Thomas (1998). Health, nutrition, and economic development. *Journal of Economic Literature*, Vol. XXXVI: 766-817 [June].
- UNAIDS (2010). *Global report: UNAIDS report on the global AIDS epidemic 2010* http://www.unaids.org/globalreport/Global_report.htm [accessed January 2011]
- (2008). *Report on the global AIDS epidemic*. Geneva: UNAIDS <http://www.unaids.org/en/KnowledgeCentre/HIVData/GlobalReport/2008/> [accessed Aug'08]
- (2006). *Report on the global AIDS epidemic*. Geneva: UNAIDS http://www.unaids.org/en/HIV_data/2006GlobalReport/default.asp [accessed Aug.2008]
- (2005). *UNAIDS Questions & Answers*, November. http://www.unaids.org/epi/2005/doc/docs/en/QA_PartI_en_Nov05.p

- df#search=%22aids
%20growth%200.5%204%20Africa%20site%3Aunaid.org%22 [accessed
Oct. 2006]
- (2002). *Report on the global AIDS epidemic*. New York.
- UNAIDS/World Bank (2001). *AIDS, poverty reduction and debt relief: A toolkit for mainstreaming HIV/AIDS programmes into development instruments*.
http://data.unaids.org/Publications/IRCpub02/JC536Toolkit_en.pdf#search=percent22Worldpercent20Bankpercent202001percent20AIDSpercent20Povertypercent20Toolpercent20Kitpercent22 [accessed September 2008]
- UNDP (2005). *Human development report - International cooperation at a crossroads: Aid, trade and security in an unequal world*. New York.
<http://hdr.undp.org/reports/global/2005/>
- (2003). *HIV/AIDS results*. <http://www.undp.org/hiv/publications/> [accessed October 2008]
- (1997). *Human development report*. New York: Oxford University Press.
- UNESCO/ESCAP (2004). United Nations Economic and Social Council / Economic and Social Commission for Asia and the Pacific. Subcommittee on Poverty Reduction Practices; First session; 30 June-2 July; Bangkok
- United Nations (2003). *World population prospects: The 2002 revision*.
- Varma, Subodh (2007). Time to focus on the silent killers. *Sunday Times of India* 02/12.
- WCC (2002). *Facing Aids*. Study Document. Geneva: WCC Publications.
- Weil, D. (2001). Accounting for the effect of health on economic growth. *Mimeo*. Brown University.
- (2005). Accounting for the effect of health on growth. *NBER working paper* 11455 [July].
- Werker, Eric, A. Ahuja and B. Wendell (2007). Male circumcision and AIDS: The macroeconomic impact of a health crisis. *Working paper*. USA [Harvard Business School / Lehman Brothers]
- Whiteside, A. (2002). Poverty and HIV/AIDS in Africa. *Third World Quarterly*, Special Issue, Global Health and Governance; Vol.23 (2): 313-332.
- WHO (2001). *Macroeconomics and health: Investing in health for economic development*. World Health Organisation. <http://www3.who.int/whosis/cmh>.
- (1995). *Global programme on AIDS: 1992-1993 progress report*. Geneva: World Health Organization.
- World Bank (1997a). *Confronting AIDS: Public priorities in a global epidemic*. Oxford

University Press.

- (1997b). *India: New dimensions in health sector development at the state level - An operational perspective*. Report No. 15753-IN.
- Young, Alwyn (2004). The gift of the dying: The tragedy of AIDS and the welfare of future African generations. *Draft*. Chicago, IL: University of Chicago, School of Business.
- (2005). The gift of the dying: The tragedy of AIDS and the welfare of future African generations. *Quarterly Journal of Economics*. 120: 243-266 [May]

TRENDS IN TIME SERIES

Mr. Ignatius Fernandez
Assistant Professor, Department of Mathematics

ABSTRACT

Even though the trend components of economic time series were among the first to be distinguished, even today the trend remains relatively little understood. As Phillips (2005) notes, no one understands trends, but everyone sees them in the data. Economists give plenty of examples of trends, such as straight lines, exponentials or polynomials in time, and also forms of random walks. But these are merely examples. Individuals or groups do have their own personal definitions, but these diverse approaches illustrate the lack of a generally accepted definition of a trend. This paper presents a variety of observations about trends which can be used as working definitions of various kinds. These definitions which could facilitate development of increasingly better methods for prediction, estimation and hypothesis testing for non-stationary time-series data, would also enable decision makers to make more informed decisions.

Keywords: Time series; Trends; Stochastic trends; Forecasting

1. INTRODUCTION

The trend components of economic time series were possibly the first to be distinguished and one of the first to be analyzed. Smith (1925) gives an early discussion of the appropriate treatment of these. However, even today the trend remains relatively little understood. For example, consider the series depicted in Figure 1; though many will agree that these series exhibit trends, even if there was agreement on this, one could well expect a divergence of opinion.

Although individually we seem able to single out a trend in a series, there is no generally accepted definition. A good literature survey will give plenty of examples of trends, such as straight lines, exponentials or polynomials in time, and also forms of random walks, but these are merely examples.

Sometimes, some individuals or groups do have their own personal definition. Each personal definition will produce a test for a trend, along with estimation procedures and forecasting methods. Anderson (1971) called trend to be

a slowly moving function of time which is exemplified by a polynomial of fairly low degree. The author presented statistical tools which are widely used for analysis of time series. White and Granger (2011) discussed the need for working definitions of trend that can be used for better methods of prediction. Stock and Watson (1988) presented the idea of co-trending which can be expanded to accommodate series that have deterministic and stochastic trend components. An effective method for forecasting with possible breaks in the forecast horizon has been given by Pesaran et al (2006). Hodrick and Prescott (1997) presented the Hodrick-Prescott filter, which is one of the most popular methods of trend removal in macroeconomics. This method was originally proposed by Leser (1961). Crafts and Mills (1996) advocated the use of double differencing of the original data to get a well behaved series that could be modeled by a low-order auto regression. Harvey (1981; 1989) presented a general class of models that can impart stochastic trends.

These diverse approaches illustrate not just the lack of a generally accepted definition, but also the richness of alternatives to consider, both individually and jointly. This paper presents a variety of observations about trends, some of which can be used as working definitions of various kinds of trends.

2. WHAT DOES A TREND LOOK LIKE?

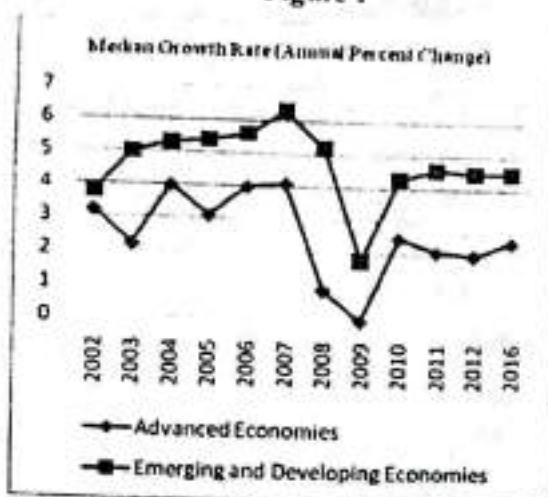
When we plot some time series data it is often possible to 'see' a trend. Nevertheless, these sightings do not provide a definition, but can merely provide some examples. Even if they cannot define a trend, most believe they will know one when they see it. It is encouraging that in most instances, others will agree with the characterization. If one person "sees" a trend in a series then others are inclined to also see a trend, even if they have their own criteria for a trend. However, this agreement is not perfect.

In general, a 'trend' should have the following properties:

- it should have a direction, that is, it should generally be higher at one end of the series than the other, so that it will seem generally to increase or decrease throughout.
- it should be somewhat smooth (although there may be an unsmooth component).

A trend needs to be monotonic throughout. Figure 2 illustrates these basic properties.

Figure 1



Source: International Monetary Fund

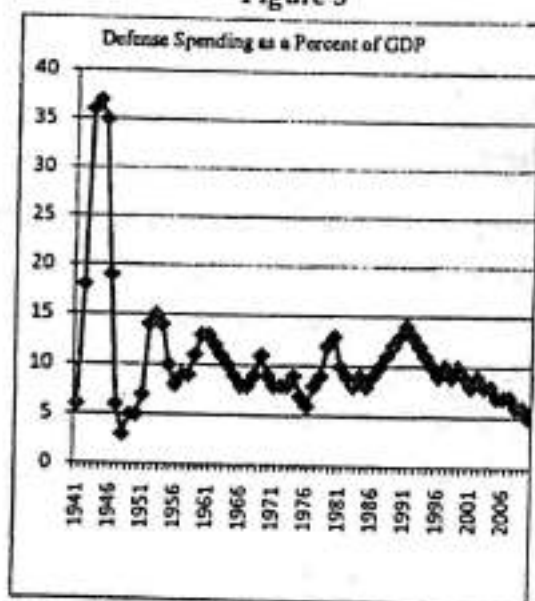
Figure 2



Source: International Monetary Fund

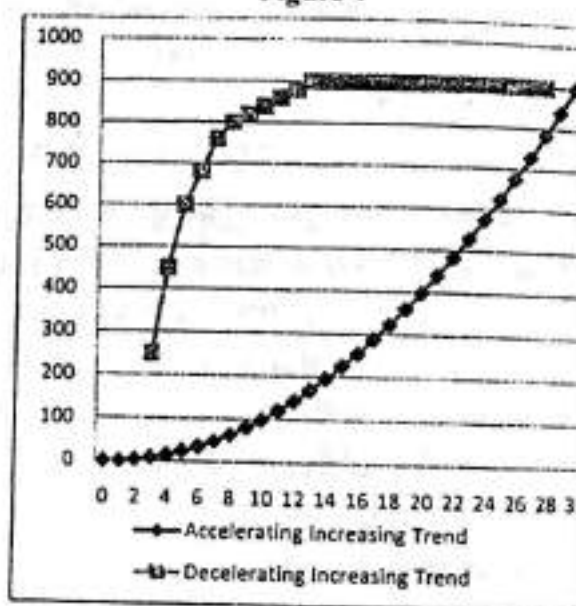
These observed trends all relate to a particular section of data. If we look at a longer period, the trend may be less clear. Consider, for example, Figure 3.

Figure 3



Source: Office of Management and Budget

Figure 4



3. A BRIEF HISTORY OF TRENDS

The word 'trend' in English was developed in the early 17th century, coming from the word 'tenden', which is an older word for 'turn'. The meaning of a trend relates to the general direction of a curve, such as on an anchor or to a topographical boundary such as a stream, coastline or mountain. By the mid-1860's, it had acquired its meaning as a general course, tendency or drift.

4. SOME TREND DEFINITIONS

4.1 Deterministic trends

Let $\{a_t\} = \{a_t : t = 0, 1, 2, \dots\}$ be a sequence of real numbers.

Definition 1: If $a_t < a_{t+1}$ for all t , then $\{a_t\}$ is an increasing trend. If $\{-a_t\}$ is an increasing trend, then $\{a_t\}$ is a decreasing trend. Equivalently, the difference $\Delta a_t = a_t - a_{t-1}$ is positive for all $t \geq 1$. We thus identify trends with strictly monotone sequences. These either converge or diverge to infinity.

