

**ECONOMIC IMPLICATIONS OF HIV/AIDS ON
INDIVIDUALS AND HOUSEHOLDS IN GOA**

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ECONOMIC IMPLICATIONS OF HIV/AIDS ON INDIVIDUALS AND HOUSEHOLDS IN GOA

A Thesis Submitted to Goa University

for the Degree of

Doctor of Philosophy in Economics

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To my Parents, Wife and Daughter Samara

CERTIFICATE

This is to certify that Mr. Savio da Piedade Falleiro has worked on the thesis entitled, '**Economic Implications of HIV/AIDS on Individuals and Households in Goa**', under my supervision and guidance. This thesis being submitted to Goa University, Taleigao Plateau, Goa, for award of the degree of Doctor of Philosophy in Economics, is a record of the original work carried out by the candidate himself and has not been submitted for the award of any degree, diploma, scholarship or fellowship of this or any other University.



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DECLARATION

I declare that the present thesis entitled, '**Economic Implications of HIV/AIDS on Individuals and Households in Goa**', is a consolidation of original work which has been carried out by me under the guidance of **Dr. Silvia M. de Mendonça e Noronha**, Associate Professor, Department of Economics, Goa University, and that the same has not been submitted to any University or Institution, for the award of any degree, diploma or other such title.



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Savio da Piedade Falleiro

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ABBREVIATIONS and ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ART / ARV	Anti-retroviral Treatment [or therapy] / Anti-retroviral
BOD	Burden of diseases
BPL	Below Poverty Line
CG	Care-giver
Chp.	Chapter
CSW	Commercial Sex Worker
C&S Home	Care and Support Home
DALYs	Disability-adjusted Life Years
ET	The Economic Times
F	Females
FET	Fishers Exact Test
GDP	Gross Domestic Product
GNP	Gross National Product
GSACS	Goa State AIDS Control Society
HAART	Highly Active Antiretroviral Therapy
HH	Household
HIE / T	Hospitalised Illness Episodes / Treatment
HIV	Human Immunodeficiency Virus
HIV+	HIV-positive
HRLN	Human Rights Law Network
ICTC	Integrated Counselling and Testing Centre
ILO	International Labour Organization
M	Males
Max.	Maximum
MDG	Millennium Development Goals
Min.	Minimum
MTCT	Mother to Child transmission
MW-U	Mann-Whitney U

N	Number / Total / No.
NACO	National AIDS Control Organisation
NACP	National AIDS Control Programme
NCAER	National Council of Applied Economic Research
NFHS	National Family Health Survey
NGO	Non-Governmental Organisation
NI	National Income
NHIE / T	Non-hospitalised Illness Episodes / Treatment
OI	Opportunistic Infection
P.a.	Per annum
PC	Personal Computer
PLHA	Person / People Living with HIV/AIDS
PLWH	People Living with HIV
PLWHA	People Living with HIV/AIDS
P.m.	Per month
Q-S	Questionnaire/Schedule
R&D	Research and Development
RMMT	Regular Monthly Medical Treatment
SD	Standard Deviation
Sec.	Section
STD / I	Sexually Transmitted Diseases / Infections
TB	Tuberculosis
TOI	The Times of India
TV	Television
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
UUI	Unrequited and/or Unrevealed Income
WFPR	Work Force Participation Rate
WHO	World Health Organisation

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

1.2 STATEMENT OF THE RESEARCH PROBLEM

1.3 OBJECTIVES

1.4 SCOPE OF THE STUDY

1.5 RELEVANCE / SIGNIFICANCE OF THE STUDY

1.6 LIMITATIONS

Notes

CHAPTER 1: INTRODUCTION

AIDS is the most serious threat the world faces today. If it isn't checked now, it will do unbelievable damage: Richard Holbrooke (Neary 2001, as in Singhal and Rogers 2006, 37).

1.1 BACKGROUND

HIV/AIDS has been a scourge globally. Figures of infected persons increased from about 2 million in 1985 to a phenomenal high of around 40 million by just about the fifth year of the new millennium, with victims claimed being a whopping 2.9-3 million in 2005 (*The Times of India [TOI]* 23/11/2006, 11; IMF 2005).¹ It has been claimed that ever since the beginning of the epidemic over 20 million have died of AIDS – the equivalent of a world war (D. Broun, in HRLN 2008, 26). The Center for Disease Control defines AIDS as any HIV-positive [HIV+] person having one or more of the 21 AIDS defining *opportunistic infections* [OIs] (S. Mehra in HRLN 2008, 34). The *cluster of differentiation 4* or commonly called *CD-4* count test is also one indicator of whether an HIV+ individual has progressed to AIDS. In case of a normal person the *CD-4 count* is in the range of 700-1500 per cubic milliliter of blood (Singhal and Rogers 2006, 47). When this count comes below 500 in case of HIV+ individuals it is reflective of a depressed immune system; when it falls below 200 or *CD-4 percentage* becomes less than 14 percent, the person is said to be having AIDS with he/she developing episodes of OIs (*ibid*; Bora 2008, 274; Singh 2003, 82; US Centre for Disease Control²). According to World Bank (2000) most patients succumb to OIs within two years after the onset of AIDS (as in CARICOM).

While HIV/AIDS was first detected in India in 1986, globally it was first detected in USA in 1981 (GSACS 2009, 1-2). Since the syndrome was first detected amongst 'gays', it was initially called *gay related immunodeficiency* or GRID (Pavri 1996, 2). HIV was first discovered by Françoise Barre-Sinoussi, Luc Montagnier³ and colleagues at the Institut Pasteur, Paris, in

1983; with contributions coming also from Popovic, Gallo and co-workers in 1984. The virus of AIDS, i.e. HIV, was originally called as *lymphadenopathy associated virus* [LAV] and *human T lymphotropic virus-III* [HTLV-III] (*ibid*, 29; Khurana 2005, 17). Controversy surrounding the name was settled by the International Committee for Nomenclature of Viruses, with the virus recognized as a *lentivirus*, being given the name of human immunodeficiency virus i.e. HIV (Pavri 1996, 29).

Claimed to be the single largest infectious killer (Kakar and Kakar 2001, 230), according to *2006 AIDS Epidemic Update*, a joint report of UNAIDS and WHO, somebody is infected somewhere or the other with HIV every eight seconds, with another 8000 dying every day (*TOI* 23/11/2006, 11). As high as even 95 percent of those who contract the virus each day are from developing countries (Narain 2004, 19; Singhal and Rogers 2006, 24). Two-thirds of those infected with HIV live in Sub-Saharan Africa (Avert 2008), with the disease spreading in other regions - especially East Europe, Caribbean, and parts of East and South Asia. According to Dr. A. Fauci, adviser on HIV/AIDS to former US President George W. Bush, the world is losing the battle against the virus; "for every one person that you put in therapy, six new people get infected..."⁴ The AIDS epidemic in some countries is so severe that according to Red Cross and Red Crescent it should be classified as a disaster, which as per UN definition, is an event beyond the scope of any single society to cope with (Foulkes 2008). Incidentally, AIDS which was first recognized in industrialized countries where bulk of the funding for research, prevention and care was concentrated, has expanded fastest in countries with poor economies, where economic, political and social mechanisms that keep countries poor interact to produce a context in which AIDS thrives (WCC 2002, 97-98).

The AIDS problem in the developing world is staggering. Children born in six African countries are not expected to reach the age of 40 years (Drummond and Kelly, 2006, 6). In Sub-Saharan Africa, over a third of the adults will constitute the HIV population within a decade. In India while only one quarter of the ten million total deaths from all causes each year occur in hospital, for the 7.5 million deaths that occur at home, death certificates and cause of death are rarely recorded - thus making it difficult to track the full extent of the HIV/AIDS problem (*ibid*). AIDS deaths are usually underreported, with many people dying of OIs without even knowing their HIV status (Gaur 2006, 17).

There are three chronological stages in the AIDS epidemic: AIDS-initiating, AIDS-impending and AIDS-impacted (Sharma 2006, 166). An HIV/AIDS epidemic by itself is a long and slow event since the virus is slow-acting with an incubation period of many years. By the time that even a few people with AIDS are recognized, many more exist whose condition has not been diagnosed or observed, with still many more that are well but infected with the virus (Barnett and Whiteside 2000a, 8). Since AIDS occurs years after the virus infection, the number of cases occurring today does not reveal about the present level of infection in the population. It was estimated earlier that for each actual case, there were likely to be an additional 50-100 infected individuals. AIDS cases thus are only the most visible part of a much larger AIDS virus infected population (Sinha 1995, 28).

HIV/AIDS, still spoken in hushed tones, is spreading across all sections of society. The seriousness of the problem made the Indian Army to contemplate making pre-recruitment HIV screening compulsory. Similarly, Governments of Goa, Andhra Pradesh, Maharashtra, and other States, deliberated upon to make HIV test mandatory before registration of marriage. Until recently India was claimed, by no less than agencies like UNAIDS and WHO - and accepted by

the Indian government, to be the country with the dubious record of having the maximum number of 'people living with HIV/AIDS' [PLWHA] in the world. India had 5.7 million of the 8.6 million people living with HIV in Asia – incidentally most of whom were aged between 15-49 years (Sinha 2006b, 1). The figures look more grim if one realizes that one out of every 100 Indian adults, or that 0.9 percent of the total adult population are HIV+ (*TOI* 07/06/2007, 7), or that the 0.9 percent itself got translated into 4 lakh AIDS deaths in India in 2005 (Rashid 2006, 1), or that India is home to 60 percent of South-Asia's HIV patients (Sinha 2006a, 13). Although the HIV *prevalence rate*⁵ appears to be low in India, the actual figures in absolute terms are high due to the massive population where even a small fraction of 0.1 percent gets translated into a big number of infected persons. HIV/AIDS epidemic in India is characterized as a *concentrated epidemic*, concentrated mainly in certain States, and in these States within certain districts. It is not a *general epidemic* as in South Africa, Sub-Saharan Africa or Botswana where the prevalence rates are 18-32 percent (K. Sujatha Rao, in HRLN 2008, 14).⁶

Ever since 2007, as per the more recent announcements of National AIDS Control Organisation [NACO], and supported by UNAIDS and WHO, the figures of HIV cases have been drastically reduced by almost half in India. This was claimed to be due to adoption of presumably more accurate modes of estimation unlike earlier methods. The figure of infected persons has consequently come down from 5.7 million to a range within 2-3.1 million, and from a percentage figure of 0.9 to 0.36 percent (*The Economic Times [ET]* 07/07/2007). Incidentally, according to National Family and Health Survey [NFHS-3] the prevalence rate is even lower at 0.28 percent (Dhar 2007, 9). The reduction in figures has changed India's dubious first rank of HIV infected persons to the third, next to South Africa and Nigeria (Sinha 2007, 6; Ramachandran and Rajalakshmi 2009, 23). The change of figures indicating reduced incidence

of HIV may however not be indicative of anything much to cheer about, for as Bagla (2007, 14) highlights it is possible that the lower figures were arrived at due to flawed methodology and possibly new computer programme rather than efforts of AIDS control programme. According to Jain and Stephens (2008, 17) the fall in numbers does 'not represent a decline' in the number of PLWHA, it only represents a change in the way they are counted. As legal expert Colin Gonsalves (HRLN 2008, 41) says, the figure was scaled down on the basis of a survey funded by certain organisations and undertaken 'without involving local positive networks'.

Based on the analysis of the sentinel surveillance data from 2000, the States and Union Territories in India were initially classified into three groups: high, moderate and low prevalence States depending upon the prevalence rates among the high risk population groups and antenatal women (Panda, Chatterjee and Abdul-Quader 2002, 25; Ramamurthy 2004, 231-232; Shaukat and Panakadan 2004, 159-160).⁷ Even within the low prevalence states there are areas where the problem is heightened (A. Kehra in HRLN 2008, 29). Of late the said classification has been increased to four groups with the 'low prevalence' group being divided into two: 'Highly Vulnerable States' [Group III] and 'Vulnerable States' [Group IV] (GSACS 2008, 3; 2009, 6). Out of 610 districts in the country, 187 have been identified as high prevalence (A. Kehra, in HRLN 2008, 29). Incidentally, though treatment is of utmost essence in case of HIV, the overwhelming majority of PLWHA in India are unable to avail, access or afford of the same.

HIV/AIDS was first detected in Goa in 1987. Ever since, there have been an increasing number of PLWHA in Goa. While prior to 1992 there were very few HIV cases detected ranging from 3 to 30 per year, *post*-1992 has seen the number rising steadily, with more than 800 cases being detected each year since the year 2000 (GSACS 2005-06, 7), with there being an average of three cases per day detected since 2004. According to Goa State Aids Control Society

[GSACS] as of 2009, the total number of HIV cases detected in Goa since 1987 were 12,633; reported AIDS death cases up to November 2009 were 660; and number of people estimated with HIV was 16,000 (Fernandes 2010, 2). As of September 2009 there were 1196 AIDS cases registered in Goa (GSACS 2009, 10).

Almost three-quarters of the HIV/AIDS cases in Goa are located in the coastal belt with an equal number of cases being reported from four *talukas* of Marmagao, Salcete, Bardez and Tiswadi (*ibid*, 12 & 17). Incidentally, these talukas are relatively well developed, economically and socially, as compared to other talukas. In Goa, while the disease is prevalent more in men, it is the females of younger age group that are infected more (*ibid*, 17). NACO considers Goa to be among the *moderate prevalence* States. Incidentally, Goa borders *high prevalence* States of Maharashtra and Karnataka;⁸ with the South Goa district being one of the high prevalence districts in India (*TOI* 01/12/2008, 7). Sexual mode of HIV transmission accounts for as high as even 96 percent of the infected cases in Goa (Economic Survey 2005-06, 73; GSACS 2009, 17).

Notwithstanding official statistics of HIV/AIDS infected persons in India/Goa, the actual numbers could be much higher since there would be many more whose HIV+ status has not yet been detected. Death certificates are inaccurate source of data for AIDS-related mortality because the cause of death in AIDS patients is seldom given as AIDS, but is camouflaged as one of OIs (Schoub 1995, 212). Figures available for HIV infections are usually estimates - for definite statistics each and every one will have to be tested (D. Broun, in HRLN 2008, 25-26). Of the estimated PLWHA only 17 percent know they are HIV+ (K. Sujatha Rao, in HRLN 2008, 16). Stigma and discrimination makes it more difficult to know who the infected persons are.

Most PLWHA are in the prime productive and reproductive age group of 15-44 years. About half of all HIV infections occur among young people below 24 years of age, indicating the

inherent vulnerability of youth in most cultures, a fact which is constant even though there are many different contexts within each culture (WCC 2002, 15). In India, 89 percent of the reported HIV cases have been in the age group of 18-40 years, with over 50 percent of all new infections taking place among young adults below the age of 25 years (Verma and Roy 2002, 79; see also Gaur 2006, 50). In Goa during 2009 [up to September], 87 percent of the HIV detected cases were among the 15-49 years age group (GSACS 2009, 17).

Contrary to earlier perception, it is now realized that those in rural areas and children are amongst the more affected groups. As Medhini, Jain and Gonsalves (2007a, 562) highlight, while everyday HIV infects approximately 1,800 children under the age of 15, 15 million children under the age of 18 had already lost one or more parents to the disease by 2003, with children below 15 years accounting for 1 in 7 new global HIV infections and 1 in 6 global AIDS-related deaths. There are an estimated 1.7 lakh HIV+ children under 15 in India (*ibid*, 569). With regards to India's rural areas, home to 73 percent of the country's population, studies show that at least in some areas HIV has become common with prevalence rates being higher than that in urban areas (Correa and Gisselquist 2005, 1; *TOI* 29/11/2007, 6; Verma and Roy 2002, 78).

Gender is now acknowledged as an inextricable part of the HIV/AIDS equation, with there being much talk of feminization of the epidemic (Medhini, Jain and Gonsalves 2007a, 449; see also Pradhan and Sundar 2006). Young women are disproportionately vulnerable to infection, with elderly women and young girls being disproportionately affected by the burden of care giving (Medhini, Jain and Gonsalves 2007a, 449; Prasad 2008). Studies have shown that 90 percent of India's HIV+ women have only one partner and are not involved in high-risk behaviour (UNFPA 2005, as in Medhini, Jain and Gonsalves 2007a, 454). According to UNAIDS and WHO over 38 percent of the HIV+ are women (*TOI* 23/11/2006), with the global

rate of infected women rising in recent times to 50 percent as per UNAIDS figures (A. Gandhi, in HRLN 2008, 91). Among youth, the gender gap is heightened with 75 percent of all young PLWH being females (Medhini, Jain and Gonsalves 2007a, 448).

Women are biologically, epidemiologically, and socially more vulnerable to HIV infection than men (Dixit 2005, 73-76; WHO 1995, 15; YMCA/YWCA 2003, 18). The peak age at which women are most likely to report themselves HIV+ is about 6 years lower than men (Canning *et al* 2006a, 11). In case of infected women, majority have no other risk factor except than being married to their husbands (Verma and Roy 2002, 79; Medhini, Jain and Gonsalves 2007a, 448). Incidentally, most women complete their child bearing before falling ill thereby leading to rise in the number of orphans.⁹ As per WHO estimates about 2.2 million HIV+ women across the world give birth each year (Mascarenhas 2006, 13). In Goa 47.3 percent of the HIV+ females in 2009 belonged to 15-34 years age group (GSACS 2009, 17).

In India, 83-85 percent of the reported cases, HIV infection has been acquired through the sexual route, 2.2-4 percent through contaminated blood/blood product transfusion, 2.2-4 percent through sharing of injection equipment during drug use, with perinatal transmission accounting for another 2-3.8 percent of the total cases of AIDS. In 6.8-7 percent of the cases the history of transmission is not available (Panda, Chatterjee and Abdul-Quader 2002, 19; GSACS 2009, 9); with one possible cause of these *nosocomial* or unexplained cases being blood exposures in health care and cosmetic services (Correa and Gisselquist 2005).

The HIV/AIDS epidemic appears to shift from high risk groups like commercial sex workers [CSWs] and drug users, to bridge populations like clients of sex workers, sexually transmitted disease/infection [STD/STI] patients and partners of drug users, and then to the general population. There is a time lag of 3-5 years between the shift from one group to the next

(Joshi 2000, 27). While people affected by HIV/AIDS have their rights violated, those who have their rights violated - including women, street children, prisoners, CSWs, drug dependent persons and those living in poverty - are vulnerable to the risk of HIV infection (WCC 2002, 73). Incidentally and additionally, the HIV/AIDS epidemic is not randomly distributed - it is clustered in households [HHs], geographically and occupationally, with the virus moving when people, especially single, move (Reid 2000c, 782).

Economics provides an important way of examining the pattern of the epidemic's spread. The central assumption is that HIV is not spread randomly like other illnesses, but rather it is most often transmitted as a consequence of purposeful behaviour that has a strong economic foundation (Mahal and Rao 2005, 593). Some oft cited economic causes, or in words of Mahal and Rao (*ibid*, 583), 'economic roots' of HIV/AIDS are as follows:¹⁰ i] poverty and low economic status;¹¹ ii] prostitution;¹² iii] gender inequalities;¹³ iv] population mobility/migration;¹⁴ v] urbanization;¹⁵ vi] food scarcity/insecurity;¹⁶ and vii] economic inequality.¹⁷ Incidentally, it is not only the poorer or marginalised sections that are prone to HIV infections - the higher socio-economic status individuals too have had high infection rates as studies of some African countries revealed (Rao 2000b, 495), with possible causes being: a] high education/income making it easy to support/attract additional commercial/casual sex partners; and b] those with more income/education being likely to travel and have more opportunities for variety of sexual contacts (Israni 2001, 157; Ramakrishna *et al* 2008, 386).

HIV/AIDS has far reaching consequences: social, economic, medical, ethical, political, psychological, legal etc. The epidemic has often been associated with severe negative public reactions, unlike reactions for cancer, diabetes or heart diseases. These reactions have shaped the behaviour of infected individuals and have limited the effectiveness of prevention efforts (Mawar

et al 2005, 472). Incidentally, the social stigma attached to HIV/AIDS does not get erased even after death (Mawar and Paranjape 2002 and Kelly *et al* 1996, as in *ibid* 472-473). The seriousness of the socio-economic implications of HIV/AIDS led to the setting up of NACO in 1992, with the vision to lead and catalyse an expanded response to the HIV/AIDS epidemic to contain the spread of infection, reduce people's vulnerability and promote care within an enabling environment (Joshi 2000, 28-29).

Adverse economic implications of HIV/AIDS are experienced at the micro/individual/HH, macro/national and sectoral levels. As time passes, HIV/AIDS becomes increasingly concentrated among poor populations. While the wealthy countries and rich individuals learn to protect themselves, and have the resources to make HIV/AIDS into a chronic but not deadly disease, the poor nations and poverty stricken majority remain vulnerable (Bertozzi, Opuni and Gutiérrez 2001). 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 eight specific and measurable development goals, the Millennium Development Goals [MDGs] - to be achieved by 2015 - to halt and begin to reverse the spread of HIV/AIDS (IMF 2005).

1.2 STATEMENT OF THE RESEARCH PROBLEM

Ever since the detection of HIV, millions of lives have been lost worldwide, with a large number of those living, living a life of extreme poverty, despair, squalor and hopelessness. Since AIDS emerged as a major health emergency, the epidemic has had serious and even devastating effects on human development. Besides taking away lives, HIV/AIDS has separated families, as well as destroyed and impoverished communities. In some countries, life expectancy has fallen by more than 20 years (IMF 2005; Singhal and Rogers 2006, 25). The scale of the epidemic is causing

informal social safety nets to collapse. While workforces are being decimated, labor costs are rising, with severe consequences for investment, production, and per capita income (IMF 2005). In some economies, AIDS is undermining progress towards the MDGs, particularly those related to poverty reduction, achieving universal primary education, promoting gender equality, reducing child mortality and improving health of mothers (IAVI 2005; UNFPA 2003, as in UNAIDS 2006, 80). Based on earlier figures of HIV infections, a UN Report [2006] along with a report of the Registrar General and Census Commissioner on future population trends in India, estimated that within the next 20 years, 16 million lives could be lost in India due to the dreaded epidemic (Raghuraman 2006, 1). Projections on mortality from infectious diseases in India show that by the year 2033 HIV/AIDS could cause 22 percent of all deaths and 40 percent of deaths from infectious diseases (Nielsen and Melgaard 2004, 47). The economic impact of HIV/AIDS for India, with a huge population of over 1 billion and a work force of 40 crores – 92 percent being in the unorganized sector - can be devastating and irrevocable; for such a huge proportion of labour force in the unorganized sector, there is only a thin line or even no lines, separating the work place and the living place (CEC 2004).

HIV/AIDS is not just a humanitarian crisis, but a major development crisis as well. According to an NCAER study backed by NACO and UNDP, in the absence of remedial policy the HIV epidemic in India during 2002-03 to 2015-16 is likely to push up health spending by both HHs and the State, thereby eating into savings, crowding-out investment and hitting growth. The study forecast that economic growth and GDP per capita would decline by 0.86 and 0.55 percentage points respectively over the period; besides slowing the growth of labour supply, lowering labour productivity, and cutting into HHs' non-food expenditures due to rise in health expenditures (Sharma and Baxi 2007, 12; *ET* 21/07/2006, 1; Ojha and Pradhan 2006, xxi).

The various channels through which AIDS affects economic growth include: decline in total factor productivity resulting from increased mortality and morbidity associated with AIDS; change in skill composition of the labour force due to unequal incidence of AIDS among different grades of labour; decline in public/private savings due to increase in medical expenditure; and decline in growth rate of the economically active population because of deaths caused to young adults (Ojha and Pradhan 2006, xiv-xv). The economic impact of high mortality rate especially amongst working age group members becomes more serious because of the huge private and public investments that have already been made on the same (World Bank 2003, 5). Bhargava *et al* (2001) and Bloom, Canning and Sevilla (2001) while focusing on the aggregate impacts of health on growth of real GDP per capita and real GDP, shed light on the way HIV can influence overall economic performance of nations through its impact on the quantity and quality of the labour force and the stock of physical capital (as in Mahal and Rao 2005, 590).

AIDS is associated with decline in growth rates of labour supplies: unskilled, semi-skilled, and skilled; with the decline being highest for unskilled, followed by semi-skilled and skilled labour (Ojha and Pradhan 2006, xviii). Though arguable, it is claimed that the fall in labour demand caused by high medical expenditure contributed fall in public/private savings/investments and growth, outstrips the AIDS-induced fall in labour supply of all skill types, with the wage rates for all consequently declining; with the survivors of the epidemic being not 'indifferent' or 'better off' but 'worse-off' as the lower per capita incomes show (*ibid* xviii-xix). Incidentally, while the direct costs of the HIV epidemic rises as demands for health and social services increase thereby creating the possibility of withdrawal of investments in the productive sectors; the tax base gets depleted, with foreign exchange earnings getting affected by drops in production of export commodities (Reid 2000a, 22).

In sectoral terms, the AIDS epidemic hits harder the sectors that use unskilled labour intensively. The total loss of value added in terms of real GDP on account of HIV/AIDS for the year 2015-16 is estimated at 9.89 percent, with manufacturing and tourism taking the hardest hit (Ojha and Pradhan 2006, xx). HIV/AIDS has two major effects on the industry, the first on the workforce through increase in absenteeism, recruitment/training costs, funeral costs, lost knowledge, damaged morale etc; and the second through reduction in consumer base, especially in regions with high prevalence of HIV/AIDS where reallocation of resources takes place in favour of health-care and against other sectors (*ibid*, 4-5). Loss of consumer markets can have a direct impact on several industrial sectors and an indirect impact on tourism and other service industries (Rao 2000b, 499; Gaigbe-Togbe and Weinberger 2003, 35). Besides manufacturing/tourism, the other major sectors experiencing adverse fallouts of HIV/AIDS are transport;¹⁸ health;¹⁹ agriculture;²⁰ and education.²¹

The areas of economic impact of HIV/AIDS at the micro/individual/HH level, include: employment; discrimination at workplace; education; income levels; expenditures on illnesses including OIs; HH assets; pattern of consumption and savings; borrowings; loss of work time of non-infected; etc. At the HH level, the most obvious impact of HIV/ AIDS is the increased spending on treatment and care. As portrayed by Bloom and Mahal (1996) and Bloom and Glied (1993a), the ratio of treatment costs to per capita income is estimated to be 2.2 in India (as in Ojha and Pradhan 2006, 2). Under very conservative assumptions of working life span and discount rates, the loss in lifetime earnings, as brought out by Bloom and Mahal, are estimated to be 3.5 times the annual costs of treatment of AIDS (*ibid*).

Besides high medical expenses, HIV/AIDS contributes to fall in HH income irrespective of whether the HIV member is dead or alive; besides creating other hardships having adverse

consequences for the present and future well-being of HHs. In Ivory Coast, urban HHs that lost at least one member to AIDS saw their income drop by 52-67 percent, with expenditures soaring four fold – with such HHs reducing food consumption by about 41 percent to cope with the same.²² Rural HHs facing similar predicaments in Thailand are seeing their agricultural output shrink by half. In 15 percent of the cases children are removed from schools to take care of family members who are ill and to regain lost income (*ibid*). The loss of income to HHs on account of HIV appears mainly due to: i] premature death of an earning AIDS HH member, ii] reduced earnings due to disability/reduced ability to work, iii] loss of work time of non-HIV members due to care-taking responsibilities imposed by infected members, and iv] reduced employability due to the stigma associated with the infection (Ojha and Pradhan 2006, 3). Lost earnings and increased expenditures have long-term adverse impacts on HH savings and asset-holdings for a majority of the HHs. Borrowings and debt burden inadvertently increase. Members of HIV/AIDS HHs have typically lower long-term accumulations of human capital, measured in terms of health and education. The extent of the long-term adverse economic impact varies according to the initial economic status of the HH, with the richer HHs having greater resilience in absorbing the adverse economic shock of AIDS than the poorer ones (Basu, Gupta and Krishna 1997, as in Ojha and Pradhan 2006, 3). Studies additionally point out that while there is higher workforce participation rate [WFPR] among children and elderly in HIV/AIDS HHs as compared to non-HIV HHs; gender inequality is further accentuated by AIDS (Ojha and Pradhan 2006; Pradhan, Sundar and Singh 2006).

In fine, as briefly outlined above, HIV/AIDS has serious and numerous economic fall-outs at different levels, including the individual/HH level which is the focal area of the present study. HIV/AIDS makes better-off HHs poor and poor HHs poorer. As vast literature shows²³ the

fallouts are particularly severe on poor/marginalized and female-headed HHs. While the present scenario for HIV/AIDS HHs is bad due to high medical expenses and fall in income and consumption levels; the future too is anything but promising on account of current decline in education, savings and assets, and the high debt burden. Under such trying circumstances, in order get the economic fallouts of HIV/AIDS on HHs/individuals addressed presently and prospectively through appropriate and effective measures/relief, it is necessary to first systematically understand and document the actual day-to-day living conditions, ground realities and significant economic hardships faced by them. Without a comprehensive study of the factual position, neither will the quantum and nature of relief measures required be known, nor will be the focus or direction of the same be correctly fixed. While doing the same could help HHs/individuals themselves directly; knowing the implications could also help decision makers at the sectoral and/or national/macro level in framing policies/strategies, since HIV/AIDS through its adverse impact on HHs/individuals also contributes towards severe sectoral and macro/national level consequences.

Related to the arguments as mentioned above, this study tries to systematically find the economic fallouts of HIV/AIDS on HHs/individuals in Goa by studying amongst others its influence on income and employment; inflow and outflow of HH income; health and medical expenditure; and whether there exist gender biases vis-à-vis the same. The study thus goes into economic concerns such as loss of work time of infected/non-infected; reduced employability and earnings; gender inequality; changes in jobs; savings; borrowings; consumption patterns; expenditures on illnesses; HH assets; coping mechanisms adopted etc.

1.3 OBJECTIVES

The primary focus of the present study is on studying/documenting the economic implications of HIV/AIDS on individuals/HHs in Goa.²⁴ Some major objectives of the study are as follows:²⁵

- i. To examine the impact of HIV/AIDS on income and employment.
- ii. To examine the impact of HIV/AIDS on the inflow and outflow of annual HH income.
- iii. To examine the impact of HIV/AIDS on health and medical expenditure.
- iv. To make a comparative analysis of the economic impact faced by HIV/AIDS HHs with non-HIV/AIDS HHs.
- v. To find if there exists gender based differences²⁶ vis-à-vis the issues dealt with; and if so whether they are significant in nature.
- vi. To outline a path for the future.