Example 1: (i) Let $a_t = c + bt$. If $b > 0$, then $\{a_t\}$ is an increasing trend. If $b < 0$, then $\{a_t\}$ is a decreasing trend. If $b = 0$, then $\{a_t\}$ is not a trend. Whenever $b \neq 0$, then $\{a_t\}$ is a linear trend. (ii) Let $a_t = \exp(bt)$. If $b > 0$, then $\{a_t\}$ is an increasing trend. If $b < 0$, then $\{a_t\}$ is a decreasing trend. If $b = 0$, then $\{a_t\}$ is not a trend. Whenever $b \neq 0$, then $\{a_t\}$ is an exponential trend.

Definition 2: If $a_t \leq a_{t+1}$ for all t and there exists a countable subsequence $\{a_{t_i}\}$ such that $\{a_{t_i}\}$ is an increasing trend, then $\{a_t\}$ is a weak increasing trend. If $\{-a_t\}$ is a weak increasing trend, then $\{a_t\}$ is a weak decreasing trend.

Example 2: Let a_t be a_{t-1} for odd t , $a_{t-1} + b$ for even t . If $b > 0$, then $\{a_t\}$ is a weak increasing trend. If $b < 0$, then $\{a_t\}$ is a weak decreasing trend. If $b \neq 0$, then $\{a_t\}$ is not a weak trend.

Definition 3: If $\{a_t\}$ is an increasing trend and $\{\Delta a_t\}$ is neither an increasing nor decreasing weak trend, then $\{a_t\}$ is a steady increasing trend. If $\{-a_t\}$ is a steady increasing trend, then $\{a_t\}$ is a steady decreasing trend.

Example 3: (i) An increasing linear trend is a steady increasing trend. (ii) A steady increasing trend is not necessarily a linear trend. Let $a_t = a_{t-1} + b$ if t is odd, and let $a_t = a_{t-1} + 2b$ if t is even, where $b > 0$. Then $\{a_t\}$ is a steady increasing trend, but not a linear trend. (iii) Let $a_t = bt^2$, $b > 0$. Then $\{a_t\}$ is not a steady increasing trend.

Definition 4: If $\{a_t\}$ is an increasing trend and $\{\Delta a_t\}$ is a weak increasing trend, then $\{a_t\}$ is an accelerating increasing trend. If $\{a_t\}$ is an increasing trend and $\{\Delta a_t\}$ is a weak decreasing trend, then $\{a_t\}$ is a decelerating increasing trend.

Example 4: (i) Let $a_t = bt^2$; $b > 0$. Then $\{a_t\}$ is an accelerating increasing trend. (ii) Let $a_t = \frac{1}{1 + \exp(-t)}$. Then $\{a_t\}$ is a decelerating increasing trend.

As is apparent from Figure 4, even though a series may formally be a trend, it may be difficult to distinguish it from a constant or non-trending series when the trend is slight. One might then distinguish a formal trend from an "empirical" trend, i.e., one whose magnitude is sufficient to separate empirically. This suggests that having measures of the magnitude of a trend may be helpful in describing trend properties. Different measures of magnitude will be appropriate, depending on the nature of the trend. For example, the magnitude of a linear trend can be measured by the slope coefficient, b .

Some sequences become trends only after some initial interval. If we replace "for all t " with "for all t sufficiently large" in Definition 1, we have eventually increasing or decreasing trends. Thus, $a_t = bt(t-6)$, $b > 0$ is neither an increasing nor a decreasing trend, but it is an eventually increasing trend. Polynomial sequences

$$a_t = \sum_{k=0}^p b_k t^k \quad t = 0, 1, \dots$$

with unrestricted real coefficients b_k are generally neither increasing nor decreasing trends. Instead, they are eventually increasing or decreasing trends, depending on whether $b_p > 0$ or $b_p < 0$. We call such sequences polynomial trends.

Definition 5: Let t_1, t_2 be integers such that $0 \leq t_1 < t_2 < \infty$. If $a_t < a_{t+1}$ for all $t_1 \leq t \leq t_2$; then $\{a_t\}$ is an increasing local trend on $[t_1, t_2]$. If $\{-a_t\}$ is an increasing local trend on $[t_1, t_2]$, then $\{a_t\}$ is a decreasing local trend on $[t_1, t_2]$.

4.2 Stochastic trends

In economics, almost all observed trends involve stochastic behavior and purely deterministic trends are rare. However, deterministic trend components may be

present. A natural way to define stochastic trends is to relate the moments or other aspects of a stochastic process to various deterministic trends. Let $\{X_t\}$ be a stochastic process, i.e., a sequence of random variables. These may be determined as a function of some other underlying random series $\{Y_t\}$; such as $X_t = \ln(Y_t)$.

Definition 6: (i) Let $a_t = E(X_t)$. If $\{a_t\}$ is a (weak) increasing trend, $\{X_t\}$ has a (weak) increasing trend in mean. (ii) Let $a_t = Var(X_t)$. If $\{a_t\}$ is a (weak) increasing trend, $\{X_t\}$ has a (weak) increasing trend in variance. (iii) Let $a_t = E([X_t - E(X_t)]^k)$ for finite positive integer k . If $\{a_t\}$ is a (weak) increasing trend, $\{X_t\}$ has a (weak) increasing trend in k th central moment. (iv) Let $a_t = E([X_t - E(X_t)]^k)$ for finite positive real k . If $\{a_t\}$ is a (weak) increasing trend, $\{X_t\}$ has a (weak) increasing trend in k th absolute central moment. When the stochastic process $\{X_t\}$ has trend in mean or in some other particular aspect of its distribution, then we call it a "stochastic trend". A stochastic trend can have several trending aspects. For example, a given stochastic trend can have trends not only in mean, but also in variance, skewness and kurtosis. One way to describe stochastic trends is in terms of quantiles. Let $\theta \in (0,1)$. The corresponding quantile $q_{\theta,t}$ is defined as $q_{\theta,t} = \inf \{x : F_t(x) \leq \theta\}$; where F_t is the cumulative distribution function (CDF) of X_t ; $F_t(x) = P[X_t \leq x]$.

5. SOME INDIRECT APPROACHES

A common question that is asked, "Would it perhaps be better to define a time series without a trend rather than defining trends?" In one sense, the two approaches are equivalent. But we find it easier to describe what a trend is than what is not. Also, some definitions of non-trends can run into difficulties. For example, suppose we say a non-trend is a stationary process [Harvey (1989) defines a stochastic trend as a non-stationary process]. But then the random walk $X_t = X_{t-1} + \varepsilon_t, t = 0, \pm 1, \pm 2, \dots$; becomes a non-trend when $\{\varepsilon_t\}$ is strictly stationary, as this implies $\{X_t\}$ is strictly stationary.

Alternatively, a trend is usually defined as "that which trend filters remove". In recent times, the Hodrick-Prescott (HP) filter, originally proposed by Leser (1961), is one of the most popular methods of trend removal in macroeconomics. The HP filter defines a trend as a suitably smooth deterministic function of time, determined by a smoothing parameter that can either be specified or estimated. This is an empirically valuable indirect approach to defining trends. However, we find it easier to work with a direct approach.

6. TESTING FOR TRENDS

The most obvious property of a data series that is thought to contain a deterministic trend is that it will be higher at one end than the other. Thus, one component of that series is likely to be a straight line. While the trend itself may not be linear, a fitted straight line should exhibit a statistically significant slope coefficient when a trend is present. Testing trends in variance or other moments can be performed by a regression in which the dependent variable is chosen to be a suitable transformation of $\{X_t\}$

If one expects that the deterministic trend component may be other than linear under the alternative, suitable transformations of t can be used as regressors instead of t . To test for a trend in quantile, one can perform a standard quantile regression for the quantile(s) of interest, including a constant and t as regressors, and test whether the slope coefficient for t is zero.

7. ESTIMATING AND FORECASTING TRENDS

When data appear to contain a trend, there are many possible estimation methods. One can estimate the trend by assuming a particular deterministic form, such as linear, polynomial or exponential, either giving equal weight to all terms or extra weight to terms at the ends of the data series. Or, one could give extra weight just to the most recent terms, especially if the intent is to forecast.

Filters perform a kind of interpolation. In contrast, forecasting is a form of extrapolation, so it can require different estimation methods. As always, if you know a reasonable model, then forming forecasts is simple, both in the short run and also the long run.

For the short run, a visual forecast can be made using a linear trend, and often this would be adequate. This is often done in finance. Using such local-linear approximations may be acceptable, as the trend is of lesser relevance over short horizons. Nevertheless, this is not useful for the long run, as there the trend is of dominant importance. Forecasting the longer run is much more difficult, as trends are rarely clearly linear. When considering the very long run, changes to society and to science are of major importance, as are demographic movements.

Another challenge to long-run forecasting is the strong likelihood of breaks. Once a break occurs it becomes deterministic in the data, but before it occurs, a break has to be considered stochastic, so that there is a probability of a break in any future time period.

8. SUMMARY AND FINAL REMARKS

Although trends may still not be well understood even after a century of research, by introducing some working definitions of various kinds of trends, a trend can be

studied mathematically with more focused discussions. The definitions presented are intended as working definitions, they do not claim to have settled matters once and for all. The main focus of this paper is to present the development of increasingly better methods for prediction, estimation and hypothesis testing for non-stationary time-series data, and ultimately may enable decision makers to make more informed decisions.

To conclude in the words of Alec Cairncross (see *Econometria*):

*A trend is a trend is a trend
But the question is: will it bend?
will it alter its course
through some unforeseen force
And come to a premature end?*

References

- Anderson, T.W. (1971). *The statistical analysis of time series*. New York: Wiley.
- Crafts, N. and T. Mills (1996). Europe's golden age: An econometric estimation of changing trend rates of growth. In B. van Ark and N. Crafts (eds.) *Quantitative aspects of post-war European growth*. Cambridge University Press [pp 415-431].
- Econometria de Series Temporales, Econometria II.
<http://www.eco.uc3m.es/~jgonzalo/teaching/EconometriaII.html>.
- Fuller W.A. (1996). *Introduction to statistical time series* [2nd Ed.] New York: Wiley.
- Harvey, A.C. (1989). *Forecasting, structural models and the Kalman filter*. Cambridge University Press.
- (1981). *Time series models*. Oxford: Philip Allan.
- Hodrick, R., and E. Prescott (1997). Postwar U.S. business cycles: An empirical investigation. *Journal of Money, Credit, and Banking*. 29: 1-16.
- Leser, C.E.V. (1961). A simple method of trend construction. *Journal of the Royal Statistical Society, Series B* 23: 91-107.
- Pesaran, H., D. Pettenuzzo and A. Timmermann (2006). Forecasting time series subject to multiple structural breaks. *Review of Economic Studies*. 73: 1057-1084.
- Phillips, P.C.B. (2005). Challenges of trending time series econometrics. *Mathematics and Computers in Simulation* 68: 401-416.

- Smith, B. (1925). The error in eliminating secular trend and seasonal variation before correlating time Series. *Journal of the American Statistical Association*. 20: 543-545.
- Stock, J. and M. Watson (1988). Testing for Common Trends. *Journal of the American Statistical Association*. 83: 1097-1107.
- White, Halbert and Clive W.J. Granger (2011). Consideration of trends in time series. *Journal of Time Series Econometrics*. Vol. 3(1) Art. 2.

HOME LOAN AS A TAX PLANNING TOOL

Ms. Ancy Gonsalves

Assistant Professor

Post Graduate Department of Commerce

ABSTRACT

A large number of individuals are required to pay taxes on the income earned by them. The Income Tax Act, 1961 provides many exemptions, deductions, relaxations and even concessions from time to time to reduce the burden and also encourage savings amongst individuals. But inspite of all these benefits no assessee is happy while paying taxes and wishes to reduce his tax liability to the minimum. This study is done to find out how availing a home loan helps in reducing tax liability.

Keywords: Tax Planning; Home loan; Savings; Taxes.

INTRODUCTION

Tax planning means saving of tax by way of investments made by an individual in specified securities as per the provisions available in the Income Tax Act, 1961. Section 80C offers a window of investment opportunities on up to Rs. 1 lakh investment in each financial year. This benefit is available to everyone, irrespective of their income levels. Many individuals consider section 80C only as a tax saving or tax planning tool, wherein one can invest in the specified qualifying investments/contributions/deposits/payments, popularly known as gross qualifying amount, to a maximum limit of Rs. 1,00,000. This limits the scope of tax planning for an individual, especially a salary earner. Therefore, it becomes very important for these assesseees to look for an alternative mode of investment wherein they can save a considerable amount of tax, within the framework of Income Tax Act, 1961. Purchase of a home through home loan can be a preferred tax planning tool available to salaried assesseees wherein they save considerable amount of tax by availing tax benefits under Section 24 of the Income Tax Act, 1961 (Singhania 2011, 646-649; also see Gadade and Kamthekar 2011, 67). Savings of tax and tax planning using home loans is well within the framework of law, i.e. the Income Tax Act, 1961, and hence does not amount to tax evasion.

OBJECTIVES

This study deals with tax planning by individual salaried assesses using housing loans. The primary objectives of the study are:

- To consider the quantum of tax saving with the inclusion of home loans using hypothetical case studies while calculating the tax liability of male and female assesseees.
- To state whether inclusion of home loans helps save taxes.
- To compare the returns on investment through home loans and tax savings vis-à-vis home loan installments paid.

BROAD ASSUMPTIONS OF STUDY

1. Home Loans under the case studies are taken @10.5% p.a. of interest for a period of 20 years on reducing balance basis which is State Bank of India current rate of lending.
2. Income tax calculations are made as per rates applicable for Assessment Year 2011-2012.
3. Gross Salary of Rs 30,000 p.m. only is considered for this study.
4. Individuals invest 5% of gross salary in Public Provident Fund.
5. All Home Loans under the case studies are purely home loans and none of them are in the nature of top-up and loans against property.

THEORETICAL BACKGROUND

Taxation is not a recent concept, its history dates back to time immemorial. Tax is collected from the public for proper working and development of a nation. It is a very effective and influential instrument to control and regulate the economic activities of a country in its desired direction (Garg 2011, 83). Tax planning is achieved by taking full advantage of all the tax exemptions, deductions, concessions, rebates, reliefs, allowances and other benefits granted by the tax laws so that the incidence of tax is reduced. Exercise in tax planning is based on the law itself and is therefore legal and permanent (Kalantri 2008).

Role of Income Tax Act, 1961

The prime object of tax planning is to minimize tax liability and save money. To achieve this objective an assessee plans in different ways and forms like investing in LIC, PPF, KVP, Mutual funds, Home loans etc, or by 'expenditure' on mediclaim, donations, payment of tuitions fees etc. Income Tax Act, 1961 gives the following tax benefits to an individual who owns a home through home loan:

Deduction U/s 24

• *For Self Occupied Property (SOP):*

Interest paid/payable on home loan is allowed to be deducted from NIL annual value of the home to the tune of Rs.1, 50,000 (if home is acquired on or after 01.04.1999); otherwise the limit is Rs.30, 000.

• *For Let Out Property (LOP):*

1. Standard deduction of 30% of Net Annual Value.
2. Full amount of Interest paid/payable on home loan is allowed to be deducted from annual value of the home. In other words all interest paid on the loan taken to acquire the home will qualify for deduction under this section.

Deduction U/s 80C

As per section 80C of the Act, the Gross Qualifying Amount is limited to Rs. 1 lakh. The Gross Qualifying Amount consists of various specified investments/payments and includes *any payment towards the cost of purchase/construction of a residential property (including repayments of loan taken from Government, Banks, Co-operative Banks, LIC, National Housing Bank, assessee's employer where such employer is Public Company/ Public Sector Company/ University/ Co-operative Society)* (Singhania 2011, 646-648).

Set off of Loss U/s 71B

Negative income in case of Income from house property (which is always there for SOP and in some cases of LOP) can be set off under section 71B of the Income Tax Act, 1961. The amount of loss can be adjusted against positive income under other heads which are chargeable to tax (Singhania 2011, 628-629 & 637).

EXPLANATION AND ANALYSIS

In this study illustrative case studies are compiled to understand whether using the loans benefits and helps in tax saving. The case studies are divided into Self Occupied Property and Let Out Property, as the home taken on loan can be used by the individual for residence of himself/herself and his/her family, or can be let out for rent.

(A) Self Occupied Properties (SOPs)

SOPs are when a house is used for the purpose of residence of the owner and his family. In case of SOPs the Net Annual Value is Always NIL (Singhania 2011, 200 & 204).

Assumptions of Case Studies of Self Occupied Property

1. Gross Salary earned is considered as Net Salary, as Net Salary is an eligible amount for the basis of sanction and disbursement of home loan amount, and individuals avail the full amount of home loan that they are eligible for.
2. All the individuals under the case studies pay their installments of home loans regularly without any default.
3. An individual is using the home (purchased with the help of home loan) for residence of himself/herself and his/her family and has not let it out.

Case Study No.1 (Male)

Salary: Rs. 30, 000 per month

Loan Availed: Rs. 16, 02,000 @10.5% for 20 years

Loan EMI: Rs. 16, 000 per month

Table 1: Tax liability of individuals (Self Occupied Property) before and after tax planning using home loans[^] (Figures in Rupees)

Particulars	Tax liability before Home Loan	Tax liability after Home Loan
Income from Salary: Salary (30,000 x 12)	3, 60,000	3, 60,000
Income from House Property: Self Occupied Property (SOP) Annual Value Less Interest on Home Loan u/s 24 (Maximum Rs. 150, 000)	— —	Nil 1,50,000
Gross Total Income	3,60,000	2,10,000
Less: Deduction U/Chapter VIA: U/s. 80C Provident Fund Home Loan repayment	18000 —	18000 24,894
Taxable Income	3, 42,000	1, 67,106
Tax on Above	18,200	Nil

[^]See Appendix for calculations.

Case Study No. 2 (Women assesses)

Gross Salary: Rs. 30, 000 per month

Loan Availed: Rs. 16, 02,000 @10.5% for 20 years

Loan EMI: Rs. 16,000 per month

Table 2: Tax liability of Individual (women assessee) before and after tax planning using home loans[^] (Figures in Rupees)

Particulars	Tax liability before Home Loan	Tax liability after Home Loan
Income from Salary: Salary (30,000 x 12)	3, 60,000	3, 60,000
Income from House Property: Self Occupied Property (SOP) Annual Value	-	Nil
Less: Interest on Home Loan u/s 24(Maximum Rs.150, 000)	-	150000
Gross Total Income	3, 60,000	2, 10,000
Less: Deduction U/Chapter VIA: U/s. 80C		
Provident Fund	18000	18000
Home Loan repayment	-	24,894
Taxable Income	3, 42,000	1, 67,106
Tax on Above	15,200	Nil

[^]See Appendix for calculations.

Table 3: Comparison of Tax liability of Individuals before and after tax planning using home loans (Figures in Rupees)

Analysis	Tax liability before tax planning	Tax liability after tax planning	Tax saved	Percent of tax saved
Case I	18200	Nil	18200	100
Case II	15200	Nil	15200	100

On the basis of Table 3, analyzing the case studies for SOPs, with the percentage of tax saved being 100 percent, one can conclude that using home loans helps reduce tax liability.

(A) Let Out Properties (LOPs)

When the owner of a house gives it on rent such a house is known as LOP; such properties are taxed on the inherent capacity of a building to yield income (Singhania 2011, 190).

Assumptions of LOP Case Studies

1. 50 percent of EMI is taken as Rent received (net of society maintenance and non-occupancy charges).
2. 15 percent of the amount of rent received is assumed as municipal taxes paid by the Owner.
3. Computation of Income from house property is taken as:
 Rent received
 (-) Municipal taxes Assumed 15 percent of rent received.
 (-) 30% of rent received towards standard deduction
 (-) Interest paid on Home Loan.

Case Study No. 1 (Male) (LOP)

Gross Salary: Rs. 30,000 per month

Loan Eligible & Availed: Rs. 16,02,000 @ 10.5% for 20 years

Loan EMI: Rs. 16,000 per month

Calculation of Income from Let out Property

Rent received	
(50% of Rs.16000 x 12)	96,000
Less: Municipal taxes paid	
(15% of 50% of Rs.16000 x 12)	(14,400)
Net Annual Value	81,600
Less: 30% standard deduction	(24,480)
Less: Interest on Home Loan	(1,67,035)
Income from House Property	(1,09,915)

Table 4: Tax liability of individuals before and after tax planning using home loans (let out property)^ (Figures in Rupees)

Particulars	Tax liability before Home Loan	Tax liability after Home Loan
Income from Salary: Salary (30,000 x 12)	3, 60,000	3, 60,000
Income from House Property: Let Out Property (LOP)	-	(1,09,915)
Gross Total Income	3, 60,000	2,50,085
Less: Deduction U/Chapter VIA: U/s 80C		
Provident Fund	18,000	18,000
Home Loan repayment	-	24,894
Taxable Income	3, 42,000	2,07,191
Tax on Above	18,200	4,719

^ See Appendix for calculations.

Case Study No. 2 (Woman assessee)

Gross Salary: Rs. 30, 000 per month

Loan Availed: Rs. 16, 02,000 @10.5% for 20 years

Loan EMI: Rs. 16,000 per month

Calculation of Income from Let out Property

Rent received

(50% of Rs.16000 x 12) 96,000

Less: Municipal taxes paid

(15% of 50% of Rs.16000 x 12) (14,400)

Net Annual Value 81,600

Less: 30% standard deduction (24,480)

Less: Interest on Home Loan (1, 67,035)

Income from House Property (1, 09,915)

Table 5: Tax liability of individual (women assessee) before and after tax planning using home loans (let out property)^

Particulars	Tax liability before Home Loan	Tax liability after Home Loan
Income from Salary: Salary (30,000 x 12)	3, 60,000	3, 60,000
Income from House Property: Let Out Property (LOP)	-	(1,09,915)
Gross Total Income	3, 60,000	2, 50,085
Less: Deduction U/Chapter VIA: U/s 80C		
Provident Fund	18,000	18,000
Home Loan repayment	-	24,894
Taxable Income	3, 42,000	2,07,191
Tax on Above	15,200	1,719

^See Appendix for calculations.