1.4 SCOPE OF THE STUDY

The present study attempts to document the economic impact of HIV/AIDS on individuals/HHs in Goa - especially with reference to income and employment; inflow and outflow of HH income; and health and medical expenditure. To reach this broad goal the study involves not only analyses of HIV/AIDS HHs in general, but also of HIV+ respondents, one per HH. For the purpose of understanding the nature of the economic implications of HIV/AIDS, the study, wherever appropriate, also makes comparative analyses with findings obtained for the 'matched' sample of non-HIV/AIDS HHs.

To unravel the impact of HIV/AIDS the focus of the study is on PLWHA irrespective of their stage of infection and whether earning or not; residing in Goa; and whose HIV+ status was detected at the Integrated Counselling and Testing Centres [ICTCs]²⁷ in Goa. The study which

covers both districts of Goa focuses on only those who are within 18-60 years of age, since besides constituting the majority of HIV+ individuals; age-wise they form part of the economically active or productive members of society. For the purpose of study only those who are part of a HH have been considered, even though it may be a single member HH. From the above it can be thus inferred that the following PLWHA *do not* come under the purview of the present study: a] those below 18 and above 60 years²⁸; b] those belonging to 'homeless households'; c] those whose HIV+ status was not detected/registered at the ICTCs in Goa; d] those who are not residents of Goa.²⁹

For the purpose of making the comparative analysis between HIV/AIDS and non-HIV/AIDS HHs, the latter have been selected from across Goa provided: a] the HHs have no member who is tested HIV+; b] HHs are relatively matched with their HIV/AIDS counterparts in terms of educational profile of the HH head, locale and socio-cultural background of the HH etc.; and c] the HHs have no member with known critical life debilitating medical ailment like cancer. Unlike the HIV/AIDS HHs sample whose focus was on HIV+ respondents [one per HH] within the 18-60 years age group; with regards to the non-HIV/AIDS HHs sample, it was on *any/all* members [depending upon the objective] belonging to the same age group.

The findings vis-à-vis economic implications of HIV/AIDS on HHs/individuals in Goa are primarily based on data/information collected during March-August 2009. Needless to say the data and its subsequent analysis is dependent amongst other things on the then existing prices and government/NGO/Care and Support Homes' policies on HIV/AIDS.

While specific details on scope, nature, design and methodology of the study are provided in **Chapter 3**, the following nevertheless need a mention: i] The study does not delve into monetary values of fully/partly sponsored items consumed/used by HHs [i.e. items

consumed/used over and above those actually purchased through HH resources]. The cost to the person/institution sponsoring the above has also not been measured/considered. Sponsored items have been accounted only if the HH has incurred the expenses initially from its own resources [even if got the same partly/fully reimbursed later] or from monetary resources provided by others; ii] While dealing with income/employment, issues pertaining to productivity of labour have not been covered/measured since they were not part of any study objective; iii] Pertaining to health/medical expenditure, since the focus is on only the economic impact, the study does not unduly concern itself with investigating the precise nature of ailments suffered in terms of correct medical terminology; and iv] Considering the nature of the topic, types of HHs involved, manpower, financial and time constraints; the present study barring a few issues, in general focuses on details of the last one year only.

1.5 RELEVANCE / SIGNIFICANCE OF THE STUDY

The study addresses an issue of international, national and local importance. The epidemic is reversing development gains, robbing millions of people of their lives, widening the gap between rich and poor, and shattering young people's opportunities for healthy adult lives.³⁰ As mentioned earlier, HIV/AIDS has severe adverse economic consequences at the individual/HH, sectoral as well as at the macro/national level. It has been said that the impact of HIV/AIDS felt at the individual/HH level would to a large extent determine the impact at the other levels, and, to that extent, the most immediate concern in impact alleviation interventions must start with the affected individuals and their families (Gupta and Panda 2002, 184). According to Barnett and Whiteside (2000a, 12) the impact has not yet been very detectable, much less catastrophic, at the macro level and hence analysis of impact requires methods that detect it at the meso [middle] and

micro levels. Estimating the epidemic's macroeconomic effects is complicated because high-burden countries have been undergoing important changes³¹ at the same time that they have been experiencing HIV (UNAIDS 2008, 170). In India, where the impact of HIV/AIDS is not much visible due to the low prevalence rate and huge population, it is very important to study both the human and economic dimensions of HIV/AIDS (Ojha and Pradhan 2006, v). While the present study is in line with the above, it also conforms to a large extent with the two important arguments for having socioeconomic impact studies namely: i] If there is a measurable or predictable impact, then people can be convinced of the problem. Showing impact can thus become an important tool for *advocacy* – encouraging politicians, leaders and policy makers to engage in prevention. If the effects of illness and death can be shown, the need for prevention will be clear; ii] If the epidemic will have an impact, it is necessary to know its location, scale and form to begin *planning* for it. Impact studies thus have a dual purpose - they provide the rationale for both prevention and mitigation (as in Barnett and Whiteside 2000a, 11).

This micro-level study goes a long way in understanding the economic implications of HIV/AIDS on HHs/individuals in Goa by focusing on those who are in the economically, productively and socially active age group of 18-60 years. The present study, the first of its kind in Goa to extensively document in detail the various economic ground realities facing HIV/AIDS HHs/individuals, can assist policy makers towards making a broad assessment of the inadequacy of some of the existing measures provided by the government and other agencies including NGOs with reference to HIV/AIDS; and to devise suitable changes to tackle the deficiencies and problems and improve the day-to-day living of the PLWHA and their HHs. The study also shows whether HHs are able to cope with - and if so how - the peculiar conditions they face, of rising expenditures and falling incomes, *post*-HIV infection. By making a comparative analysis with a

matched non-HIV/AIDS HHs sample [akin to a *control group*], the study helps in assessing the finer complexities and the real-life situation of HIV/AIDS HHs and provides an objective insight to areas where HIV/AIDS HHs are at a greater disadvantage – areas which therefore need to be addressed on a more urgent basis. The study also points for the first time issues where significant gender based hardships exist – issues which are deserving of a more focused corrective mechanism. Suggestions for the future role that the government, NGOs, corporate bodies and/or others could play for effectively tackling HIV/AIDS and in alleviating the sufferings of the HIV/AIDS individuals/HHs is another positive outcome of this study. Leaving aside the fact that this study is one of its kind - the first - in Goa to extensively document and analyse the economic impact of HIV/AIDS, it is in high probability the first study anywhere to focus on the role played by ‘partly/fully sponsored’ food and ‘unrequited and/or unrevealed income’ [UUI] in the day-to-day life of HIV/AIDS HHs. Also, the uniqueness of the nature of methodology/design adopted towards analyzing inflow/outflow of annual HH income and health/medical expenditure provides findings from a perspective not seen in other studies.

In the context of Goa the findings of the present study will be useful since, besides no other similar study being available, it will assist in the framing of effective/appropriate strategies considering the ground situation which in many ways is different from other Indian States. It is important to be reminded here that Goa is a ‘moderate prevalence’ State, bordered by ‘high prevalence’ States, and herself having potential for high risk on the HIV infection front on account of her socio-economic, geographical and cultural background. The tourism dependent coastal state of Goa, with relatively *westernized*, liberal and non-conservative lifestyles, in recent times has increasingly been getting a negative reputation, nationally and internationally, as being a sex and drug haven. Goa, in a way could be said to be sitting on a fast ticking HIV/AIDS time

bomb with there being on an average about three HIV+ cases detected each day, that too at the State controlled ICTCs only, leaving aside those undetected as of date, and those detected but not accounted for since the same were detected in private clinics.

Besides the findings of the present study being useful to the government, NGOs and other institutions, the same will also be extremely valuable for researchers. The study can assist in developing future hypotheses. Being one of its kind it could also provide the base for conducting some form of *longitudinal study* in the future to find changes if any in the economic implications over different time periods. This is an important area for further research on account of changes in: prevalence rates, awareness levels, government policies, international/national financial and non-financial assistance, drug/therapy regulations, cost of living, cost of treatment, R&D etc.

1.6 LIMITATIONS ³²

- The research topic deals with an extremely sensitive issue – an issue involving stigma and discrimination. Despite care and precautions taken to eliminate inconsistencies, errors and other lacunae, the accuracy of the profile prepared and data analyses depends primarily on the information provided by the respondents themselves.
- Though negligible, there is always the possibility that there could have been among the non-HIV/AIDS HHs, member(s) with HIV infection, but who were unaware of the same on account of its non detection as of that date.
- For a study which involves *hidden population*, it is extremely difficult to arrive at an appropriate sample size *ante-survey/data* collection for a variety of reasons such as non-disclosure of HIV+ status by the overwhelming majority; non-cooperation of respondents; unknown status of true *universe*; unavailability of complete/accurate *sampling frame*; etc.

- Considering the sensitive nature of the study it is not possible to gain sufficient access to HIV+ individuals of all economic backgrounds [financially and professionally] especially those from the better brackets. Though in line with vast literature on the concentration of HIV/AIDS amongst poorer/marginalized sections, and also despite broadly reflective of the types of HIV+ individuals listed at the ICTCs, there is the possibility that the sample chosen may appear tilted towards those from the lower economic backgrounds.³³
- Absolute figures recorded are approximate in nature. Though they are recorded only after due scrutiny and counter-checks, the actual figures could be marginally different than those cited.
- On account of its nature getting precise details of UUI is not easy or minutely verifiable.
- Though common with other similar studies involving matched samples, despite adequate steps taken there is the possibility that the non-HIV/AIDS HHs sample may not be perfectly matched with the HIV/AIDS HHs sample.
- On account of the nature of the topic involving hidden population, unknown universe and absence of appropriate sampling frame, *non-probability sampling* techniques had to be made use of. Despite best efforts to get a representative sample and remove personal biases, the study nevertheless could be subject to limitations associated with such sampling techniques.
- On account of the sampling techniques adopted, and since under the circumstances of the present study *normal distribution* of sample elements or other assumptions of *parametric* statistics cannot be assumed, *non-parametric* tools were used for analysis since they are supposedly more superior for such studies. However, on account of the above while study findings are relevant with reference to the study sample, the same are only *indicative* of the situation for others – i.e. to provide partial/limited generalisations only. The study findings cannot be used to generalise or draw inferences for the entire population.³⁴

Notes

1. As per post-revised figures the estimated number of HIV-infected people globally is 33 million (*The Hindu* 01/12/2009, 6; Mukherjee 2007, 3).
2. Available at AIDS.Org: <http://www.aids.org/factsheets/124-t-cell-tests.html>
3. Both were awarded the 2008 Nobel Prize in medicine for their discovery; an award shared with Harald zur Hausen who studied the cause of cervical cancer.
4. See: <http://news.bbc.co.uk/2/hi/asia-pacific/6911736.stm>
5. Number of cases in relation to total population.
6. Incidentally, while *concentrated epidemic* can also refer to situations where there is concentration of infection among high risk groups, *general epidemic* can refer to situations where there is spread of infection among the general population. There is no proper agreement as to the factors responsible for the differences between the two (Correa, Gisselquist and Gore 2008, 2).
7. Alternatively the same classification was called as generalized, concentrated and low level epidemic respectively (Roy 2001, 1:44).
8. See: http://www.nacoonline.org/facts_overview.htm
9. HIV/AIDS Forum: Impact of the HIV/AIDS epidemic; available at: <http://www.indianngos.com/issue/hiv/resources/impact.htm>
10. All these are interrelated – with poverty being the primary contributor and common factor.
11. See Bloom and Mahal (1996), Bloom *et al*' (1997) and Bloom *et al* (2001c) [all as in Mahal and Rao (2005, 592)]; Drummond and Kelly (2006, 4); UNESC/ESCAP (2004, 3); Medhini, Jain and Gonsalves (2007a, 566-567); Ramasubban and Rishyasinga (2005, 10); YMCA/YWCA (2003, 26); Roy (2001, 1:34-35).
12. Though primarily on account of 'survival', also on account of pure economic gains if alternative economic opportunities are not attractive. While for the former see Bloom *et al* (1997), Ratnapala (1994) and Mahal *et al* (2001) [as in Mahal and Rao (2005, 593)]; Israni (2001, 156); Medhini, Jain and Gonsalves (2007a, 456); Majumdar and Panja (2008, 163); and Sahni, Shankar and Apte (2008); for the latter see Mahal and Rao (2005, 593); Kowligi and Hugar (2008, 146). In one case pertaining to the present study a married female respondent claimed one single act of sex to raise ₹700 to treat her ill son as the cause of HIV.
13. See WCC (2002, 16); Ramachandran, Subbiah and Ravishankar (2008, 321); Medhini, Jain and Gonsalves (2007a, 456 & 463); Roy (2001, 1:35).
14. See Hira, Gupta and Godwin (1998) and Rao *et al* (1994) [as in Verma and Roy (2002, 81)]; WCC (2002, 14-15); Verma and Roy (2002, 83); Prasad (2008, 7-8); Ramachandran, Subbiah and Ravishankar (2008); Ramamurthy (2004, 240); Medhini, Jain and Gonsalves (2007b, 1089).
15. See Pandav *et al* (1997) [in Verma and Roy (2002, 82)]; Medhini, Jain and Gonsalves (2007b, 1089).
16. See Medhini, Jain and Gonsalves (2007b, 1092); Sharma (2006, 150-151); A. Malavia (in HRLN 2008, 152-153).
17. See Philipson and Posner (1993) [as in Mahal and Rao (2005, 594)].
18. See Giraud (1993), Arndt and Lewis (2001), Kanjilal and Forsythe (1997) and Bloom *et al* 2002 [as in Mahal and Rao (2005, 588-589)]; and Sharma (2006, 130 & 172).
19. Guinness and Alban (2000), Shepard (1998), Arndt and Lewis (2001) [as in Mahal and Rao (2005, 589)]; Nielsen and Melgaard (2004, 47); CARICOM; Barnett and Whiteside (2000a, 28); Gaigbe-Togbe and Weinberger (2003, 38); Avert (2008); Ramamurthy (2004, 235); and UNAIDS (2006, 95).
20. See Fox *et al* (2004) [as in UNAIDS (2006, 101)]; Fox *et al* (2003) and FAO (1997) [as in Gaigbe-Togbe and Weinberger (2003, 35-36)]; Drummond and Kelly (2006, 8); Jayne *et al* (2004) [as in UNAIDS (2008, 174)]; Dixit (2005, 106); Sharma (2006, 164); Barnett and Blaikie (1992) [as in Mahal and Rao (2005, 586)].
21. Medhini, Jain and Gonsalves (2007a, 460); Sharma (2006, 129); UNICEF (2000) [as in Gaigbe-Togbe and Weinberger (2003, 41)]; UNAIDS 2006; Avert (2008); Dixit (2005, 260).
22. http://dsacs.delhigovt.nic.in/naco_policy.asp [accessed July 2007].