Table 6: Comparison of Tax liability of Individuals before and after tax planning using home loans (Figures in Rupees)

Analysis of taxes saved	Tax liability before tax planning	Tax liability after tax planning	Tax saved	Percent of tax saved
Case I	18,200	4,719	13,481	74.07
Case II	15,200	1,719	13,481	88.69

On the basis of Table 6, individuals under Case I can save 74 percent and under Case II 88 percent of taxes by using home loans to buy a house and letting it out on rent.

Capital and Assets Appreciation

Repayment of principal amount of loan as well as interest paid on the same is treated as investments in home. Principal amount paid towards repayment of loan is always an investment in home, but interest is the payment made for utilizing bank's money to own the home which otherwise would not have been possible. So interest on home loan can also to be considered as a part of the investment in the home as

the same help in increasing the market value of the investment i.e. home over a period of time (Roongta 2009).

Home purchased with the help of home loan further gives the following benefits to an individual:

- Home value always goes on increasing with the passage of time due to short supply of homes in comparison to high demand;
- Appreciation in the Home value is normally more than the interest paid on the home loan over the years. The market value of the flat purchased for Rs. 12,55,200 in 2001 is Rs 45,00,000 today.

Considering the above cases of let out properties an individual can increase his income letting the property on rent and also by saving taxes due to interest payment on taking home loans.

Table 7: Savings through rent received and tax planning using Home loans
(Figures in Rupees)

Analysis of Earnings	Case I	Case II
Rent Received (85% Net)	81,600	81,600
Savings in Tax (Earnings)	13,481	13,481
Total Savings	95,081	95,081
Amount paid as Installment	1,92,000	1,92,000
Percentage of Savings	49.52%	49.52%

Table 7 shows that the income earned through letting out property and the saving in taxes, the earning work out to nearly 50 percent. It is thus evident that an individual can make almost 50 percent savings in the form of tax savings and rent received (net of Municipal taxes paid) by letting out the home purchased in comparison with the loan installment repayment done.

DISCUSSION

With proper planning, tax liability can be reduced and optimized effectively, leaving an assessee with a greater share of income than being paid out as tax. Purchase of home through home loan gives a viable option to an individual to either use the same for his/her residence or let it out for gainful rent while minimizing the tax burden.

From Table 3 it is clear that an individual (male or women assessee) can save on taxes through investment in home. Inclusion of home loans in tax planning reduces the liability to zero in case of Self Occupied Property, as the assessee can claim a benefit of Rs 1,50,000 as payment of interest U/s 24 and of Rs 24,894 as repayment of Principal U/s 80C where the total works out to Rs 1,74,894.

From Tables 6 & 7 'let out property' also fetch a tax saving of 50 percent to the assessee and increases income through rent and tax savings to a tune of Rs. 95,081. This type of investment with assured returns and the privilege of owning a home is thus a unique example of tax planning.

CONCLUSION

Home loans succeed in making the purchase of a new home a realistic opportunity for individuals who would otherwise not have this option. Purchase of home by an individual through home loan is a win-win situation for everyone who is associated with it, may it be an individual borrower, government or banker. Purchase of home through home loan gives the maximum rate of earnings/savings which no other investment decision gives and it further allows an individual to own and use his dream home. The Government can discharge its obligation of providing shelter to the people and also provides an income tax benefit U/s 24 and 80C of the Income Tax Act, 1961. Further, home loan bring huge amount of revenue to the government in the form of Stamp Duty and Registration Charges on the agreement of the purchase and sale of such homes. Home loans also benefit banks like State Bank of India, ICICI Bank, HDFC Bank, etc., besides non-banking finance companies like India Bulls Home Finance Ltd., Reliance Home Finance Ltd., Tata Home Loans etc. which are still waiting for their banking license, as they get huge amount of income in the form of interest on home loans, top-up loans, loan against properties and through processing fees etc. - besides home loan being the most secured type of loan (Lakhoitia 2010).

References

- Gadade, Siddeshwar T. and D Pradeep Kamthekar (2011). Tax planning through home & home loan. *Journal of Accounting And Finance*, Vol 25(2): 67, 69-75.
- Garg, Payal (2011). Tax planning measures adopted by individual assesses of Agra. *Journal of Accounting And Finance*. Vol .26 (1): 83, 86.
- Kalantri, Rupesh (2008). <http://www.caclubindia.com/articles/tax-planning-for-salaried-individuals-1458.asp>
- Lakhotia, Subhash (2010). <http://www.naredco.in/.../Home%20Finance%20and%20Income-tax%20Planning.doc> (accessed January 2012).
- Roongta, Harsh (2009). <http://www.rediff.com/getahead/2009/feb/10your-home-loans-and-saving-tax.htm> (accessed January 2012).
- Singhania, Vinod K. (2011). *Direct taxes: Law and practice*. New Delhi: Taxmann Publications.

Appendix
Equated Monthly Installments*
[Loan Amount of Rs 1602000 at the rate of 10.5 %]
(Figures in Rupees)

S. No	Monthly Installment	Interest	Principal	Balance
0	15994			1602000
1	15994	14018	1977	1600023
2	15994	14000	1994	1598030
3	15994	13983	2011	1596018
4	15994	13965	2029	1593989
5	15994	13947	2047	1591943
6	15994	13929	2065	1589878
7	15994	13911	2083	1587796
8	15994	13893	2101	1585695
9	15994	13875	2119	1583576
10	15994	13856	2138	1581438
11	15994	13838	2156	1579281
12	15994	13819	2175	1577106
	191929	167035	24894	

#As per EMI calculator at www.Deals4loans/home-loan-calculator

Assessment year 2011-2012 [Tax Rates for Individuals]* *(Figures in Rupees)*

Particulars	Men	Women
Basic Exemption	1,60,000	1,90,000
10% Tax	1,60,001 to 5,00,000	1,90,001 to 5,00,000
20% Tax	5,00,001 to 8,00,000	5,00,001 to 8,00,000
30% Tax	Above 8,00,001	Above 8,00,001

* <http://www.incometaxmanagement.com/Pages/IT-at-a-Glance/Income-Tax-Rates-Tax-Slabs-AY-2011-2012.html>

QUALITY OF WORK LIFE OF YOUTH EMPLOYED IN THE BPO SEGMENT

Ms. Samantha Fernandes

Assistant Professor

Post Graduate Department of Commerce

ABSTRACT

The paper concerns the quality of work life of youth employed in the business process outsourcing (BPO) industry in India. The aim of the paper is to determine whether, and if so how, the quality of work life affects the satisfaction level of youth employed in the BPO industry. To meet the objectives of this paper, a qualitative study was conducted with the help of twenty-five respondents from three BPOs in Goa and Mumbai. Self-administered questionnaires were used for data collection.

Keywords: Quality of Work Life; Work Life Balance; Work Stressors

INTRODUCTION

The Indian economy has been growing rapidly since the 1990s as a result of the processes of globalisation, economic reform and liberalisation. Over the past decade, the services sector in particular has witnessed a high rate of growth, most notably in the information technology enabled services (ITES) and business process outsourcing (BPO) segments (Vaid 2009).

India has been a leading destination for the location of offshore services. With a large population of young people, India has been well placed to meet the human resource requirements of a growing outsourcing services industry. India has a vast educated English-speaking workforce with computer skills. Low operating and labour costs and a favourable policy environment are other factors that have contributed to the popularity of India as an outsourcing destination. As a result, numerous new employment opportunities have been created for educated young people, including fresh college graduates and post-graduates.

The tremendous growth of the BPO sector over the past few years has resulted in considerable changes in the lives of its young workforce. The BPO sector provides opportunities for employment at a young age, high disposable incomes and

quick promotional avenues. As a result, young professionals in the sector are reaching their career goals and financial targets much earlier than before. At the same time, young BPO employees are resorting to excessive drug and alcohol use.

OBJECTIVES OF THE STUDY

The study attempts to get an insight of experiences of youth employed in BPOs with respect to the quality of their work life. The objectives of the study are as follows:

1. To gain an insight into the experience of the work environment in terms of work load, time pressure, stress and work life balance of youth employed in the BPO segment.
2. To understand the quality of work life balance of the youth employed in the BPO segment.

RESEARCH METHODOLOGY

For achieving the objectives of study, a survey was conducted in the month of November 2011. The survey covered a sample of twenty five youth employed in select BPOs in Goa and Mumbai.¹ A structured self-administered questionnaire was constructed with open-ended and close-ended questions to support the survey.

The respondents were not contacted directly by the researcher. In each selected BPO company, a team leader was contacted and asked to distribute the self-administered questionnaires to employees who met the selection criteria - that is, young men and women who were unmarried, aged 20-30 years and had worked in a BPO company for at least six months. To ensure confidentiality, along with the questionnaire, respondents were provided a self-adhesive envelope. To ensure a representative sample, team leaders were instructed to distribute the questionnaires equally amongst males and females, and amongst employees in each of the three work shifts. Respondents were asked to seal and hand over the completed questionnaires to the team leaders which were then collected by the researcher. Respondents were informed that their participation in the survey was voluntary.

The respondents were interviewed on various aspects likely to have impact on the quality of work life. They include the working days, work shift timings, work stressors, facilities provided to the employees, work environment, payment and bonus schemes provided to the employees.

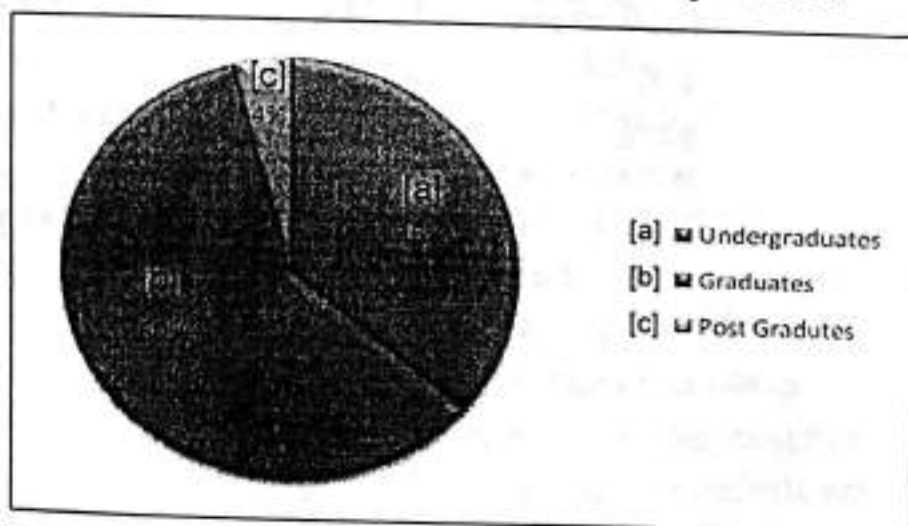
PROFILE OF RESPONDENTS

The respondents for the study consisted of twenty-five youth employed in three different BPOs in Goa and Mumbai. Out of the three BPOs, while two were based in Goa, the third was based in Mumbai. The respondents to the survey are presently employed in the BPO segment. The gender composition of the twenty-five respondents was fifteen males and ten females. Of the fifteen males, while ten were from Goa and five from Mumbai; with regards to the ten females, while six are were based in Goa, four were from Mumbai. All the respondents were unmarried and from the age group of 20-30 years.

Job Description: The job of the respondents is particularly associated with being grouped into teams headed by a team leader. Each team is required to meet their monthly targets which are in terms of turnover. They are required to make short and rapid target oriented calls to debtors and customers. They work for a period of five to six days a week on shift basis. The respondents to the survey are designated as either, debt recovery specialists, customer relationship advisors or sales executives in the respective BPOs they are employed in.

Qualification Background: **Figure 1** represents the educational qualification background of the respondents to the study.

Figure 1: Educational qualification of respondents



The educational qualifications of the respondents can be summarised as 36 percent undergraduates², 60 percent graduate degree holders, with 4 percent being post graduate degree holders. This indicates that a larger number of fresh graduates are resorting to taking up jobs in the BPO segment which could be due to fast and easy money, higher standards of living, better lifestyles and also savings that could be invested into higher studies.

REVIEW OF LITERATURE

The quality of a person's life is in direct proportion to their commitment and excellence, regardless of their chosen field of endeavor. As every employer wants a good employee, every employee wants a good employer. Quality of work life is all about the conducive and congenial environment created at the work place as it is one of the main reasons for better performance and productivity. With a right ambience provided to employees they will be able to deliver effectively and efficiently (Rao 2010).

The term quality of work life (QWL) refers to the favourableness or unfavourableness of a total job environment for people (Gupta and Gupta 2005). QWL programs are another way in which organisations recognise their responsibility to develop jobs and working conditions that are excellent for people as well as for economic health of the organisation. The elements in a typical QWL program include: open communications, equitable reward systems, organisational relationships, work environment, a concern for employee job security and satisfying careers and participation in decision making (Priyad 2008). Many early QWL efforts focus on job enrichment. In addition to improving the work system, QWL programs usually emphasise development of employee skills, the reduction of occupational stress and the development of more co-operative labour-management relations.

The QWL of an organization can be ensured through few factors such as fair treatment, equality of all employees, building trust and confidence, providing professional support, displaying integrity and ensuring all levels of communication open, encouraging 'we' rather 'I' attitude and respecting human dignity. Richard E. Walton explains QWL in terms of eight broad conditions of employment that constitute desirable QWL (Gupta and Gupta 2005). He proposed the same criteria for measuring QWL. These conditions criteria include:

- ❑ Adequate and fair compensation to employees
- ❑ Safe and healthy working conditions
- ❑ Opportunity to use and develop human capabilities
- ❑ Opportunity for career growth
- ❑ Social integration in the work force
- ❑ Constitutionalism in the work organisation
- ❑ Work and quality of life
- ❑ Social relevance of work

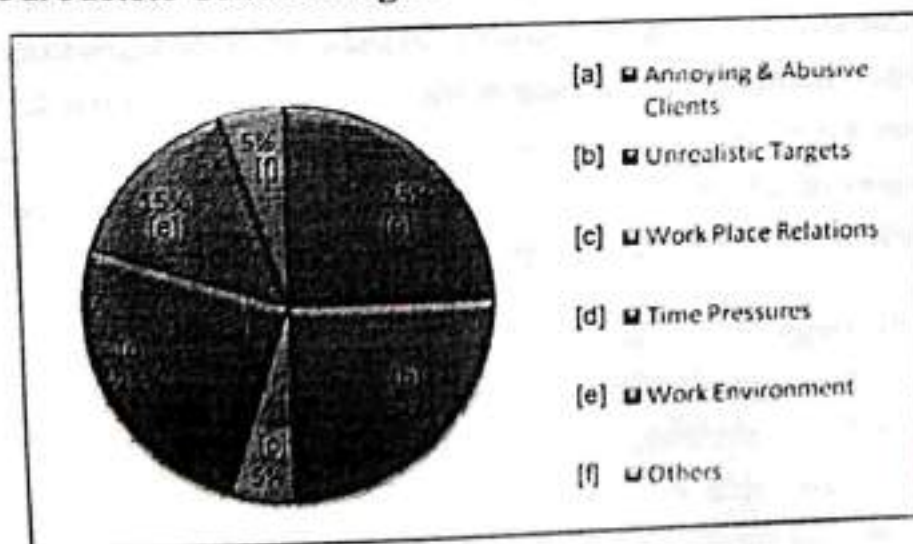
RESEARCH FINDINGS AND DISCUSSION

The research findings from twenty-five respondents who are youth employed in the BPO segment in call-centres in Goa and Mumbai are presented as under. The findings give an insight of the experiences, work stressors, quality of work life and stress management programmes provided by the employers, payment and other monetary benefits provided by the employers and the total work life balance of the respondents.

Work Stressors, Quality of Work Life and Stress Management Programs at Work Place

Work related stress is the response people may face when presented with work demands and pressures that are not matched to their capabilities and knowledge which challenge their ability to cope (Leka et al 2003). Though life at work and the sources of stress varied amongst the respondents, they accepted that they experienced some amount of stress at the work place, and it was a common factor for concern with regards to their job. All the respondents stated that the stress levels are usually high at the end of the month when the pressures keep building to achieve targets, both, personal and team targets.

Figure 2: Factors Contributing to Work Stress



On referring to Figure 2, we can conclude that the major work stressors that build up stress levels at the work place are calls to annoying and abusive clients, unrealistic targets and time pressures at the end of the month. As stated by the respondents, QWL was mainly hampered due to time pressures, working at odd timings,

unrealistic targets, annoying and abusive customer calls, and peer pressures to resort to smoking. On the other hand, factors that help enhance QWL were freedom to decision making, open communication channels, and good employee relations. Stress management programmes instituted by the management can boost employee's morale and help to cut down stress. However, all respondents revealed that the BPO units in which they were presently employed did not offer any stress management programmes.

The respondents to the survey enumerated the following suggestions to improve the QWL at the work place:

- Weekly winners for outstanding performance
- Interactive games at the work place which would help reduce stress levels
- Stress management programmes
- Freedom to set personal targets
- Monthly company outings or picnics
- Overtime payment

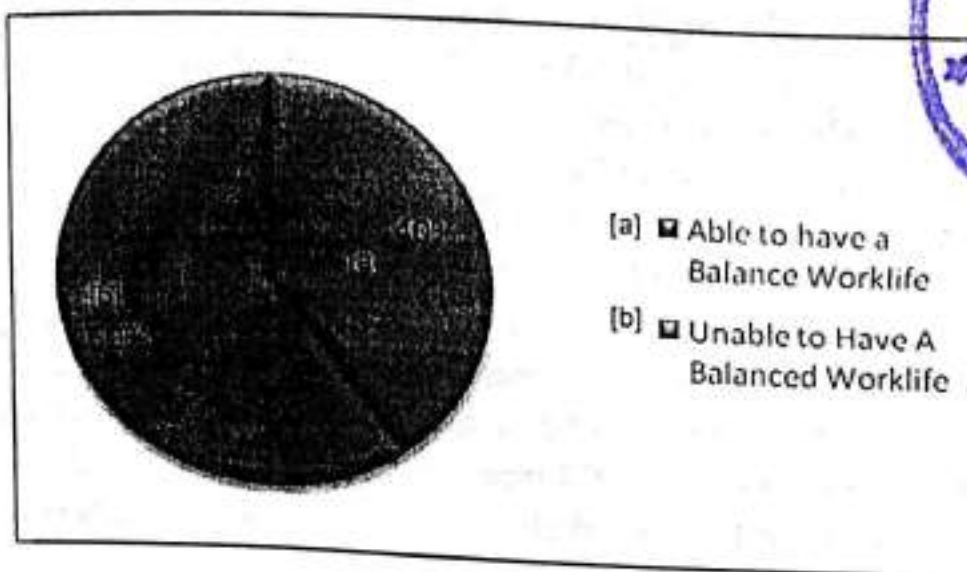
Payment and Other Monetary Benefits

The life and welfare of employees are dependent on the amount of payment received (Kale 2004). All the respondents to the study received a fixed basic pay plus commission depending on the targets they were able to achieve at the end of the month. They were also entitled to a team bonus as and when their respective team achieved the team target. The respondents stated that they are not paid an overtime allowance when required to put in extra hours of work.

Work Life Balance

Work life balance is essential to strike a balance between work and time spent with family and personal life. Every respondent's assessment of the extent to which they felt that they are able to achieve work life balance varied according to the circumstances like family responsibilities, social life, education courses presently pursued and personal health concerns. Figure 3 represents the respondent's assessment as to whether they are able to strike a balance in between their commitment to work and the time spent with their personal and life and family.

Figure 3 : Worklife Balance



The study shows that of the 25 respondents while 40 percent were able to strike a balance between their work life and time spent with family and personal life, 60 percent were unable to do so.

Job Satisfaction

Job satisfaction is a pleasurable emotional state resulting from the appraisal of one's job, an affective reaction to one's job, and an attitude towards one's job. Job satisfaction describes how content an individual is with his/her job. The happier people are within their job, the more satisfied they are said to be (Kumari and Pandey 2011).

The study showed that 80 percent of the respondents experienced a sense of satisfaction in terms of their present job. They owe their contentment to factors like hygiene at the work place, motivation, team spirit amongst team members and management support. The respondent's to the study being youth between the age group of 20-30 years were able to draw a high salary at a very young age; hence making them independent at a very early age and allowing them to have higher quality lifestyles.

All the respondents though satisfied with their present jobs, admitted that they would not continue to build a career in the BPO segment as over a period of time it is a stagnating industry. They have currently taken up the job either for gathering funds for further education, entrepreneurial initiatives, supporting parents and younger siblings or just for pocket money.

CONCLUSION

The study provided an insight into the lives of the youth employed in the BPO segment. It helped to illuminate the work stressors associated with working in a stressful and demanding job, where work demands and time pressures are dominant. The study demonstrated that QWL of youth employed in BPO segments is being enhanced by freedom to decision making, open communication channels and good employee relations – all which helped to create a sense of satisfaction in the youth. The QWL has been hampered by time pressures, working at odd timings, unrealistic targets, annoying and abusive customer calls, besides peer pressure to resort to smoking. The present study also helps understand the work life balance of the youth. It shows that majority of the youth were of the opinion that they were not able to strike a balance between their commitment to work and time spent with family and personal life.

Notes

1. The names of the selected BPOs have not been disclosed for confidentiality purposes.
 2. It is the minimum educational qualification prerequisite for employment in a BPO.
-

References

- Gupta, Santosh and Sachin Gupta (2005). *Human resource development - Concepts and practices*. New Delhi: Deep & Deep Publications Pvt. Ltd. (279–284)
- Gupta, Sanjay (2010). *A research project report on quality of work life*
<http://www.gazhoo.com/doc/201005141859436745/Research+Project+Report+On+QUALITY+OF+WORK+LIFE> – (accessed November, 2011).
- Kale, N.G. (2004). *Industrial organisation and management*. Mumbai: Vipul Prakashan.
- Kumari, Geeta and K. M. Pandey (2011). Job satisfaction in public sector and private sector: A comparison. *International Journal of Innovation, Management and Technology*. Vol. 2(3) June; <http://www.ijimt.org/papers/135-M556.pdf> (accessed November 2011).