23. References are provided in subsequent chapters.
 24. While the broad focus is on HIV/AIDS HHs in general, more so with reference to issues like inflows/outflows of income; analyses have been done of individuals [one HIV+ person per HH] as members of HHs, especially on issues related to income/employment and health/medical expenses.
 25. Other\sub-objectives can be found in **Chapters 3 to 6**.
 26. Of the HH head and/or of the HIV+ respondent.
 27. Centres where free counseling/testing for HIV is done and basic information on modes of HIV transmission/prevention provided. Additionally, these centres link people to other prevention, care and treatment services; provide drugs for OIs; and follow-up counselling through field visits. There were as of Dec. 2009 14 ICTCs with 3 private hospitals also added to the list (Nagarsekar 2009, 7).
 28. Information pertaining to them has been considered as if they were regular members of HHs provided there was at least one HIV+ member in the concerned HHs belonging to the 18-60 years age group.
 29. For example, tourists whose HIV status was detected at the ICTCs in Goa.
 30. WHO: http://www.who.int/topics/hiv_infections/en/
 31. Like globalization, fluctuations in commodity prices, political upheaval, civil and international conflict, and other humanitarian crises.
 32. Details of limitations and measures adopted to address the same have been provided in **Chp. 3**.
 33. This issue is common to other studies as well including the one conducted by NCAER/NACO/UNDP (Pradhan, Sundar and Singh 2006).
 34. That generalisations cannot be made for the larger population on account of issues like sample size, sampling techniques or quantitative analysis not being sufficiently rigorous, are not uncommon for studies like the present one – amongst others, studies like those of Aliber *et al* (2004) and Salganik (2006) make reference to the same.
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CHAPTER 2: REVIEW OF LITERATURE

2.1 METHODOLOGIES/PRIMARY OBJECTIVES OF OTHER STUDIES

2.2 ECONOMIC IMPLICATIONS OF HIV/AIDS

2.2.1 Macro/national level economic implications

2.2.1A Non-medico economic implications

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2.2.2 Sectoral/occupation level economic implications

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2.2.3 Individual/household level economic implications

2.2.3A Non-medico economic implications

2.2.3B Medico-economic implications

2.3 SUMMARY OF FINDINGS OF OTHER STUDIES

2.4 PRESENT RESEARCH VIS-À-VIS OTHER STUDIES

2.4.1 Similarities

2.4.2 Differences

Notes

CHAPTER 2: REVIEW OF LITERATURE

Just as a stone thrown into a pond will create ripples that reach to the farthest edges of the pond, so too will the effects of HIV infection be experienced at all social, cultural and economic levels: Reid (2000a, 19).

This chapter has been divided into four parts: outline of methodologies/objectives of other studies; economic implications of HIV/AIDS; summary of findings of other studies; and similarities/differences between the present study and others. For the purpose of organisation the section on economic implications has been divided into three sub-sections: macro/national level, sectoral/occupation and micro/individual/HH level implications; with each being sub-divided into two: non-medico economic and medico-economic implications.¹ As also averred by Mahal and Rao (2005, 583), on account of relative paucity of Indian economic literature on HIV/AIDS, the review/analyses has a substantial international flavour.²

2.1 METHODOLOGIES / PRIMARY OBJECTIVES OF OTHER STUDIES

A few studies like those of Pradhan and Sundar 2006; Pradhan, Sundar and Singh 2006; Pradhan, Sundar and Natesh 2006 etc. have been based on data collected by NCAER through a HH survey to assess the socio-economic impact of HIV/AIDS in India. The survey conducted during 2004-2005 with the support of UNDP and NACO covered selected areas of six high-prevalence Indian states. Some features of the study/survey are: it made use also of qualitative research techniques; it had two samples – one comprising HIV HHs and the other of non-HIV HHs; it considered even two PLWHA per HH; it used Voluntary Counselling and Testing Centres [VCTC] counsellors as field investigators; most sample respondents were from urban areas; for every one HIV HH, three non-HIV HHs were selected; individuals not living in HHs were excluded. While data collected was used by Pradhan and Sundar (2006) to study details of the impact of

HIV/AIDS on women/girls by examining a cross-section of issues like income, savings, consumption, education, health, levels of stigma and discrimination; Pradhan, Sundar and Singh (2006) made use of the data to study the same issues but without focusing on gender. Similar to the latter there are reports prepared separately for each of the six high HIV prevalence states - for e.g. Pradhan, Sundar and Natesh (2006) dealt with issues concerning Tamil Nadu.

Ojha and Pradhan (2006) in the study conducted by NCAER along with NACO and UNDP, analyse the macro-economic and sectoral impacts of HIV/AIDS in India using a five-sector Computable General Equilibrium [CGE] model. The sectors in this multi-sectoral, neo-classical type and price-driven model are agriculture, tourism, manufacturing, services and health care; with three factors of production being land, capital and composite labour, which is a nested constant elasticity of substitution [CES] aggregation of unskilled, semi-skilled and skilled labour. Incidentally, the study findings indicate that while the AIDS epidemic will hit harder the sectors that use unskilled labour intensively, there will be a slowdown in the growth of real aggregate GDP and per capita GDP by the turn of the next decade. As the lower per capita income slows, even those who are not infected by HIV will be 'worse-off' in the long term.

Werker, Ahuja and Wendell (2007), instrument for HIV prevalence using the male circumcision rate. They argue that, in addition to having a causal protective effect on HIV infection rates, male circumcision in Africa does not co-vary at the national level with any salient omitted variables, such as modernity, initial income or life expectancy, and that the coefficient of male circumcision on HIV/AIDS remains large and significant even after controlling for religion and ethnicity. Besides estimating the impact of AIDS on economic measures between 1980 and 2005, they also estimate a cross-country regression of growth between 1990 and 2005 to corroborate their findings on the impact of AIDS on economic output.

Canning *et al* (2006a) make use of data from a 2004 survey of 1481 Nigerian HHs, including general HHs and those having PLWHA. From the general/random sample, leaving aside those who themselves happened to be HIV+, a control group of individuals was selected to match each HIV+ person on pre-determined characteristics.³ The study assisted through contacts of NGOs, made use of survey/structured questionnaire, adopted the purposive sampling method, had majority of the respondents from urban areas, and had hospitals as the main entry point for rural locations. This study estimated direct/indirect economic costs of HIV/AIDS by comparing observed health and economic outcomes with expected outcomes in the absence of HIV. Statistics were prepared for the three groups: HIV+ individuals, 'matched' individuals without HIV and 'all' individuals who are HIV-negative. Results were based on questions referring to the 4-weeks preceding the survey or on outcomes in the previous year. The economic impact of being HIV+ was found by comparing the outcome for each person with their matched control.

UNAIDS (2006) brings to fore a study in north Zambia which explores the dynamics of the impact of HIV on families/communities by comparing five HH categories: female-headed HHs with orphans; male-headed HHs with orphans; female-headed HHs taking care of people with HIV-related illness; male-headed HHs taking care of people with HIV-related illness; and non-affected HHs. Incidentally, among other things the study found that female-headed HHs taking care of people living with HIV supported an average of 3.6 orphans each and were 'food-insufficient' - having less food than they needed for an average 3.4 months per year. Few HHs taking care of HIV+ people were able to participate in cooperatives because of financial constraints or lack of time, with female-headed HHs taking care of HIV+ people being less able than others to participate in community-based organizations and having fewer assets often because of distress sales and property grabbing (FAO 2004, as in UNAIDS 2006, 85-86).

Albert and Williams (1998) in their study of the economic burden of HIV/AIDS in Canada had as an important objective: the need to capitalise on emerging findings from research projects, link the results to other research, and bring the interim results to bear on pressing policy issues. A cost of illness or economic burden approach was selected as the framework, with the overriding objective being to quantify and make explicit key economic dimensions of the HIV/AIDS epidemic in Canada. The study rests on three interrelated components: direct and indirect costs; epidemiology; and national investment in HIV prevention.

The study *Socio-economic impact of HIV/AIDS on PLWHA and their families* (ILO 2003) was undertaken with the objectives of: a] documenting the experiences of PLWHA and their families, ever since the discovery of their HIV+ status, vis-à-vis stigma, employment, family income and expenditure, availability of care and support services, etc.; b] understanding the impact of HIV/AIDS on women and children. The study was conducted in four states: Delhi, Maharashtra, Manipur and Tamil Nadu, through the state-level networks of PLHA. The study had a purposive sampling framework, covered 292 respondents, collected data from infected and affected people, and made use of Focused Group Discussions [FGDs] and interviews.

Aliber *et al* (2004) in their study, explore the relationship between HIV/AIDS and land rights in Kenya, with a particular focus on women as a socially vulnerable group. Combining participatory research techniques, HH surveys, and in-depth interviews, the study examines three village case studies and attempt to identify the role of HIV/AIDS in precipitating/aggravating tenure insecurity from other influences. The primary objective of the study was to understand the relationship between the AIDS-affected status of HHs/individuals and changes in their land tenure status, if any. This required identifying the personal factors that make some people more vulnerable than others and the contextual factors - legal, economic, cultural etc - that condition

the vulnerability. The study which compares affected with non-affected HHs, showed that while HIV/AIDS emerges as a significant though not primary cause of tenure insecurity, it is widows and their children who are nevertheless largely affected.

Conducting their study on a large agro-industrial firm that raised and processed tea, Fox *et al* (2004) had one of their primary objectives, to estimate the impact of HIV/AIDS on individual labour productivity during disease progression. To study productivity and attendance of 54 tea estate workers who died or were medically retired because of AIDS-related causes between 1997-2002 in western Kenya they compared details of daily output in kilograms of tea leaves plucked, use of paid/unpaid leave, and assignment to less strenuous tasks, with those of comparison workers. Comparative results showed HIV+ workers plucking less, using more leave, spending more days doing less strenuous tasks and earning less, months before AIDS related termination. The study shows that had it not been for the assistance of unrecorded helpers often brought by HIV/AIDS workers, actual differences could have been even greater (see also Fox *et al* 2003, as in Gaigbe-Togbe and Weinberger 2003, 35). The study also highlights that while decreased attendance and output can put sick workers in danger of losing their job, it entails financial burden on employers.

2.2 ECONOMIC IMPLICATIONS OF HIV/AIDS

The impact of AIDS flows from the increase in premature morbidity and mortality that it causes. A general working definition of impact is: a] A shock to an existing system of livelihood at the national, regional, communal, or HH level, which reduces the levels and expectations of life and welfare. It may mean the dissolution of the unit and involve the loss of individuals from poverty related causes rather than as direct results of HIV/AIDS illness or death; b] A slow but complex set of changes to a social and economic system, attributable to the effects of an identifiable set of

causes. In this context those causes are increased illness and death associated with HIV/AIDS (Barnett and Whiteside 2000a, 38). In the very long term, though there could be the possibility that in some cases the epidemic may have economically and socially positive impacts; for most individuals, HHs and communities affected by the epidemic, impact will be experienced only as negative (*ibid*). The idea of impact is defined for making clear that the impact of an epidemic cannot be thought of only as a shock but must also be understood as a series of slow, cumulative events over a long time period (Barnett and Whiteside 2000b). 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).

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 should 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, Ahuja and Wendell 2007, 3). Using the general rule that each case costs 2.7 times the per capita GNP and looking at the cost in similar countries where studies have been done, are amongst the ways available for estimating the costs of HIV/AIDS (Barnett and Whiteside 2000a, 29).

2.2.1 Macro/National level economic implications

2.2.1A Non-medico economic implications

The macroeconomic impact of AIDS is difficult to assess with many studies finding estimates of macroeconomic impact 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 have found macroeconomic impacts to be small with others finding them to be significant; only a few studies have been able to incorporate the impacts at the HH and firm level into macroeconomic projections (Barnett and Whiteside 2000a, 25).

HIV/AIDS caused rise in illness and death among people formerly productively engaged, has a serious impact upon national economies, with death leading to a 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 and 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 a third in countries with adult prevalence rates of 10 percent (Sharma 2006, 127-128).

HH 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, Pandav and Nath (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, 1891-1892). Though difficult to estimate the effect of HIV/AIDS on

a country's macro economy, literature nevertheless highlights its adverse implications 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 would be 17 percent less in the year 2010 than it would be without the virus (Bertozzi, Opuni and Gutiérrez 2001). NCAER, along with NACO and UNDP, reporting for the 14 year period [2002-2016] indicated that the epidemic could push up health spending by the State [and HHs] 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, HH savings by 1.15 and investment by 1.16 percentage points (Sharma and Baxi 2007, 12). By not considering HIV/AIDS as an 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 a year till 2016 (*ET* 21/07/2006, 1; see also Ojha and Pradhan 2006, xxi). Cuddington (1993b) 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 one percentage point; 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).

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 concluded 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 1993b; 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 however, 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).

Bell, Devarajan and Gersbach (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, Devarajan and Gersbach (2004, 98) besides listing other effects of HIV/AIDS like decline in social

cohesion and social capital; also indicated 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, Ahuja and Wendell (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, research of Bloom *et al* (2001a), UNAIDS (2006), Greener (2004), Whiteside (2002a) 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 (1997b) 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, Ahuja and Wendell 2007, 19).⁴ 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 population at large (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, Ahuja and Wendell 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.⁵

Werker, Ahuja and Wendell (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, Ahuja and Wendell 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 somewhat 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, McDonald, and Roberts (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, Ahuja and Wendell, 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 *ibid*, 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, Greener and Russell 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, Devarajan and Gersbach 2004, as in UNAIDS 2008, 170). With greater burdens borne by poor HHs, 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* 2001c, 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 2003b, as in Avert 2008). Economic analyses by Asia Development Bank [ADB] and UNAIDS indicate that HIV will slow the annual rate of poverty reduction between 2003-2015⁶ (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 HHs in Asia (as in *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*).

Reid (2000b, 35-37) talks of four waves of HIV/AIDS: i] trauma, illness and death; ii] increasing numbers of children, the elderly without support, single-headed HHs;⁷ iii] socio-economic impact;⁸ and iv] long term impact concerning the survival of communities and nations. Sharma (2006, 145), also refers to HIV/AIDS as a long crisis comprising of four waves.

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; 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. That AIDS can have a negative impact on foreign investments and on labour remittances from abroad can be found also in Rao (2000b, 495).

In the Caribbean region, HIV/AIDS is undermining human resource development efforts of the post-economic adjustment period by selectively reducing the 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 which, will represent 6 percent of the region's GDP due to direct and indirect costs (see CARICOM).

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 HHs, in case of countries having high unemployment there may not be much impact - unemployment could even come down. 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 net, 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 additionally 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 in 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. The situation, already bad, 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 countries Drummond and Kelly (2006, 10-11) highlight the further 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 the 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 must divert spending from education, economic development and other health/welfare programmes meant for future development to managing an existing crisis. While HIV/AIDS could also come in the way of countries in paying-off their international debt, inability to raise revenues and/or cut spending on development projects could make countries spend more than what they earn besides relying on international loans/charity to make up for the deficit.

Drummond and Kelly (2006, 11-13) also highlight market failures related to HIV/AIDS. While one is the continued lack of education, with many ignorant of AIDS being incapable of protecting themselves from HIV; a second is that adequate health-care supplies for the prevention/treatment do not reach those most likely to benefit, with those who are most at risk generally being the least able to afford medications. The pharmaceutical industry is also afflicted with market failures, on account of issues related to high research costs, uncertain economic returns, generic drugs, pricing of drugs at lower rates on account of public interest etc. Poorer nations are often faced with the choice between efficacy and price of ARV drugs.