- Leka, Stavroula, Amanda Griffiths and Tom Cox (2003). *Work organisation and stress: Systematic problem approaches for employees, managers and trade union representatives*. http://www.who.int/occupational_health/publications/en/ochstress.pdf, (accessed December 2011).
- Rao, M.S. (2010). *Quality of work life*. <http://profmsr.blogspot.com/2010/06/quality-of-work-life-profmsrao.html> (accessed December 2011).
- Priyad (2008). *Quality of work life project*. <http://www.mbaguys.net/t590/> (accessed in December 2011).
- Vaid, Monisha (2009). *Exploring the lives of youth in the BPO sector: Findings from a study in Gurgaon. Health and Population Innovation Fellowship Programme Working Paper No. 10*. New Delhi: Population Council.

INNOVATE, RESTRUCTURE AND REORGANIZE: CHALLENGES FOR INDIAN INC.

Ms. Melba J. Fernandes
Assistant Professor
Post Graduate Department of Commerce

ABSTRACT

In the global scenario competition is shifting from an infrastructure based organization to a learning organization. Many organizations, yet to realize this fact, need to focus more on the development of the processes involving creativity in the people. People being the active resources, are capable to manage and manipulate other resources, and thus contribute to the organization - if guided in the proper direction by developing the internal capabilities. External stake holders just do not take interest in hard resources only, but also have an eagle's eye on the organizations soft resources like brand, relationship with supplier, distributors and customers, besides trained and functional staff among other things. The present study aims at studying how organizations can use creativity as a tool to help build a learning organization and how they can innovate, restructure and reorganize to foster in a learning environment.

Keywords: Learning organization; Internal Capability; Creativity; Innovate

INTRODUCTION

Prosperity is based on productivity, which is rooted in innovation. Often, innovation is measured by input indicators such as research and development, and output indicators such as patents. Today, organizations operate in a highly competitive and turbulent business environment in dynamically challenging and volatile situations. It becomes increasingly important to continuously evolve the business organization practice to face the threats from both, seen and unseen challenges. For this, the organization needs to continuously make innovations through learning from the changing environment that prevails inside and outside of the organization. This is

possible only through the encouragement of creativity; it involves the organization into a learning process. This can lead to innovation, which when constantly developed, can lead to the knowledge base.

When one discusses about learning the focus is to directly go to the people of the organization. This is because while mortar and bricks do not learn, it is the employees who learn and convert implicit knowledge to explicit knowledge to be used by others for future prospects. Some times a problem arises as to how to assign a task to the employees, whether there should be any preference to the employees because they had been with the firm for a long time, or whether to assign work to those newcomers who just have been employed in the organization. You do not take a person who for years has been hobbled by chains, bring him to the starting in a race and say, 'you are free to compete with all others and still justly believe that you have been completely fair'.²

OBJECTIVES OF THE STUDY

The study which limits itself to organizations that are more decentralized in nature, broadly focuses on the building of a relationship between a learning organization and creativity, and how it could help build Knowledge Management. The primary objectives of the study are:

- To study how an organization innovates and makes innovation an integral part of the DNA;³
- To understand how an organization continuously develops and enhances internal capabilities.

THEORETICAL BACKGROUND

There isn't a business that does not want to be more creative in its thinking. Businesses' have come to realize the fact that without being creative it is almost next to impossible to survive in the competitive environment. The organization should strive towards creativity in their products and services by encouraging and motivating its employees to have an 'Out of the Box Thinking.' This creativity in turn would act as a rudder for the organization. To understand how *Creativity* and a *Learning Organization* could help in developing an innovative environment one must

first try to understand the basic elements.

I. Creativity

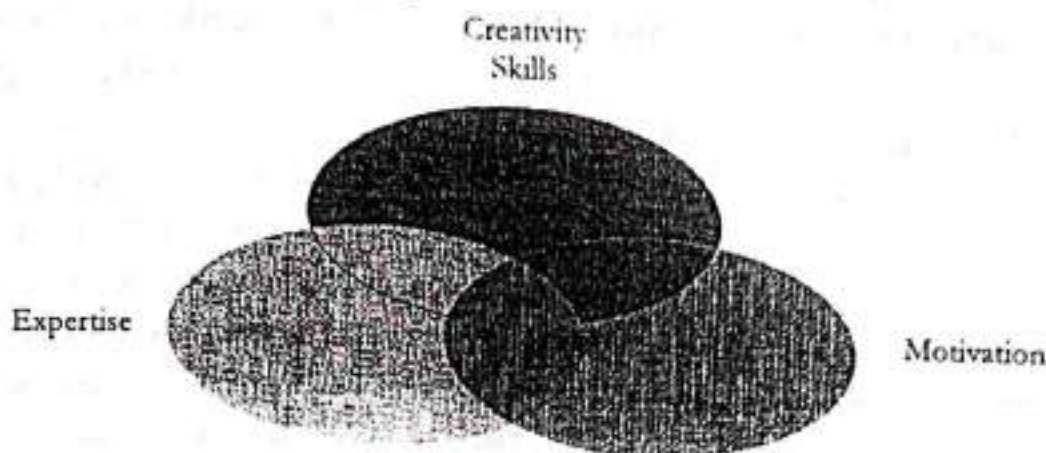
Creativity is often considered a key to innovation. Organizations that foster creativity have a fairly high chance of succeeding compared to the rigid old organizations. Creativity is an act which involves development of some new idea, process, product etc. that hold some value. The simple act of being creative is a natural instinctual desire that stems from our original blueprint. Our right brain accesses that original blueprint enabling direct connection with source energy. In modern days the emphasis is on superior access to the left brain hemisphere, the logical rational mind. The left analytical responds overrides the right brains creative approach. Being creative is picking up a brush and bursting with joyful creativity expressions, picking up a pen and letting creative ideas flows, strumming a guitar to let creative music emerge from the unconscious mind. Creativity is creating what we focus on. Creativity is an altered state of awareness, entering a space that is out of this time where one taps into a much larger universal consciousness to bring back beautiful treasures.

1.1 Dimensions of creativity

Robbins et al (2002, 177-178) mention the three dimensions of creativity, which can be said to be the ingredients needed to usher in creativity among individuals. These dimensions and their relationship with each other have been graphically highlighted by Amabile (1998) [see Figure 1]:

- *Intrinsic Motivation*: This is the desire to work on something because it's interesting, involving, exciting, satisfying, or personally challenging. This is what turns creativity potential into actual creative ideas.
- *Creative Thinking Skills*: This encompasses personal characteristics associated with creativity, the ability to use analogies, and the talent to see the familiar in different light.
- *Expertise*: It is the foundation of all creative work. The potential for creativity is enhanced when individuals have abilities, knowledge, proficiencies and similar expertise in their field of endeavor.

Figure 1: Dimensions of creativity



Source: Amabile (1998)

1.2 Identifying creative individuals (employees)

An organization can identify creative employees/individuals from the following characteristics:

- Great deal of tireless physical energy; often quiet and at rest. They work for long hours with great concentration while projecting an aura of freshness and enthusiasm.
- Smart and also naive at the same time.
- Extraordinary combination of playfulness and discipline, or responsibility and irresponsibility.
- Alternate between imagination and fantasy at one end and a rooted sense of reality at the other.
- Harbor opposite tendencies on the continuum between extroversion and introversion.
- Humble and proud at the same time. They are aware of the fact that they stand, in Isaac Newton's words: "On the shoulders of giants".
- To a great extent escape the rigid Male and Female gender stereotyping. When tests of masculinity/ femininity are given to young people, over and over again it has been noticed that creative and talented girls are 'more dominant' and 'tough' than other girls; and creative boys are 'more sensitive' and "less aggressive" than their male peers.
- Often found to be both 'traditional' and 'conservative' on one hand; and at the same time 'rebellious' and 'iconoclastic' on the other. Capable of being both 'passionate' about their work and at the same time being extremely 'objective' about it as well.

- The 'openness' and 'sensitivity' of creative individuals exposes them to 'suffering and pain'; yet also a great deal of 'enjoyment'.

1.3 Indian corporate culture and innovation

Among the global workforce, Indian employees feel the least engaged by their firms; the reason being the hierarchical structure of the Indian firms, many of which are risk-averse, family-run entities. As Adi Godrej, Chairman of the Godrej Group, candidly acknowledges, "In India Inc. we have a bit of a (rigid) hierarchical structure that need to be changed".⁵ Indian CEOs must recognize that they can't have it both ways: they cannot continually innovate their business models, while also retaining their anachronistic command-and-control management styles. Young employees who are collaboration-minded will not join or stay too long in firms locked in pyramid-shaped organizational structures. They would rather work in collaborative corporate culture with a flatter organization chart that promotes bottom-up decision-making. To facilitate innovation in this new fluid and dynamic organizational context, Indian CEOs must invest in web-enabled employee motivation technologies like predication marketplace, idea management apps, and employee blogs. Armed with these social computing tools, Indian firms can collect and rapidly act on their workers' ideas for seizing emerging opportunities or mitigating budding risks. Acting on this Infosys has developed its own internal networking sites such as INFY BUBBLE⁶, INFY RADIO⁷ etc. that act as a common platform for employees to voice their opinions and suggestions for better decision making and developing a learning, innovative environment.

In every organization there are two types of people one act as 'innovators' and the others act as 'adaptors'. An organization must take care while working with Innovators and Adaptors because both have certain characteristics while operating and are individually essential. Table 1 shows the difference between collaborating with Innovators and Adaptors.

Table 1: Innovators and Adaptors

<i>When collaborating with Innovators:-</i>	<i>When collaborating with Adaptors:-</i>
<ul style="list-style-type: none"> • Supplies stability, order and continuity. • Maintains group cohesion and cooperation is sensitive to people. • Provides a safe base for riskier operations 	<ul style="list-style-type: none"> • Supplies task orientation by breaking with the accepted theories of the past. • Often threatens group cohesion and cooperation is insensitive to people, • Provides the dynamics to bring about periodic radical change.

II. The Learning Organisation

In his book *The Fifth Discipline*, Peter Senge defined a learning organization as "... a place where people continually expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn". Senge described the core of a learning organization's work as based upon five learning disciplines that represented lifelong programs of both personal and organizational learning and practice. For Peter Senge, real learning gets to the heart of what it is to be human; we become able to re-create ourselves. This applies to both individuals and organizations. Thus, for an 'adaptive learning' it is important and necessary. But for a learning organization, 'adaptive learning' must be joined by 'generative learning' - learning that enhances our capacity to create (Senge 1990, 14).

The dimension that distinguishes learning from more traditional organizations is the mastery of certain basic disciplines or 'component technologies'. In his book *The Fifth Discipline Field book: Strategies and Tools for Building a Learning Organization* Peter Senge identifies five elements that are said to be converging to innovative learning organizations. These include:

- **Personal Mastery:** individuals learn to expand their own personal capacity to create results that they most desire. Employees also create an organizational environment that encourages all fellow employees to develop themselves toward the goals and purposes that they desire;
- **Mental Models:** this involves each individual reflecting upon, continually clarifying, and improving his/ her internal pictures of the world, and seeing how they shape personal actions and decisions;
- **Shared Vision:** this involves individuals building a sense of commitment within particular workgroups, developing shared images of common and desirable futures, and the principles and guiding practices to support the journey to such futures;
- **Team Learning:** this involves relevant thinking skills that enable groups of people to develop intelligence and an ability that is greater than the sum of individual members' talents;
- **Systems Thinking:** this involves a way of thinking about, and a language for describing and understanding forces and interrelationships that shape the behavior of systems. This discipline helps managers and employees alike to see how to change systems more effectively, and to act more in tune with the larger processes of the natural and economic world.