Israni (2001) highlights how government policies can potentially address three types of market failures vis-à-vis HIV prevention. While the first involves the under-provision of public good, specifically the lack of incentives for the private sector to collect/disseminate information; the second involves negative externalities of high-risk behaviour; and the third involves equity, with very poor people being less able to protect themselves against HIV than others. According to Israni the effectiveness of public programmes should be measured as the difference between outcomes with and without the programme. Incidentally, HIV/AIDS prevention interventions

have additional positive effects that might be overlooked if cost effectiveness calculations considered only the impact on HIV/AIDS. Interventions, including targeted interventions for 'core transmitters', the vulnerable and marginalised populations, at the nascent stage are most effective and likely involve far less total cost than if implemented after HIV has saturated sub-populations with high risk behaviour.

Ideally any intervention, whether for government or others like NGOs, has to be selected on the basis of cost-effectiveness, especially so for developing countries where resources are scarce (Gupta and Panda 2002, 190). Cost-effectiveness analysis though not easy, requires attention be paid to aspects like indirect benefits to others besides those directly affected, indirect benefits in some 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 (as in Gupta and Panda 2002, 190).

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 adverse economic implications: short run and long run. Related to stigma and discrimination, according to an ILO report the highest rates of HIV infection found amongst those between 15-49 years reflects that the impact of HIV/AIDS related discrimination in the workplace is devastating, causing psychological distress and jeopardizing the economic security of millions. Discrimination, by employers and co-workers, can be economically harmful as it potentially excludes qualified/able

workers from the labour force, unnecessarily increases the burden on the social security system, and makes those infected to change jobs unnecessarily (Medhini, Jain and Gonsalves 2007a, 153 & 161). Incidentally, fear of stigma/discrimination may 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). 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). Studies like Bloom, Canning and Sevilla (2004); Bloom, Canning and Malaney (2000); and Mason (2002) have shown 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).

Gaigbe-Togbe and Weinberger (2003, 44) highlight that the long-term effects of HIV/AIDS on economies may be more serious than most macro-economic estimates, since these

estimates usually do not take into account the loss of social capital or the long-term damage to human capital. Citing studies like those of Bell, Devarajan and Gersbach (2003) the authors show that effects of lowered investment in human capital of the younger generation will affect economic performance over future decades, beyond the timeframe of most economic analyses.

ADB (2004, viii) making three important points shows that: 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 same the epidemic is still to have a negative impact on Asia's economic development, primarily through its effect on vulnerable groups; 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.

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

2.2.1B Medico-economic implications

Though not directly pertaining to HIV/AIDS in particular, but health in general, India lost \$8.7 billion in NI in 2005 itself due to chronic diseases, with the figure likely to increase 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 in many ways - 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 (UNESC/ESCAP 2004, 4).

ADB (2004, 46-47) highlights four key channels through which health affects wealth and economic performance. The same are important to understand the economic implications of AIDS, the key features of which are large number of cases, costly treatment, and mortality that is concentrated among working-age adults: i] health has positive effect on labor 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, with individuals tending 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.

As Werker, Ahuja and Wendell (2007, 3) highlight with supporting studies as mentioned below, 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 the correlation between health and output [and growth] at the macro level is accepted, debate remains whether there is a 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, McMillan and Wacziarg 2005); though challenged by studies like Acemoglu and Johnson (2006) and Young (2005a). 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).

As highlighted by WHO (1995, 18), HIV/AIDS poses a challenge to the medical community. 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).

HIV/AIDS epidemic is a health problem as well as a serious threat to national development efforts. The impact of HIV/AIDS on health services is severe, particularly in countries with mature epidemics. In some hospitals in Africa and Thailand, 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 - 20 percent in hospital. Each AIDS case treated can cost about US\$ 290 in nursing and drug expenses alone (Rao 2000b, 494). In some Caribbean States, even 25 percent of the hospital beds are occupied by patients with HIV/AIDS; with the drugs used to treat people, including those with OIs remaining for most part unaffordable (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 countries (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).

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 PLHA (CAREC/PAHO/WHO 2004, as 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, as in UNAIDS 2006, 90). In areas where malaria is endemic, HIV infection increases the risk that an individual over five 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, as in UNAIDS 2006, 90).

At the global level in the campaign against HIV/AIDS the IMF is collaborating with organisations like World Bank to expand country level HIV prevention/treatment programmes. These are important components of many Poverty Reduction Strategy Papers [PRSPs] prepared by low-income country governments along with civil society and development partners. PRSPs provide the operational basis for concessional lending by the Fund and Bank and for debt relief under the Heavily Indebted Poor Countries [HIPC] initiative. IMF and World Bank are also helping poor countries improve their public expenditure management systems and ensuring that funds, including those for health programmes, are used efficiently and transparently (IMF 2005).

Schoub (1995) brings to light 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. Even though 80 percent of all new cases of AIDS 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 of AIDS patients and prevention of HIV can also be found in WCC (2002, 66).

Like Schoub, Dugger (2009, 9) by quoting remarks of M. Chopra, the UNICEF chief, on the debate whether the richer nations are spending too much on AIDS which requires lifelong medications, compared to diarrhea and pneumonia, the 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 though mentions that there is no substance that AIDS gets too much of resources at the expense of other diseases like TB, malaria or cholera; for after all the total budget for the ongoing NACP-3 at current exchange rate is 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 the patients receiving ART were the very rich or those who had access to rationed, low-price supplies through a variety of pilot or research projects; with the majority having little access to the same. Since 2001, however, while generic versions of ART medications have become available in poor countries at a cost of as little as \$150 a year, poor countries are finding new external sources of assistance for AIDS medication like the Global Fund for AIDS, Tuberculosis and Malaria; World Bank; U.S. government; WHO; besides other national governments and private foundations.

On account of absence of product patent regime in India and due to competition of Indian firms the cost of HIV/AIDS treatment dropped from around \$10,000 to \$150 per year (Medhini, Jain and Gonsalves 2007a, 145). Prices from the year 2000 started falling since Indian companies introduced generic versions of the drug. Absence of product patent protection also facilitated the introduction of fixed dose combination [FDC] of ART drugs. The introduction of the third amendment in the Patents Act in 2005, however, 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 could make the economic burden worse in the future (Mahal and Rao 2005, 583).

The introduction of *highly active ART* [HAART] and availability of drugs for OIs has led to a decline in HIV/AIDS mortality. However, interrelated factors determine access to essential drugs, including cost, supply management, drug selection, legislation/regulation, manufacturing constraints, and R&D decisions (Medhini, Jain and Gonsalves 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 ₹ 45 per day, for most Indians it is still costly and unaffordable, especially if one adds the cost of travel and need for frequent check-ups (Medhini, Jain and Gonsalves 2007a, 109). In case of children it is far worse, with ART often costing up to ten times as much as that for adults (*ibid*, 570). NACO has started to provide ART for paediatric cases wherein 500 new HIV+ children are placed on the same every month (Sinha 2008a, 9).

Marseille, Hoffman and Kahn (2002) provide the cost of averting a single case of AIDS in Kenya as \$8-12 (as in Bell, Devarajan and Gersbach 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, Devarajan and Gersbach 2004, 124). Marseille, Hoffman and Kahn (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, Devarajan and Gersbach 2004, 124).

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;⁹ 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.

Albert and Williams (1998) reveal amongst other things that: i] the economic burden of HIV/AIDS is significant - because the number of cases are rising, infected people are living longer, and new therapies are more expensive [the authors show that while there will be savings if movement takes place from a *status quo* situation to more effective epidemic control, there would be instead be a massive rise in costs if the epidemic shifts from the *status quo* to becoming uncontrolled]; 2] to the extent new therapies permit people living with HIV to return to normal patterns of living, the economic burden in terms of lost productivity and participation in society is reduced, with savings in indirect costs covering the increased costs of treatment; 3] there is a strong economic incentive for investment in HIV prevention and education.

2.2.2 Sectoral/Occupation level economic implications

2.2.2A Non-medico economic implications

While it is not obvious if society or an economic sector in the aggregate will be affected by a health crisis in the same manner as individual HHs due presence of mechanisms and/or the possibility that those not sick getting the benefit from those who are sick [e.g. employment]; in the case of HIV/AIDS though given its magnitude, it is possible that community and government resources may be overwhelmed, with aggregate sector, regional and national-level impacts also possibly emerging (Mahal and Rao 2005, 586). Kadiyala and Barnett (2004, 1891) show that it is expected that HH level impacts translate to sectoral level impacts, with evidence from Africa indicating HIV/AIDS affecting agriculture, health, and education sectors negatively, and African

businesses reporting loss of competitiveness due to labour loss, reduced labour productivity and increased cost of production. Likewise according to Sharma and Baxi (2007, 12) India Inc, sprinting high on strong-economic fundamentals, could get its bottom-line hit from HIV/AIDS.

The major sectors to be affected by AIDS according to NACO, UNDP and NCAER joint study are tourism, manufacturing and industry (*ET* 21/07/2006, 1). In sectoral terms, the AIDS epidemic hits harder the sectors that use unskilled labour intensively. The total loss of value added in terms of real GDP on account of HIV/AIDS for the year 2015-16 is estimated at 9.89 percent, with manufacturing and tourism taking the hardest hit (Ojha and Pradhan 2006, xx). According to Reid (2000a, 22) the sectors of the economy that could be threatened by the sudden depletion of the workforce include mining, agriculture, transport, and construction. She indicates that the sectors most vulnerable are those which depend on highly trained personnel or upon occupational groups which may have high rates of HIV infection, such as truck drivers, construction workers, teachers, etc.

In the productive sector, an immediate consequence of HIV/AIDS is the high level of absenteeism due to illnesses and time taken for treatment. As indicated in Rao (2000b, 496-497) a study in Kenya substantiates this, wherein even healthy workers are not spared because many take time off to attend to health needs of sick family members. Few companies have documented high absenteeism by staff to attend funerals – according to an Ugandan respondent, death has become so common that if one attends funerals even one month's work could be lost (*ibid*). Rao presents breakup of AIDS related costs to Kenyan business as follows:- absenteeism 36 percent; training/recruitment 30 percent; burial costs 13 percent; health-care 12 percent; others 9 percent.

In India, the private sector has generally adopted a wait-and-watch approach vis-à-vis HIV/AIDS, though multinational companies and a few large Indian corporations have initiated

HIV/AIDS related workplace policies in recent times. However, considering that the most susceptible/vulnerable population works in the small-scale, informal and unorganized sectors, a lot still remains to be done (Kadiyala and Barnett 2004, 1891; Sharma 2006, 172-173).

Barnett and Whiteside (2000a, 29) indicate that the concept of institutional audit could assist in judging the influence of HIV/AIDS on an institution. It approaches this problem by means of 'bottom-line analysis', wherein in the case of private sector firms the issue will be the loss of profitability and in extreme cases its very survival. For government ministries and NGOs the issues centre around levels of service provided and demanded and the effect on these.

For employers, HIV/AIDS has a negative impact on the business environment - the macroeconomic impact; and on the enterprise itself - the microeconomic impact (Sharma 2006, 127). The cost of losing skilled and even unskilled manpower is very high for companies. It has been proved that for industries, the cost of prevention, cure, and treatment is much lower than the cost of losing manpower (Y. Gurjar in HRLN 2008, 143). Industries thus have to look at preventive issues in their own interest as well. In South Africa, in areas that have been hard hit by the epidemic, it was found that up to 40 percent companies reported that HIV/AIDS was having a negative effect on profits (Avert 2008). An analysis by Schneider and Kelly (2003) on financial services companies in South Africa indicate how in the presence of the HIV/AIDS epidemic the combined costs including main risks costs, defined pension benefits, replacement and retraining, sick leave, economic costs of absence, maternity benefits, and ancillary insured benefits to a hypothetical company in the financial services sector go up as compared to figures in the absence of AIDS (as in Bell, Devarajan and Gersbach 2004, 126).

Sharma (2006) highlights that unless production costs decline at a faster rate, HIV/AIDS causes productivity and profits to decline in organisations due to absenteeism and organisational

disruption. Absenteeism leads to disruption of the production cycle, underutilisation of equipment and use of temporary staff, all of which can directly affect the quality of products and services. Illnesses and death lead to disorganisation within the company workforce due to factors like rising staff turnover, loss of skills and tacit knowledge gained from work experience, declining morale and replacement costs. Sharma also shows that while the private sector can avoid the economic burden of AIDS more readily than governments, HHs and NGOs on account of adoption of numerous protective practices, which eliminate the risk to the firm; but provide little to families of workers who die of AIDS. Incidentally with regards to the formal sector studies indicate that when large numbers of workers with relatively high income die, they are replaced by surplus labour from the informal sector thereby raising average income.

Gaigbe-Togbe and Weinberger (2003, 35) show that as younger, less experienced workers replace experienced workers, worker productivity can get reduced. The actual impact of AIDS depends also on the skills of affected workers. If skilled workers occupying important positions become sick or die, the company could lose its institutional memory - the 'know-how' accumulated through years of experience.

The impact of HIV/AIDS in the hardest-hit countries of southern Africa which is already bad is forecast to worsen. The South African Business Coalition on HIV and AIDS after surveying 1006 companies got reports of higher labour turnover rates and additional recruitment/training costs. Incidentally, while most of the larger companies surveyed had implemented AIDS related policies, only 13 percent of those with fewer than 100 employees had a company policy in place (SABCOHA 2004, as in UNAIDS 2006, 98). Evidence highlights to a greater impact of HIV/AIDS on small firms - those with less than 10 employees; with loss of few employees in key positions even leading to the disappearance of these firms (Gaigbe-Togbe and

Weinberger 2003, 35). A smaller workforce, a likely outcome of AIDS deaths reduces opportunities for division of labor and specialization, with poor consequences on productivity. Productivity at the level of the firm may also be negatively affected since employees and employers could perceive fewer incentives to invest in long-term training (ADB 2004, 56).

With reference to the impact of HIV/AIDS on the non-agricultural sector the following studies can be found in Mahal and Rao (2005, 587-588). One study involving almost 1000 firms in Sub-Saharan Africa (Biggs and Shah 1997) concluded that while the impact on staff turnover was minimal, replacing professional staff was a major problem, with firms taking 24 weeks to replace a deceased professional, compared to 2-3 weeks for less skilled staff. Bloom *et al* (2002) while revealing that a multinational in South Africa was hiring three workers for each skilled position to ensure that replacements are on hand when trained workers die; also highlighted that in a large firm in Zimbabwe with 11,500 employees 30 percent of who were HIV+, the costs of health expenses associated with AIDS amounted to roughly 20 percent of the company's profits. An analysis for USA estimated costs to a firm due to hiring an HIV+ person to be between US\$ 2,300-31,800 under four different scenarios (Bloom and Glied 1991).

As Medhini, Jain and Gonsalves (2007b, 1088) highlight, in most countries with high HIV prevalence rates, agriculture provides a living for large segments of the population. In India, it accounts for almost a quarter of the GDP and 60 percent of employment. While agriculture plays an important role, the farmers are amongst the poorest with low wages and unregulated labour conditions. Loss in human and capital resources due to AIDS compounds poverty, with HIV impacting food production through loss of labour due to illness/death. A study in Ethiopia found that AIDS-afflicted HHs spent 50-66 percent less time on agriculture than non-HIV HHs. As per one estimate about 2 person-years of labour are lost by the time one person dies of AIDS

- due to weakening and time others spend giving care. The economic impact of HIV/AIDS are apparently more immediate in rural than urban areas due to fewer alternative livelihood options.