The five elements put together as in Table 2 helps to understand the best practices involved and the positive results that would be generated by implementing them.

Table 2: Five elements of a learning organization[^]

Characteristic s	Definition	Associated Best Practices	Positive By-products
Self Master Individual	The ability to honestly and openly see reality as it exists; to clarify ones personal vision.	1.Positive reinforcement from role models/managers. 2.Sharing experiences. 3.More interaction time between supervisory levels. 4.Emphasis on feedback. 5.Balance work/non-work life.	Greater commitment to the organization and to work; less rationalization negative events. Ability to face limitations and areas for improvement; ability to deal with change
Mental Model Individual	The ability to compare reality or personal vision with perception; reconciling both into a coherent understanding.	1.Time for learning 2.Reflective openness 3.Habit of inquiry. 4.Forgiveness of oneself 5.Flexibility/adaptability	Less use of defensive routines in work; less reflexivity that leads o dysfunctional patterns of behavior; less avoidance of difficult situations
Shared Visions Group	The ability of a group of individuals to hold a shared picture of a mutually desirable future.	1.Participative openness. 2.Trust. 3.Empathy towards others. 4.Common language. 5.Emphasis on cooperation 6.Habit of dissemination	Commitment over compliance; faster change; greater within group trust; less time spent of aligning interest; more effective communication flow
Team Learning Group	The ability of a group of individuals to suspend personal assumption about each other and engage in dialogue rather than discussion,	1.Participative openness. 2.Consensus building 3.Top down and bottom up communication flow. 4.Support over blame. 5.Creative thinking.	Group self awareness; heightened collective learning; learning up and down the hierarchy; greater cohesiveness; enhance creativity
System Thinking Group	The ability to see inter relationships rather than linear cause effect; the ability to think in context and appreciate the consequences of actions on other parts of the systems.	1. Practicing self mastery 2.Possessing consistence mental models 3.Possessing shared visions. 4.Emphasis on team learning.	Long term improvement or change; decrease organization conflict; continuously learning among group members; revolutionary over evolutionary change.

[^]Adapted from the work of Senge (1990); Argyris and Schön (1996); Argyris (1991); and Schön (1983).

III. Knowledge Management as an Absorbing Cushion

Knowledge management is newly emerging interdisciplinary business model, dealing with all aspects of knowledge within the context of the firm, including knowledge creation, codification, sharing, and how these activities promote learning and innovation. In practice, Knowledge Management encompasses both technological tools and organizational routines in overlapping parts.

Rudy Ruggles, leading Knowledge Management practitioner and thinker, has identified the following items as integral components of Knowledge Management.⁸

- Generating new knowledge
- Accessing valuable knowledge from outside sources
- Using accessible knowledge in decision making
- Embedding knowledge in processes, products and/or services
- Representing knowledge in documents, databases, and software's
- Facilitating knowledge growth through culture and incentives
- Transferring existing knowledge into other parts of the organization
- Measuring the value of knowledge assets and/or impact of knowledge management.

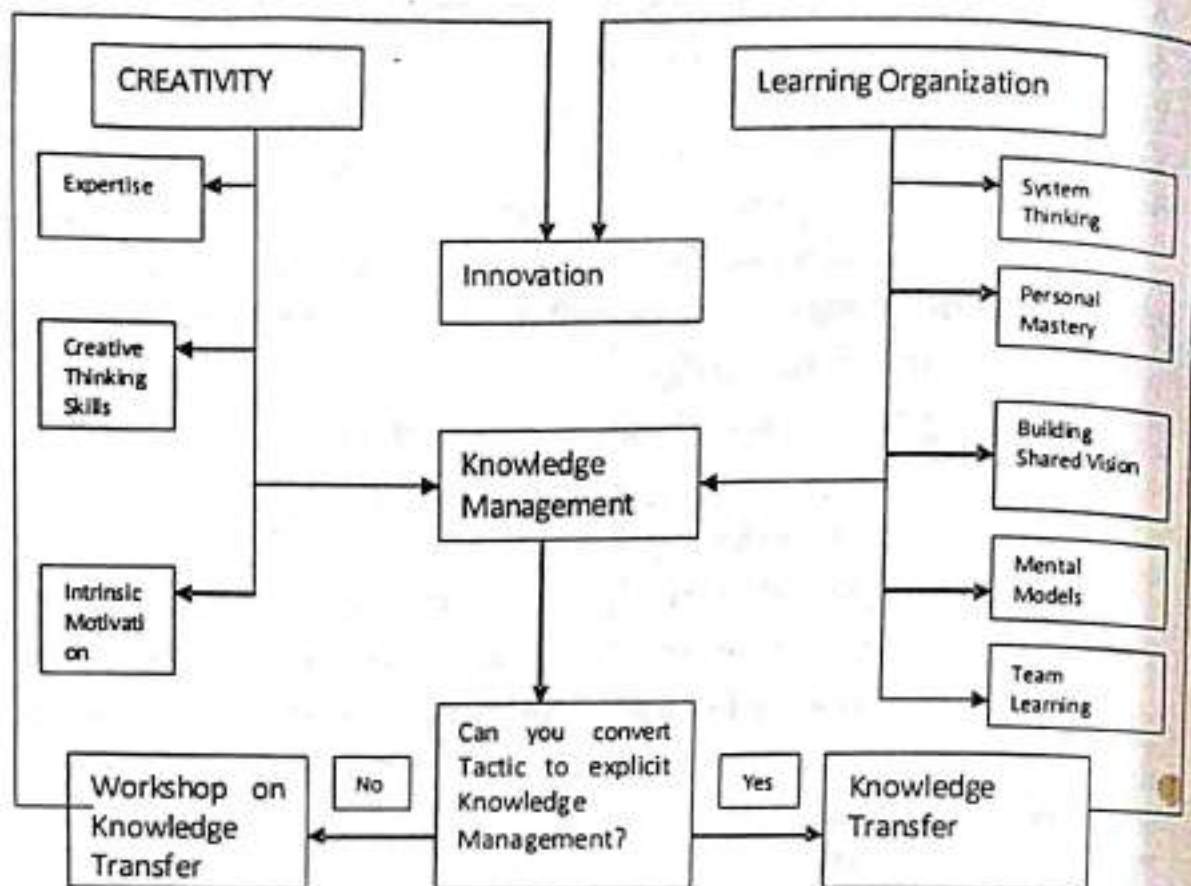
IV. Knowledge Management Process

In order to organize, a thesaurus - which has special meaning for information management was created. It consists of some Knowledge Management terms. These categories imply the process of Knowledge Management which is circular and unending; i.e. participants in the Knowledge Management process may enter it at any point, and traverse it repeatedly. Additionally, each category often presents decision making opportunities, passive and active, and the categories help identify a knowledge domain. The categories are: Asset Utilization; Knowledge Evaluation; Knowledge Improvement; Knowledge Accumulation; Knowledge Generation; Knowledge Sharing; and Knowledge Protection.

FINDINGS

After analysing the various elements of creativity and learning organization, a Process Model has been developed for an organization. The process model towards innovation (PMTI) is a model that focuses on the development of internal capability through creativity and fostering learning in an organization. This creativity and focus on learning environment contributes towards development of innovation thereby converting implicit knowledge to explicit knowledge.

Figure 2: Process Model towards Innovation



Source: Author

SUGGESTION AND RECOMMENDATIONS

For innovation to occur at a faster and continuous rate, the presence of creative climate and a learning culture should be encouraged. In this regard, the case organization should be looking into ways of improving its creative climate by:

- Giving more freedom to try out new ideas and voice out opinions
- Making the climate more open and trustworthy by having emotional safety in relationships
- Giving time for members to elaborate new ideas
- Displaying more spontaneity and ease in actions
- Reducing presence of emotional tensions
- Supporting new ideas brought up
- Injecting liveliness/dynamism within the workplace
- Having more courage to take risks on opportunities

Although the learning culture seems to be contributing substantially towards innovation in the case organization, it should also improve its learning in the following areas, besides having a strong 'systems connection':

- Give more emphasis on individual learning
- Give emphasis on team learning
- Give emphasis on organizational learning through environment scanning and networking
- Give more empowerment to its members
- Encourage dialogue and inquiry to occur among the members
- Exercise strategic leadership

Notes

1. Which reflect the willingness to invest but do not guarantee the ability to excel.
2. President Lyndon Baines Johnson's June 4, 1965 address to the graduating class of Howard University.
3. DNA = Deoxyribonucleic (chemical) in the cells of the animals and plants that carry genetic information and is a type of nucleic acid. It is the genetic blueprint present among all living beings.
4. Both are necessary to break away from the present without losing touch with the past. Albert Einstein wrote an essay in which he said that art and science are two of the greatest forms of escape from reality that humans have devised. Great art and science involve a leap of imagination into a world that is different from the present. The rest of the society often views these ideas as fantasies without relevance to current reality. The whole purpose of art and science is to go beyond what we now consider as real, and create a new reality.
5. Based on 'Global CEOs 2010', a report released by IBM based on personal interviews with about 1,500 CEOs across the globe published in the Hindu Business Line link www.thehindubusinessline.com/features/.../article2562647.ece (accessed November 2011).
6. A social networking site such as *Facebook*.
7. Where employees can know about the latest happenings in the Infosys organization, request songs, etc.
8. http://www.ischool.utexas.edu/~i385q-dt/readings/Ruggles-1998-State_of_the_Notion.pdf (assessed November 2011).

References

- Amabile, Teresa M. (1998). How to kill creativity. *Harvard Business Review*, Sept-Oct, pp 77-87.
- Argyris, C. (1991). Teaching smart people how to learn. *Harvard Business Review*, May-June.
- Argyris, C. and D. Schön, (1996). *Organizational learning II: Theory, method and practice*. Reading, Mass: Addison Wesley.
- Robbins P. Stephen, Timothy Judge and Seema Sanghi. (2002). *Organizational behavior*. New Delhi: Pearson Publications.
- Schön, D.A. (1983). *The Reflective Practitioner: how professionals think in action*. London: Temple Smith
- Senge, P. (1998). *The practice of innovation* [Leader to Leader 9]
<http://pdf.org/aderbooks/l2l/summer98/senge.html> .
(accessed December 2011).
- . (1990). *The fifth discipline: The art and practice of the learning organization*. London: Random House
- Senge, M. Peter, Bryan J. Smith, Richard B. Ross, Charlotte Roberts (1994). *The fifth discipline fieldbook: Strategies and tools for building a learning organization*. New York: Currency Doubleday.
- <http://www.audubon-arex.org/NewFiles/sengsum.pdf> last assessed on December 27th 2011
- <http://www.infed.org/thinkers/senge.htm>

SHAKESPEARE'S SONNET MY MISTRESS' EYES AND ITS RELEVANCE TODAY

Mr. Lisbern Fernandes
Student, SYBA

ABSTRACT

William Shakespeare wrote during a period when poets debated endlessly the place and value of women in their works. The paper aims at reviving this debate in the context of the contemporary world of glitz and glamour. Shakespeare's most famous sonnet, that is Sonnet CXXX or 'My Mistress's Eyes are Nothing Like the Sun' is one of his most talked-about sonnets. He compares his mistress to various forms of nature and admits that she is no goddess but an ordinary woman who "treads" on the earth. Ultimately, he declares that his love for her is rare, true and unexaggerated. By doing this, he light-heartedly scorns the Petrarchan sonneteers who would use exaggerated and unrealistic metaphors to describe their mistresses and more often than not, languish in their love. Shakespeare advocates the idea that "Beauty is skin-deep". However, in today's world fed with media and other pressures, the concept of beauty has been changing, putting a lot of stress on teenagers. The failure to grasp the essence of inner beauty has been a cause of various psychological disorders, social break-ups and disappointments in modern times.