Impact of HIV/AIDS on the agricultural sector through decline in farm labour inputs and adverse effect on costs and productivity has also been documented by studies like Guinness and Alban (2000, as in Mahal and Rao 2005, 586). Incidentally, while HIV/AIDS causes increased absenteeism due to illness, even on returning to work infected workers often cannot perform duties satisfactorily (Rao 2000b, 496). In certain African countries following AIDS related death not only does the family lose income, but also the entitlement for housing after death. Those in seasonal employment are even more vulnerable because they do not get the full range of benefits (*ibid*, 497). Drummond and Kelly (2006, 8) show how AIDS has turned Sub-Saharan Africa from a net agricultural exporter into a net importer. Amongst other things they shed light on the following: AIDS-affected HHs spend less than half the time on agriculture that non-affected HHs; commercial production in some worst affected areas has fallen by nearly half in few years; as more fall ill there is insufficient labour to farm larger plots and maintain appropriate crop rotation, which thereby contributes to further reducing of yields; as healthy children must work to take care of the sick, many are left without skills to carry out agricultural work in the future. As Dixit (2005, 106) adds, although the tendency of urban-dwelling, underemployed HH members to return to rural communities when the HH becomes affected by HIV sometimes provides a safety valve and compensates for productivity losses, it is unclear how long this burden could be borne before the large influxes overwhelm the resources of rural relatives.

As agriculture happens to provide livelihood for many people infected or affected by HIV, the epidemic has had major effects on food security in high-prevalence countries. Evidence indicates that HIV HHs experience a loss of agricultural production, although some extreme

anticipated consequences like widespread shift toward subsistence crops have not been much documented in rural African settings (Jayne *et al* 2004, as in UNAIDS 2008, 174). By referring to findings of Yamano and Jayne, Sharma (2006, 164) shows the death of a prime-age male HH head to be associated with a 68 percent reduction in per caput HH crop production value. Also while adult female mortality caused a greater decline in cereal area cultivated, prime-age male adult death results in a greater decline in cash crops and non-farm income. While following the death of male head poor HHs had reduced crop production, small livestock holdings, and non farm income; non-poor HHs suffered losses of non-farm income only (*ibid*). Dixit (2005, 106) highlights that besides making HH food production less labour-intensive and probably less nutritious, HIV/AIDS will hurt commercial production by small-holders and plantations since labour will be diverted to immediate demands of food crop production. FAO (1997) studies revealed that revenues from agricultural production decreased by 25 to 50 percent in HIV/AIDS-affected HHs (as in Gaigbe-Togbe and Weinberger 2003, 36). Other observed consequences of the AIDS epidemic is a shift to less labour-intensive cash crops, a decline in the area cultivated, and less animal husbandry (Barnett and Blaikie 1992, as in Mahal and Rao 2005, 586). In Zimbabwe, survey results indicated HIV/AIDS HHs experiencing significant fall in maize, cotton, and groundnut production (Mahal and Rao 2005, 586). HIV/AIDS, besides increasing costs of replacing labour, increases insurance premium and funeral expenses for firms working in the agricultural sector, thereby affecting profitability and chances of economic survival (*ibid*).

There are few studies on the sector level implications of HIV/AIDS in South Asia. As put by Mahal and Rao (2005, 588) considering the low prevalence rates of HIV and presence of high underemployment, there might not be in India in the near future large sector level effects in agriculture [and in labour-intensive industries]; output losses; substantial increases in distress

sales of land; or losses of high skilled personnel, especially if the epidemic concentrates among the poorest and least skilled groups.

AIDS affects the informal sector adversely. It also affects existing antipoverty initiatives. For example, micro-credit programmes get affected in ways ranging from reduced cash flow and higher transaction costs with clients missing payments; to illness among microfinance institution staff themselves (Murray 2005, as in UNAIDS 2006, 98). Incidentally, evidence which highlights the relationship between AIDS, orphanhood and increased levels of child labour, shows that most of the same occurs in the informal sector (UNAIDS 2006, 98).

A number of studies have shown HIV/AIDS adversely affecting the education sector, with UNICEF (2000), UNAIDS (2006), Dixit (2005, 260) and Ramachandran, Subbiah and Ravishankar (2008, 345-347) among others showing the impact through HIV infection and consequent death of teachers. HIV/AIDS affects education by: a] undermining the supply of education especially through effects on teacher morbidity/mortality; b] undermining the demand for education;¹⁰ and c] affecting the quality of education (Medhini, Jain and Gonsalves 2007a, 460; Gaigbe-Togbe and Weinberger 2003, 42). Research conducted in Zambia showed that teachers were dying at a faster rate than new ones could be trained (Sharma 2006, 129).

Transport is another sector adversely affected by HIV/AIDS. While Giraud (1993) assessed that HIV/AIDS related costs to the trucking industry in Thailand would increase over the years, Bloom *et al* (2002) pertaining to Uganda Railways concluded that HIV/AIDS besides having 10 percent of the employees dead, had substantially increased labour turnover rate (as in Mahal and Rao 2005, 588). Likewise, while Bloom *et al* (2002) reported absenteeism rate of nearly 15 percent among employees of the National Railways of Zimbabwe mainly on account of AIDS, Arndt and Lewis (2001) estimated the transport sector in South Africa would have 20

percent lower value added in 2001 under a projected AIDS scenario, relative to a no-AIDS one (as in Mahal and Rao 2005, 588). A USAID funded study of a transport company in Zimbabwe estimated that the total cost to the company due to HIV/AIDS was equal to 20 percent of profits, with over half of the costs incurred being due to higher health-related costs (Sharma 2006, 130). With regards to India, it is known that truck drivers are amongst the high risk group for infection. While studies like FHI (2001) suggest that HIV prevalence in this group may range from 1.9 to 10.9 percent, Kanjilal and Forsythe (1997) indicate that any impact in terms of re-training or other costs are likely to be magnified owing to the small average size of trucking firms (as in Mahal and Rao 2005, 588-589). However, in India, on account of the large numbers of unemployed, who can potentially replace any driver/helper dying of AIDS, it appears that truck drivers and helpers, and not trucking firms, will bear much of the adverse economic impact of AIDS, owing to the low degree of employment protection that exists for employees (*ibid*, 589).

2.2.2B Medico-economic implications

The health sector is one of the first sectors to be affected by HIV/AIDS. As UNAIDS (2006, 95) reiterates, the epidemic is placing unprecedented burdens on the scarce health-care resources that exist, with people with HIV-related diseases occupying more than half of all hospital beds in Sub-Saharan Africa. Also, excessive workloads, compounded in many cases by fear of infection due to the absence of standard infection-control practices in many health-care workplaces, are causing many to leave the health profession altogether. According to Gaigbe-Togbe and Weinberger (2003, 38), the impact on the health sector can operate in many ways, for e.g. besides there being an increase in the number of health workers affected with HIV,¹¹ occupational exposure could also affect the supply of health care, as more health workers may contract the disease in the workplace through injuries. Similarly, while training new

professionals' costs money; accumulated experience of those dead will be lost forever. Incidentally, while Botswana lost 17 percent of its healthcare workforce due to AIDS between 1999-2005 (Avert 2008), a study in Zambia found 40 percent midwives HIV+ (UNAIDS 2006, as in Avert 2008). Besides HIV/AIDS affecting the bed occupancy, there is additional pressure on the health system due to demands for universal blood screening and improved services for those with STIs and OIs like TB (Alban 2002, as in Nielsen and Melgaard 2004, 47).

Mahal and Rao (2005, 589) highlight the following studies/findings amongst others vis-à-vis health and HIV/AIDS: while in countries like those from Sub-Saharan Africa with HIV prevalence exceeding 5 percent there is a significant burden of AIDS patients on medical facilities ranging from 20-70 percent of bed occupancy in major hospitals (Guinness and Alban 2000); Guinness and Alban (2000) and Shepard (1998) indicate large public health spending, even exceeding 10 percent of the total health budget due to HIV. Incidentally, the large expected increase in health spending suggests an expansion of the health sector, with Arndt and Lewis (2001) showing that the health sector in South Africa would not suffer as much as other sectors on account of HIV/AIDS over the period 2001-2010.

The immense pressure on the health sector caused by HIV/AIDS is also highlighted by others like Bertozzi, Opuni and Gutiérrez (2001) and Ramamurthy (2004, 235). In India this is especially so for government hospitals and in certain states like Tamil Nadu and Manipur. As Ramamurthy indicates this is bound to have impact on individuals accessing health care for other diseases as AIDS care can crowd-out non-AIDS care. However, unlike Sub-Saharan Africa, public expenditures directed to HIV/AIDS in India are much lower at roughly 1.5 percent of public health spending with much of it being financed by international organisations (Mahal and Rao 2005, 589). Nonetheless, from a different perspective, the effect of HIV/AIDS on bed

occupancy in public hospitals could be severe in the short-run due to limited excess bed capacity. An expanded HIV/AIDS epidemic could pose future problems by limiting supply and increasing cost of medical personnel, with a study in Sri Lanka suggesting that medical personnel may need added payments to compensate for increased risk of HIV in health care settings with high HIV prevalence rates (Bloom *et al* 1997, as in *ibid*).

Mahal and Rao (2005, 589) also add that if the Indian government continues providing ART to increasing numbers of PLHA not only will public health expenditures increase, but also add pressure on limited infrastructure and personnel in the health sector as the HIV epidemic expands in the future. These effects are likely to be exacerbated since most States in India already undergoing severe fiscal crisis, can get their finances overwhelmed in the short-run by even small increases in expenditures directed towards ART and HIV/AIDS activities. Even the poorer States where HIV prevalence rates have been low, may not be spared since besides they supply large number of migrant labour who tend to be at increased risk of HIV infection (Gupta and Singh 2002; Narayana 2001; as in *ibid*).

Mahal and Rao (2005, 589) show that the influence of HIV/AIDS on the private health insurance sector may not be as significant as on public spending since insurance companies can screen HIV+ individuals from the pool of insurable individuals. However, despite the same, it is possible that treatment costs for OIs are passed on to third-party payers without disclosure of the HIV status. An insurance company from Zimbabwe estimated that 45 percent of its health insurance claims in 1995-96 were AIDS-related (Bloom *et al* 2002, as in *ibid*). The future impact of AIDS on the insurance sector in India is uncertain since private voluntary health insurance is still in its infancy and nature of future responses is unknown.

2.2.3 Individual/Household level economic implications

2.2.3A Non-medico economic implications

Bloom and Mahal (1997a) predict that economic costs of AIDS will be felt not by nations but by communities and HHs (as in Kadiyala and Barnett 2004, 1891). Evidence suggests that whereas aggregate impacts may be limited, the adverse HH level economic implications of AIDS could be serious with public resources available for health likely being put under strain (Mahal and Rao 2005, 582). At the HH level while HIV/AIDS leads to incomes getting reduced, savings eroded, and dependency increased vis-à-vis infected and orphans; at the community level it increases poverty and reduces productivity (see CARICOM). According to Gaigbe-Togbe and Weinberger (2003, 29) the impact of HIV/AIDS on HHs/families begin as soon as a HH member starts suffering from HIV-related diseases. In this regard, three kinds of impacts are distinguished: i] loss of income and HH production of the family member, especially if the breadwinner; ii] increase in HH expenditures to cover medical costs; and iii] indirect costs resulting from absenteeism of family members from school or work to take care of the patient. A NACO, UNDP and NCAER study indicated that HH incomes would come down especially for rural non-agricultural self employed, followed by rural agricultural labour, rural non-agricultural labour, rural agricultural self-employed and urban casual labour since all these are unskilled labour providers, the group worst hit by the HIV epidemic (*ET* 21/07/2006, 1).

One impact of HIV/AIDS is on earnings and incomes of HHs since it affects individuals [through sickness and/or premature death] in their most productive years when they are likely to be in the labour force, or in a position to provide support. A study (ILO 2004) of HIV affected HHs affected in four Indian States point at growing economic hardships, such that while average monthly expenditure on food and treatment increased substantially, incomes declined by as much

as one-third. The study confirmed that stigma and discrimination at the workplace complicates matters, with many PLWHA not disclosing their status to employers for fear of losing their jobs (as in Mahal and Rao 2005, 584-585).

In developing countries majority of infected people are in the age group of 15-45 years, and hence most have families and dependants. As Reid (2000a, 21) reiterates, while HIV/AIDS causes decrease in family income and increase in expenditure on health care; death or disability caused by AIDS may lead to increasing numbers of families without parents or providers, of single parent families, and of orphans, some of whom are themselves infected with HIV.

HIV/AIDS necessitates steps that need to be taken to reorganise division of labour within HHs in order to reallocate productive tasks to uninfected HH members. Children may need to be withdrawn from school to assist in food production and in caring for the sick, with the resulting adverse impact on children and long-term national development being serious (*ibid*). Children not getting education means that they will not be able to fill more advanced positions in the future, will not reap monetary gains associated with education and will find themselves further marginalized (Drummond and Kelly 2006, 9). With low salaries their children in turn will end up with less human capital - HIV/AIDS thus can have adverse effects that persist through generations (Sharma 2006, 120).

As the burden of illness increases, HH incomes and provisioning get directly affected, with those unable to pay rent or repay mortgages possibly losing their homes, with school fees and food requirements even becoming unaffordable. Additionally, use of HH savings and assets in the futile search for a cure can seriously impoverish the family – thereby creating the need for programmes of assistance to meet the basic needs of food, shelter, counseling and school fees in affected HHs (Reid 2000b, 33). Booysen *et al* (2002) found that direct and indirect income losses

from HIV/AIDS amounted to more than three times the average monthly income per capita of a HH in South Africa (as in Canning *et al* 2006a, 14). In Botswana, HIV increased the share of HHs below the poverty line [BPL] by 6 percent and increased the percentage of individuals living in poor HHs by 4 percent; with every income earner in the lowest income level expected to support an additional eight dependents (Greener 2004, as in UNAIDS 2008, 23 & 170). Booysen (2003), studying families with and without HIV+ members found that over time families with affected members are more likely to experience income variations and chronic poverty, with HIV-related outcomes like mortality, morbidity, and orphaning playing a role in explaining socio-economic mobility of HHs (as in Werker, Ahuja and Wendell 2007, 26).

One effect of HIV/AIDS is the reallocation of HH efforts away from income earning activity to care-giving roles (Canning *et al* 2006a, 3). An adult who dies prematurely will, *ceteris paribus*, produce less over the life cycle than one who does not. One important socio-economic impact of a HIV/AIDS related death is the loss of the family labour production. The production loss in the HHs was estimated to be almost 50 percent leading to about a 47 percent loss in the HH income (Gaigbe-Togbe and Weinberger 2003, 32).

Studies of those like Basu, Gupta and Krishna (1997); Gupta (1998); Bharat and Aggleton (1999), show severe constraints faced by HIV/AIDS HHs in India mainly due to reduced income and increased health expenditures (as in Kadiyala and Barnett 2004, 1891). Evidence from around the world indicates that while individuals/HHs are economically affected, poor HHs are more vulnerable to the impacts than economically stable HHs (see also Bertozzi, Opuni and Gutiérrez 2001). Besides the poor, evidence points to women being more susceptible and vulnerable to the impact of HIV than men.

Pradhan, Sundar and Singh (2006) in their report of HIV HHs found amongst others the following vis-à-vis non-HIV HHs: HIV HHs had high WFPR in all age groups including those below 14 and above 60 years - with that of female child being higher than of the male child; HHs face loss of income, due to loss of job/leave/absence from work of the PLWHA or caregivers; change of job due to HIV; hiring of labour for cultivation when PLWHA are unable to work; absence of employer support; low HH savings; more dissavings; more negative savers; decreased HH consumption; high indebtedness; higher proportion of total HH consumption expenditure on rent and lower on education; lower assets; gender biases against females; high dropout rates, more days of absence from schools, gender difference in current enrolment etc.

Reid (2000a, 21) highlights that with growing numbers of women falling ill and dying and with surviving women becoming increasingly occupied with the care of the ill, women have less time for caring for their own children, productive work, self employment, or paid work. Incidentally, much of the work performed by women is not measured in monetary value and therefore does not appear in economic indicators like GNP, thus making it difficult to monitor the macro-economic impact of these losses despite their serious consequences.

Gaigbe-Togbe and Weinberger (2003, 30) show that change in the composition and structure of HHs caused by the HIV/AIDS epidemic can be quantitative as well as qualitative. One feature of the economic impact of AIDS on HHs/families in Zambia was the rapid transition from relative wealth to relative poverty. The survey of AIDS-affected families by Haworth *et al* (1991) found the shift into poverty most visible in families where the deceased father was both breadwinner and tenant of a house provided through his job (as in *ibid*). Incidentally, remarriage was one potential way of coping with the economic, emotional and social losses resulting from the death of a spouse (*ibid*, 32).

Canning *et al* (2006a, 3) highlight that HIV/AIDS leads to reduced non-health consumption expenditure among HHs; reduced nutrition and educational attainment for children; and reallocation of HH efforts away from income earning activity to care-giving roles. These effects arise because of the necessity of incurring large expenditures on treating members, care-giving responsibilities, funeral expenses, premature mortality/morbidity among younger adult members; as well as due to lack of adequate coping mechanisms (Barnett and Blaikie 1992; Yamano and Jayne 2004b). The effects are likely to be exacerbated if HIV/AIDS drugs are expensive, public subsidies for care provision remain limited, or health insurance is unavailable (Bloom and Glied 1993b; Guinness and Alban 2000; as in Canning *et al* 2006a, 3). Based on a HH survey, Canning *et al* found almost 10 percent of the HIV members selling assets to finance ill health, compared to only 1.5 percent for those in the matched HIV-negative control group.

Medhini, Jain and Gonsalves (2007b, 1090) indicate that the increasing population being left to deal with the burden of care is a major livelihood concern. According to Help Age,¹² 90 percent of care takes place at home, usually by older women. In some African countries 50-60 percent of the orphaned children live with their grand-parents. In the absence of affordable treatment and schooling, older people face increased financial strain in caring for their adult children and orphaned grand children which increases their poverty. In Tamil Nadu, older people caring for orphaned children reported selling property or pledging it with money lenders for interest rates ranging from 36-210 percent (as in *ibid*). However despite the strong tie to poverty, majority of the interventions have neglected the economic costs and social impact of HIV/AIDS on HHs. As Devereux and Sabates-Wheeler (2005) argue inadequate attention has been paid to the impact of HIV/AIDS as a livelihoods crisis (as in *ibid* 1081-1082).

Medhini, Jain and Gonsalves (2007a, 563-564) also show how children and adolescents by performing adult roles of taking care of their HIV+ parents often lose their childhood. When family savings are spent on care for the sick parents, it reduces resources to provide for the child's basic needs; besides making the family suffer other economic problems. If parents or caregivers die from HIV/AIDS, it stretches family resources, even causing poverty among children. While orphaned children and youth often have to find work to support themselves and their siblings, many quit school and risk their own health to run the HH and get a job. As UNAIDS (2002) reports, in Swaziland and the Central African Republic school enrolment fell by 25-30 percent due to AIDS (as in Avert 2008). Because of lack of education, many of those most at risk of HIV infection are least able to understand the risks and benefits, with as many as 90 percent of the infected people infected daily not knowing about it for almost a decade (Drummond and Kelly 2006, 3). Bell, Devarajan and Gersbach (2004, 96-97) indicate that if parents fall sick or die while children are still young; the means available to raise the children to make them productive get reduced. Additionally, when a parent dies the children also lose love, knowledge and guidance that complement formal education. Consequently, whether in nuclear or traditional extended families, AIDS does more than destroy the existing abilities and capacities; it weakens the mechanism through which human capital is formed in the coming generations. Premature adult mortality and adverse consequence on education could additionally affect long-term economic growth besides leading to inequality among HHs.

HIV/AIDS is increasing the number of child-headed HHs and orphans. As Medhini, Jain and Gonsalves (2007b, 1090) state, orphans are more likely to be food insecure or malnourished than non-orphans. Many children are forced to leave school in order to contribute to the HH income or food production through labour. Children who are orphaned are often absorbed by

extended families, thereby increasing the burden of care at the community level. According to a study on the impact of HIV/AIDS on children in Sangli, Maharashtra, among low-income HHs, there was higher prevalence of orphan headed HHs in HIV-affected homes (Verma *et al* 2002, as in *ibid*). Incidentally, girls orphaned by AIDS additionally face 'property grabbing' when their parents die, leaving them with no means of support (Medhini, Jain and Gonsalves 2007a, 456). Bell, Devarajan and Gersbach (2004, 126-127) reiterate that if surviving couples take orphans, the quality of childrearing they provide can get lowered. With the financial stress involved these parents could favor their natural children over the adopted/foster ones vis-à-vis nutrition, education, health, care and attention. The authors highlight a number of studies as given below to show some adverse effects. One study (Gertler, Levine and Martinez 2003) of children in Indonesia found orphans less healthy, less likely to go to school and less prepared for life. Case, Paxson and Ableidinger (2002) found in a group of African countries that schooling of orphans depended heavily on how closely related they were to the head of the adopting HH. In another study of 28 countries, Ainsworth and Filmer (2002) found enrollment rates in majority of the countries were lower among orphans than among children with two living parents, though the differences were frequently modest in comparison with those between children from rich and poor HHs. Several other studies like Case, Paxson and Ableidinger (2004); Evans and Miguel (2004); and Yamano and Jayne (2004a), also highlight the reduction in schooling that could come from orphaning of children due to AIDS (as in Werker, Ahuja and Wendell 2007, 18).

Research among AIDS-affected families in New Delhi found that not only were children withdrawn from schools to cope with decreasing incomes and increasing expenditures on medicines, but 17 percent had to take up remunerated jobs towards the financial stability of the family (ILO 2003, as in UNAIDS 2006, 100). Citing studies by Booysen *et al* (2002), Donovan

et al (2003) and Nampanya-Serpell (2000); Canning *et al* (2006a, 3) show that HIV/AIDS, besides reducing educational attainment for children in affected HHs, also reduces nutrition.

Mahal and Rao (2005, 585) cite a number of studies as given below to highlight implications of HIV/AIDS on individuals/HHs. The study of Gupta, Basu and Krishna (1997) found richer HHs better able to cope with adverse economic consequences of losing breadwinners, with members of HIV/AIDS HHs likely to have lower long-run accumulations of human capital and declining HH asset holdings. The ILO (2004) study for India found that HHs had to compromise on children's education, with nearly 38 percent respondents withdrawing children from school and sending them to work. Verma *et al* (2002) found in Sangli that children in HHs that experienced an AIDS death were less likely to receive health care and more likely to be withdrawn from school compared to HHs with a non-AIDS death or no death at all. Leclercq (2001) using NCAER survey data for rural India found that death of one or both parents adversely affects schooling of children and increases the possibility of their working. These findings are similar to those like Bechu (1998) and Guinness and Alban (2000) for Sub-Saharan Africa, suggesting that AIDS deaths within HHs are likely to be associated with declines in nutrition and loss of educational continuity among children, with the effects likely to be concentrated among rural HHs and urban poor.

In Kenya a study found that relatively poor rural HHs did not recover quickly from the death of the HH head, with reduced crop production and non-farm incomes not returning to pre-death levels over the three-year life of the survey (UNAIDS 2006, 101). The sex of the deceased affects the value of crops a family produces, with the death of an adult male reducing production of cash crops and death of an adult female often resulting in reduced production of grain and subsistence crops (Yamano and Jayne 2004b, as in *ibid*; Avert 2008).

Sharma (2006, 146) reiterates that one major impact of HIV/AIDS is related to the ability of HHs and communities to ensure food and nutrition security. While the former is necessary it is insufficient for ensuring the latter. Nutrition security is achieved when secure access to food is coupled with a sanitary environment, adequate health services and adequate care to ensure a healthy life for all HH members. HIV/AIDS and food/nutrition insecurity are however becoming increasingly entwined in a vicious cycle - with food insecurity heightening susceptibility to HIV exposure and infection, and HIV/AIDS in turn heightening vulnerability to food insecurity.

In fine, leaving aside the numerous adverse implications of HIV/AIDS on individuals/HHs as seen above, in one way HIV/AIDS could have a positive influence, including on non-HIV/AIDS HHs. This is under the broad assumption that increased mortality on account of HIV/AIDS could make certain categories of labour scarce. With demand remaining unaffected, wages for that labour could rise, thereby increasing incomes of HHs that receive the same (Sharma 2006, 121). Additionally, in low income HHs where an infected member dies the sharp fall of HH expenses on medical treatment could gradually alter the economic status of such HHs for the better, specially if the income dependency ratio is/gets favourable (*ibid*, 123).

2.2.3B Medico-economic implications

The treatment costs of AIDS are unmanageable by individuals of developing countries (Sinha 1995, 4). Developing countries cannot spare/allocate huge resources for prevention/cure at the national level; there inevitably remains a huge gap between per capita cost required for prevention/cure of AIDS for an economy and per capita expenditure incurred on the same. AIDS retards and hampers individual growth and social development too.

HIV/AIDS which burdens the health-care systems often makes treatment costs disproportionate to the income of affected families. In Thailand for e.g. the cost of treatment of one AIDS person absorbs up to 50 percent of an average annual HH income (WCC 2002, 98). The findings were similar in India with figures going even to as much as 82 percent in case of low income families (Duraismy 2003, as in Nielsen and Melgaard (2004, 44). Alban (2002), China HIV/AIDS Socio-economic Impact Study Team (2002), ESCAP (2003), Pitayanon, Kongsin and Janjaroen (1997) also highlight the huge treatment expenses, with the out-of-pocket expenses often taking catastrophic magnitudes (as in Nielsen and Melgaard 2004, 44).

A study by Duraismy *et al* (2003) of AIDS patients visiting a non government provider in south India estimated the median annual costs of treatment for AIDS to be ₹ 6,000 over a six month reference period, with the treatment expenses for patients on ART averaging ₹ 18,150 for the same period (as in Mahal and Rao 2005, 583). Another study from Delhi suggested estimates for ART expenditures over a one year period at around ₹ 30,000, with another ₹ 10,000 for monitoring tests (Over *et al* 2004, as in *ibid*). Ramamurthy (2004, 234) highlights that HIV/AIDS individuals on an average spent between 10-30 percent of their annual incomes on HIV-related health expenditures, with the bulk of expenses being on drugs/medicines. The impact was more on lower income groups and on those who had dependants.

Drummond and Kelly (2006, 9-10) bring the impact of HIV/AIDS on medical treatment with some examples. For instance, while in Uganda two-thirds of those affected by AIDS must sell property in order to pay for medical care, in Cote d'Ivoire, in spite of having half the family income, a family with an HIV+ member spends four times as much on medical expenses as a family that has no HIV+ member. Incidentally, the costs of treatment and care fall on those least

able to afford these expenses, with the average amount spent by an HIV+ individual in the developing world being between \$5,000-12,000 in NPV terms over the course of their life.

In their study conducted in Nigeria, Canning *et al* (2006a, 1-2 & 12-13) observed amongst other things the following: direct health care costs and indirect income loss per HIV+ individual were about 32 percent of annual income per capita in affected HHs; about 40 percent of the same were income losses associated with sickness and care-giving; the largest single economic cost representing 45 percent of the total economic burden of HIV were out-of-pocket expenses primarily for health care; 15 percent of the cost of HIV was accounted for by public subsidies on health; HIV+ individuals spend more as out-of-pocket expenses and more days as inpatients in hospitals than non-HIV/AIDS individuals; HIV+ individuals were using greater amounts of public and private health care services, though utilisation of the former was disproportionately larger. Incidentally and additionally, increased spending in terms of out-of-pocket expenses by HHs have been found to take place by studies from Cote d'Ivoire, Rwanda and Tanzania due to reasons like absence of insurance mechanisms and/or if the public services were of poor quality (Shepard 1998, as in Mahal and Rao 2005, 589).

Basu, Gupta and Krishna (1997) report private health expenditure of HHs as 4-5 times higher than state expenditures; with HHs facing reduced consumption of milk, meat and eggs as a result of increased health care expenditures (as in Kadiyala and Barnett 2004, 1891). According to Gupta (1998) 10-30 percent of the annual income of an individual may be spent on treatment (as in *ibid*). Pradhan, Sundar and Singh (2006) found health expenditures of HIV HHs amounting to about 19 percent of their non-food spending, nearly three times the share of non-HIV HHs (as in Canning *et al* 2006a, 14).

Kinnon, Velasquez and Flori (1994, 12) in their review of a study which presented the principles for calculating the HH demand for health care, indicated that demand is additionally influenced by its quality and non-monetary costs. This reflects that accessibility of health care is an important issue. In this context we can state that while though wealthy HHs may/will opt for expensive private treatment which could keep infected people asymptomatic for extended periods, the poorest HHs who are forced to rely on public medical provisions will nevertheless have to bear the burden of additional costs on transport and food (Sharma 2006, 122).

Pradhan, Sundar and Singh (2006) highlight the following related to health/medical expenditure: medical expenses constitute a much higher share of total consumption expenditure for HIV HHs, with HHs spending a relatively lower proportion of the latter on food; more dependence of PLWHA on health facilities provided by the government/NGOs for inpatient treatment; dependence on private doctors is mainly for treatment of non-hospitalised illness episodes [NHIEs]; PLWHA spend much money even if treatment is from government health facilities; borrowings/liquidation of assets increase as the stage of infection advances; illnesses increase with advance in the stage of infection; not all illness episodes are treated, more so in case of women; there are gender differences in the source of hospitalised treatment - while relatively more women take treatment in government hospitals, more men seek from private nursing homes; HIV HHs incur huge out-of-pocket expenditures for treatment of NHIEs and hospitalisation; there is a substantial gender gap in the average cost of hospitalisation, with the average HH expenditure being much lower for women; HHs irrespective of income resort to borrowings/liquidation of assets to meet hospitalisation expenses, with the lowest income category being the hardest hit; while at the initial stage of infection more HHs are able to finance hospitalisation from past savings, as stage advances there is more assets liquidation/ borrowings.

Gender disparities vis-à-vis medical treatment as highlighted by Pradhan, Sundar and Singh (2006), have also been seen elsewhere and/or highlighted by others like Pradhan and Sundar (2006). As shown by Dixit (2005, 134), in Zambia, although the government was able to reduce the monthly cost of ART from \$64 to \$8 after receiving support from the Global Fund to Fight AIDS, Tuberculosis and Malaria, it was mostly the men who were receiving the treatment instead of women who as per estimates were as high as 70 percent of the infected population. In one rural town, of the 40 people on ART, only three were women.