Keywords: William Shakespeare; Sonnet; Sonnet 130; Sonnet CXXX

INTRODUCTION

A Sonnet is a form of poetry that originated in Europe, which is made up of fourteen lines, signifying a strict rhyme scheme and a specific structure. It is further categorized into Petrarchan or Italian Sonnets and Shakespearean or English Sonnets. The Petrarchan form which originated in Italy was developed by Francesco Petrarch and typically referred to the concept of unattainable love. The Shakespearean sonnet on the other hand originated in its typicality to light-heartedly mock this very concept, thanks to William Shakespeare, which is one reason it garnered so much popularity with the readers and fuelled some food for thought.

SONNET CXXX AND ITS ANALYSIS

Among the 154 sonnets penned down by Shakespeare, one of the most talked-about sonnets has to be sonnet 130¹. The Shakespearean sonnet is divided into three quatrains², comprising of four lines each and a couplet³, which signifies a dramatic turn of thought. The opening lines itself give an indication as to what Shakespeare is trying to put across; that although his mistress's eyes are lovely, they are nothing compared to the sun, which is beautiful and glowing. The first and the second quatrains compare her to various forms of nature, albeit not in her favor. Shakespeare says that corals are far redder than her lips and while he knows that snow is pure white and pristine, in stark contrast, her breasts are dun. The poet says that her hairs are like wires, unkempt and rough, and not golden or silky. Shakespeare has seen gorgeous roses damasked in red and white, but none of these roses he can find in his mistress's cheeks. And while he adores the fragrance that a perfume emanates, he admits that his mistress's breath reeks with an unpleasant odour. In the third quatrain, the poet says that although he loves to hear her speak, her voice is not as pleasing as the sound of music. Lastly, he says that she is no goddess, but just an ordinary woman who treads on the ground. The final couplet gives a sudden turn of thought where the speaker swears by heaven that despite the fact that his mistress is unattractive and unconventional, his love for her is rare and true as against the dishonest comparisons that other men make.

ANALYSIS OF SONNET 130 IN COMPARISON TO THE PETRARCHAN SONNET

Before Renaissance could dawn upon the West, literature and other forms of art were governed by a set of rules and regulations which the writers, artists and others had to obey. A breach of these rules and regulations would be deemed as unfit and dishonorable. When Renaissance did come, it definitely brought with it a breath of fresh air as the various forms of arts, including literature, witnessed the cracking of these codes of approach, and therefore renewing the image of a laggard and boring reading to that of an interesting and far-reaching one and thereby providing it, a new vista. Undoubtedly, Shakespeare was one of the chief proponents of this movement and the sonnet itself was no exclusion in the hands of this writer. It too underwent a change.

If we go back in time, we would find that the sonnet form actually experimented with a number of styles but it was the Italian writer, Francesco Petrarch, who actually solidified the sonnet form which would later be known as the 'Petrarchan Sonnet', made up of an octave⁴ and a sestet⁵. The Petrarchan form was

extensively used in love poems, thanks to poets like Philip Sidney, Thomas Watson, Michael Drayton and Barnabe Barnes, who were all a part of this following. Therefore, reading a Petrarchan sonnet would mean reading a love poem.

The Petrarchan form usually dealt with the hero proclaiming his love for an unimaginable figure; and even if the figure was human, she would largely be unattainable. Another prominent feature of the Petrarchan sonnets would be that the poet would use exaggerated and often unrealistic metaphors to draw a comparison between his lover and other forms. These were the very characteristics that Shakespeare mocked and breached the standard code that an average sonneteer would usually employ.

One example of the love sonnet that Shakespeare light-heartedly scorns is the epic work by Philip Sidney – *Astrophel and Stella*. The poem, in a nutshell, is a variant of Petrarch's *Canzoniere*, about Astrophel, a man who is in love with Stella, a married woman. Given the religious ethics and his Protestant training, Astrophel's pursuit of Stella is but in vain, which plunges him into a potent bout of despair, frustration and misery in quest of his unattainable love.

In Sonnet 130, there is no evocation of Morpheus or Venus; as it happens in Sidney's work when the male protagonist describes his lover. The features of the poet's lover are as beautiful and, at times, more beautiful than the finest pearls, diamonds, rubies, and silk. This is a stark contrast to Shakespeare's mistress, where the references to such objects of perfection are indeed present, but they are there to illustrate that his lover is not as beautiful – a total rejection of Petrarch form and content.

In another instance, Petrarch himself addressed many of his most famous sonnets to an idealized woman named Laura, whose beauty he often likened to that of a goddess. Distinguishably, Shakespeare makes no attempt at deification of the dark lady; in fact he shuns it outright, as we see in lines 11-12: "I grant I never saw a goddess go; / My mistress, when she walks, treads on the ground." Here the poet explicitly states that his mistress is not a goddess and finds these metaphorical comparisons, simply exaggerated, dishonest and untrue. Shakespeare's message is total and clear-cut – his mistress is just a normal mortal being, and to compare her to any goddess or any higher forms of nature would be simply telling a lie, for he knows that she is unattractive and not extraordinary. And as he states in his couplet – "And yet, by heaven, I think my love as rare/ As any she belied with false compare", despite this fact, his love for her is rare and as intense.

SHAKESPEARE'S STAND COMPARED TO TODAY'S WORLD

Shakespeare indeed propagates the idea that beauty need not be just outward appearances and all about looks, it is also something that should radiate from a person's heart. One salient feature of a Petrarchan sonnet against Sonnet 130 is that it always deals with love or a relationship that is impossible or unattainable. The fact that the heroes of the Petrarchan poems were obsessed with the beauty and looks of their mistresses, due to which they drew highly inflating comparisons, is a reason behind why they were mostly steeped in limerence and never could get a fitful reciprocation back. This is because, as Shakespeare's Sonnet 130 implies, that a successful relationship is not grounded upon looks and outward beauty. It's the inside beauty of the heart and soul that counts over the years. The outward beauty may come and wane, sometimes it may not be to one's expectations and desires, but what actually remains is the beauty of the person inside. Perhaps, this is why many quote that – 'Beauty is skin-deep.'

No wonder, today's world sees an upsurge in rise of divorce rates, marriages which could have been due to materialistic and worldly choice and not founded on a moral basis. The notion of what a beautiful female should look like has considerably wavered over the years of our generation. Dating back to ancient times where Cleopatra's and Venus's muscular body with a soft face and long neck was symbolized to be the epitome of perfection; to the retro days where a plump, healthy-looking, chubby faced woman would be deemed attractive; to the nineties where the waif-like, thin, slender models were in the limelight; to today's times which witness the revisit of a woman's hourglass figure,... the concept of beauty is an ever changing trend that will continue for the years to come.

The modern times has also witnessed the shedding of the stereotypes – women who were fair-skinned and having stunning features were generalized as attractive, rejecting women who would be dark-skinned. Ironically, today, this view is passé, looking at the modeling industry where many women of colour are actually big names in the modeling and the beauty pageant industry.

Concepts may come and go, but how it affects us is how it changes our view of beauty, keeping in mind that beauty is subjective in context. Back to the Shakespearean times, where the internet and the television were things that couldn't even be imagined in the least, one would realize that the true essence of beauty is all about you inside and not outside, which would hold relevance even today and will continue to. And many would agree with him.

But is it justified that our views of beauty in today's world has whiffled-waffled, thanks to the large coverage of the internet and the television? The answer

would be positive, by large. The teens of today, who are exposed to the media are indeed facing a lot of pressure from their counterparts as to how a beautiful and attractive person maybe defined. We live in a world of glitz and glamour, where attractive and famous film-stars and models are idolized and many teens tend to follow them. The rise of the cosmetic industry simultaneously has given the modern teen, an unhealthy approach of being 'beautiful'. Many aspire to be like their idolized 'role-models' and hence join the glamour industry mostly through the tunnel of modeling and beauty pageant industry - a world where one is accepted or rejected based on one's outward appearance. While it may be true that the beauty pageant industry now recognizes women who are not only attractive but also have a charismatic personality and intelligence, the bitter fact that looks itself are 'first-and-foremost' the factor that one requires to penetrate into this field or for that matter, to 'stand out from the rest' in a crowd. The pressure of looking attractive and beautiful is so strikingly high in the teenager's brains that many try to get in this field in a wrong and disoriented way. Some of the common problems faced by them include: becoming anorexic⁶; resorting to plastic surgery; and altering facial and bodily appearance surgically and cosmetically to attain the perfect form. When these problems escalate, and do not lead the concerned teenager to what she dreams or desires, they get immersed in anger, frustration and stress which ultimately leads them to drastic measures like suicide, broken relationships and substance abuse. Shakespeare may not have had stated these implications back then but his standpoint that - 'Beauty is all about what is on the inside, and less importantly what is on the outside' undeniably reverberates even today. It holds true, and people who realize it, are the ones who enjoy the fruits of long-lasting happiness and personal satisfaction.

CONCLUSION

The waves which Sonnet 130 swept on our shores did not only bring about the revitalization of the sonnet form but also brought about an understanding of our own judgments and perceptions. It is literature's own gentle and mellow way of making us understand the bare truth that beauty is skin-deep and comparing one's outward appearance to any goddess or sun, is merely a false exaggeration. Our outward appearance is all temporary, transitory and short-lived; the one who is happy even when he progresses by age is the one who has always maintained and realized a beautiful heart and a beautiful soul.

Notes

1. Sonnet CXXX or 130 reads as follows:

*My mistress' eyes are nothing like the sun;
Coral is far more red than her lips' red;
If snow be white, why then her breasts are dun;
If hairs be wires, black wires grow on her head.*

*I have seen roses damasked, red and white,
But no such roses see I in her cheeks;
And in some perfumes is there more delight
Than in the breath that from my mistress reeks.*

*I love to hear her speak, yet well I know
That music hath a far more pleasing sound;
I grant I never saw a goddess go;
My mistress when she walks treads on the ground.*

*And yet, by heaven, I think my love as rare
As any she belied with false compare.*

2. Stanza of four lines.
3. Stanza of two lines.
4. Stanza of eight lines.
5. Stanza of six lines.
6. An eating disorder where one tries to drastically regulate one's diet in order to be slim.

References

- <http://barneygrant.tripod.com/p-erceptions.htm>
http://beauty.indianetzone.com/1/historical_views_beauty.htm
http://en.m.wikipedia.org/wiki/Petrarchan_sonnet
<http://en.m.wikipedia.org/wiki/Sonnet>
<http://www.gradesaver.com/shakespeares-sonnets/study-guide/section13/>
<http://www.oppapers.com/essays/Walking-Ramps-Beauty-Pageant/118701>
<http://www.shakespeare-online.com/sonnets/130detail.html>
<http://www.sparknotes.com/shakespeare/shakesonnets/section9.rhtml>