By citing an ILO study of HIV/AIDS related stigma and discrimination in India which found that 32 percent of the HIV+ respondents had faced discrimination within the healthcare setting, Medhini, Jain and Gonsalves (2007a, 168-169) highlight an additional dilemma facing PLWHA having adverse direct/indirect economic repercussions. Widespread discrimination against PLWHA which was also identified in an UNAIDS study of healthcare settings in Bangalore and Mumbai, include: unnecessarily repeating HIV tests; delays in treatment; cessation of ongoing treatment; refusal to provide treatment etc.

Though with reference to Nigeria, but nevertheless valid in the Indian context as well, Canning *et al* (2006b) highlight that although some of the lost incomes and health expenditures of HHs could be recouped by allowances for sick leave, health insurance, reimbursements for health expenses by employers, financial support from members of the extended family or community at large; in reality such support is limited especially for the HIV+. While health insurance coverage is extremely rare, evidence suggests that employers discriminate against HIV+ employees when it comes to benefits related with illness (as in Canning *et al* 2006a, 13).

In fine, it needs to be noted that from the perspective of care and treatment for those infected, common biomedical and behavioural interventions including ART do not take into

account the high rates of non-adherence to treatment due to financial constraints or lack of access to proper nutrition (Medhini, Jain and Gonsalves 2007b, 1082). Also, although the poor should not be denied access to essential medicines, even in the US, the benefit of HAART has not reached all segments of the population (Kakar and Kakar 2001, 269). Incidentally, of those who are able to access ART, those who are malnourished when they start the treatment are six times more likely to die than those who are not malnourished (A. Malavia, in HRLN 2008, 151-152).

2.3 SUMMARY OF FINDINGS OF OTHER STUDIES

HIV/AIDS has serious macro/national, sectoral/occupation, and micro/individual/HH level economic implications. Difference of opinion notwithstanding, it is apparent that HIV/AIDS has adverse implications on NI and growth though the same may not be as catastrophic as was initially forecast. Amongst others HIV/AIDS leads to decline in: total factor productivity; public/private savings; human capital; tax base; and growth rate of economically active population. It also causes change in skill composition of the labour force; rise in direct/indirect costs and poverty; diversion of funds from development; and potential collapse of economies that could deprive future markets of imports/exports. Additionally, while low life expectancy and high infant mortality caused by HIV/AIDS can affect growth; HIV/AIDS affects payment of international debts, besides causing additional strain on fiscal budgets of developing countries.

With regards to sectoral level implications, amongst others HIV/AIDS has major adverse influences on the manufacturing, agriculture, transport, tourism, health and education sectors. The impact taking place on account of reasons like absenteeism, high training/recruitment costs and lower productivity, are particularly strong in unorganized and informal sectors using unskilled labour. HIV/AIDS which hits harder the smaller units and affects division of labour; leads to fall in production, diversion from commercial/cash crop to food crop cultivation, fall in

non-farm income, shift to less labour-intensive cash crops, decline in area cultivated, less animal husbandry, and decline in customer base for industries.

With regards to implications at the HH/individual level, HIV/AIDS broadly has consequences on income/employment; HH consumption, savings and expenditures; besides health/medical expenditures. Amongst others, the particular consequences include: loss of income/employment for the infected person/HH/care-giver due to death/leave/absence from work or lack of employment; reduced employability because of sickness/discrimination; high WFPR among children/elderly. While employer support is minimum and poor/marginalized HHs are more vulnerable, HIV/AIDS leads to change in the composition and structure of HHs. Also, while HIV/AIDS reduces consumption, entertainment, education, HH assets and savings; it increases dissavings; borrowings; and sale of HH assets. HIV/AIDS also causes food and nutrition insecurity; increase in poverty and inequality, both present and future; burden on children/adolescents; pressure of orphans; and gender inequalities.

Amongst others, medico-economic implications of HIV/AIDS include: rise in health expenditure; burden on health sector; high cost of treatment; insufficient access to treatment; heavy strain on existing resources; high cost of drugs; gender biases against women; high out-of-pocket expenses; poverty caused by high medical expenses; medical expenses constitute a big proportion of total HH income/consumption expenditure; insignificant support from social security and insurance; high dependence on public hospitals/NGOs.

2.4 PRESENT RESEARCH VIS-À-VIS OTHER STUDIES

It is appropriate to be reminded that the present study focuses on economic implications of HIV/AIDS on individuals and HHs in Goa, with special reference to its implications on income and employment; inflow and outflow of HH income; and health and medical expenditure. A

comparison of the present study vis-à-vis other studies can best be explained by an outline of some important similarities and differences between the two:

2.4.1 Similarities

- The present study is similar to the ones like Pradhan, Sundar and Singh (2006), Pradhan, Sundar and Natesh (2006), Pradhan and Sundar (2006), Canning *et al* (2006) and ILO (2003) since the samples are more purposive and NGOs played an important role in data collection.
- The present study is similar to the ones mentioned above since some of the study objectives are the same, for e.g. impact of HIV/AIDS on income, employment, health expenditure etc.
- The present study is similar to the study conducted by NCAER [see Pradhan, Sundar and Singh (2006), Pradhan, Sundar and Natesh (2006) and Pradhan and Sundar (2006)] since two groups of HHs are chosen for the purpose of study, with each having a separate questionnaire.

2.4.2 Differences

- The present study focuses only on the economic implications at the HH/individual level - it does not deal with sectoral and macro/national level implications as done by others. The present study is different from studies like Werker, Ahuja and Wendell (2007); UNAIDS (2006); Ojha and Pradhan (2006); Albert and Williams (1998) etc. on account of methodology or objectives.
- The present study focuses primarily on economic implications. Pradhan, Sundar and Singh (2006); Pradhan, Sundar and Natesh (2006); Pradhan and Sundar (2006); and ILO (2003), dealt with issues like stigma and discrimination as well.
- The present study draws its samples from entire Goa, thus covering both districts. The NCAER study (Pradhan, Sundar and Singh 2006) focused only on certain districts in the six States where the study was conducted.¹³

- While the present study focuses on two sets of samples: HIV/AIDS and non HIV/AIDS HHs; Canning *et al* (2006) had three: general, matched and HIV infected individuals.
- The present study differs from ILO (2003) since the latter focuses only on the HIV infected and affected, and does not consider non-HIV/AIDS HHs which the present study does.

To sum, the present study is unique since it is the first comprehensive study on the economic implications of HIV/AIDS on individuals/HHs in Goa. Besides documenting the various issues related to income/employment and health/medical expenditure, it systematically details the finer aspects of the annual inflow and outflow of HH income. The study also highlights areas where significant differences/hardships exist both at inter- and intra-HH level, including gender based differences and comparisons with non-HIV/AIDS HHs. With regards to issues like dependence on ‘partly/fully sponsored food’ and ‘UUI’, and the methodology/design adopted towards analysing inflow/outflow of HH income and medical expenditures, it is in all likelihood the first study of its kind anywhere.

* * * * *

Notes

1. These sub-sections are not water-tight compartments. Overlapping, bound to occur on account of interrelationships between issues, has no adverse bearing whatsoever on the present study.
2. According to Prakash (2000), the paucity of research from India is possibly due to: a] government’s denial that India has an indigenously generated HIV/AIDS problem; b] discouragement of foreign researchers; and c] enormous population and cultural variations that pose special problems in representative sampling and generalisations (as in Kadiyala and Barnett 2004, 1891).
3. Canning *et al* highlight that Yamano and Jayne (2004b); Menon *et al* (1998); Over, Lundberg and Mujinja (2000) tried to circumvent the selection problem by focusing on the economic impact of adult mortality without reference to HIV status.
4. 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).
5. However, on the contrary 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 breastfeeding to prevent MTCT, or if women reduce *post*-partum abstinence to discourage husbands from extra-marital sex that increase risk of HIV (Ntozi 2001) [as in Werker, Ahuja and Wendell (2007, 19)].

6. In case of India by 23 percent.
 7. For every adult dead there could be on average 2 to 3 dependants. The amplitude of this phase could thus be 2-3 times greater than the mortality rates in the previous phase.
 8. Relates to the impact on: savings; foreign exchange earnings; reduction in quantity/quality of labour in formal/informal sectors in measured/unmeasured activities; women labour; reduction in and changing patterns of use of savings which can influence rate of growth of GNP; escalation of direct/indirect costs; etc.
 9. A study in a hospital in Maharashtra showed that leaving aside other healthcare workers, medical interns and resident doctors were suffering needle stick injuries and were at highest risk to accidental HIV infection (Mascarenhas 2007, 4).
 10. Either because children become orphans, one parent succumbs to AIDS, or because the child itself is infected.
 11. The World Bank (1999) estimated that while a country with a stable 5 percent adult HIV-prevalence rate can expect each year 0.5 - 1 percent of its health care providers to die from AIDS, a country with 30 percent prevalence would lose 3-7 percent.
 12. <http://www.helpage.org/researchandpolicy/HIVAIDS/factsandfigures> [accessed Sept. 2008].
 13. For other differences between the two studies see **Chapter 3**.
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CHAPTER 3: RESEARCH DESIGN, METHODOLOGY AND SAMPLE PROFILE

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CHAPTER 3: RESEARCH DESIGN, METHODOLOGY AND SAMPLE PROFILE

There is one thing even more vital to science than intelligent methods; and that is, the sincere desire to find out the truth, whatever it may be: Charles Pierce

This chapter highlights various issues related to the research design and methodology adopted with regards to the present study. The chapter, which also features an outline of the sample profile, has been presented in steps quite similar to the ones presented by H.J. Nenty (2009).

3.1 INTRODUCTION

The present study is basically a *descriptive, survey* based, mixed model type of research being both *quantitative* and *qualitative* in nature. Although the study relies more on *primary* information/data due to the very nature of the topic and its objectives, it nevertheless makes substantial use of *secondary* sources of information, to be abreast of other studies and their findings, and to build upon an appropriate methodology for the present one. Secondary information has been obtained from books, reports, journals, e-journals, press reports, websites *et al.* Primary data/information was obtained amongst others via various forms of *interviews* involving *questionnaires/schedules, field-work, personal in-home surveys*, interactions with NGOs, field-workers, counsellors, doctors, PLWHA etc.

The present study attempts broadly three things: i] to systematically study and document for the first time the various economic realities faced by HIV/AIDS HHs in Goa, including those pertaining to income, employment, HH expenditures, borrowings, savings, medical expenditures etc.; ii] to compare wherever appropriate the findings so obtained with those pertaining to similar background non-HIV/AIDS HHs; and to see whether the two match or diverge, and if so to what extent; and iii] to find if female-headed HIV/AIDS HHs are to a greater economic disadvantage

than male-headed ones. All the above provide an objective insight towards understanding the true nature and extent of economic burden cast by HIV/AIDS on HHs, and to design strategies and plans-of-action to address the same.

To achieve the study goals an in-depth analysis has been done wherein data/information gathered is categorical and absolute, as well as qualitative and quantitative in nature. While details of employment, income and expenditure, savings and borrowings, non-hospitalised illness episodes [NHIEs] and hospitalised illness episodes [HIEs] amongst others are studied with regards to the last twelve months and/or last month [as applicable] for both samples' HHs; details of death of non-HIV/AIDS earning member pertains to last two years; with details related to coping mechanism in case of HIV/AIDS HHs being studied ever since HIV was first detected. The study does not go into details pertaining to death of non-earning non-HIV/AIDS members. In case of death of AIDS members no time frame has been set - the same have been considered irrespective of years since the member has expired. When/wherever more than one AIDS member has died, details of the earning member only are considered for the purpose of study; if they were all earning members, details of only the last person who died have been considered.

Pertaining to the issue of employment, while in case of HIV/AIDS HHs the HIV+ respondent/interviewee, earning or non-earning but in the productive age group of 18-60 years, is the HH member considered for study; with reference to non-HIV/AIDS HHs it is *any* earning HH member from the same age group. With regards to health and medical expenditure, while in case of HIV/AIDS HHs details of *only* the HIV+ respondents are considered [one per HH], in case of non-HIV/AIDS HHs it is details of *all* HH members excluding and including those below 18 and above 60 years. With regards to NHIEs and HIEs details of only one ailment¹ is

mentioned in the study although the days of absence and expenditure details pertaining to *all* illness episodes of the last month or last year as the case may be are clubbed together.²

3.2 POPULATION OF THE STUDY

For the purpose of this study there is requirement of two independent *samples*, one representing HIV/AIDS HHs and the other non-HIV/AIDS HHs, with the latter being like a *control group*. Given below are the details with regards to the *population* vis-à-vis the two sets of HHs.

3.2.1 Population with regards to HIV/AIDS individuals/households

The actual *universe* of HIV/AIDS individuals/HHs in Goa [or even elsewhere] is unknown. It is so on account of numerous reasons. For example there could be individuals with HIV, but who have not yet tested themselves, and hence are unaware of their status. Similarly, there are individuals, especially from the better income/occupation brackets, who test themselves in private clinics or outside the State and do not reveal their positive status – they are not among those registered on the government/ICTC list.³

Considering that the true universe is unknown, for the purpose of the present study the sample was drawn from a *working universe* (Marshall 2002, 56 & 108), or *study/target population* (Ahuja 2002, 151) covering both districts of the State of Goa, and comprising of only those HIV+ individuals whose status was detected/registered in Goa at the ICTCs as of 31st December 2008.⁴ Those who are HIV+ but whose status was detected in private clinics and are not registered at the ICTCs are not part of the *working population*. Also, for the purpose of this study the target population includes only those who are in the working age group of 18-60 years and those who have a proper place to stay, either own, sponsored or rented, irrespective of its condition. Those living on railway platforms, bus terminuses, footpaths, public gardens, brothels

etc. have been excluded since the study is on economic impact of HIV/AIDS on individuals as part/members of HHs. Additionally, those registered positive but have died and whose demise is officially recorded by GSACS, and also those who have not shown any particular *taluka* as their place of residence and are thus belonging to the 'Others' category comprising of foreigners and those belonging to other States, have been excluded from the study (GSACS 2008, 9).

To get into actual figures for arriving at a working population GSACS (2008) provided figures have been taken as a reference point though it provides details as of September 2008 only. As of this date there were 11,105 HIV+ cases detected at ICTCs of which 7,483 were males and 3,622 were females (*ibid*, 7). As per GSACS (2009, 10) there were 11,674 HIV+ cases as of end-2008.⁵ Based on the parameters set in terms of formal exclusions⁶ as mentioned earlier and also if consideration is given to the possibility of double counting due to double registration and that many AIDS deaths have not been officially reported⁷ and hence not recorded as per the GSACS list/report, the size of the working population w\could be in the range of 7800-8800.

For a study as the present one involving unknown universe and *hidden population* not only is the actual size of the working population or accurate *sampling frame* not obtainable for reasons amongst others due to unreported deaths, confidentiality and privacy clauses; but even the size of working population in terms of range can at best be an approximate figure only. While it is not possible to construct a proper sampling list and hence make an ideal target population operational, things get compounded due to the sensitive nature of the matter, unknown status of addresses⁸ and/or migration of respondents outside the State.

3.2.2 Population with regards to non-HIV/AIDS individuals/households

For the purpose of selecting the non-HIV/AIDS HHs sample, the population comprised of HHs from both districts of Goa not having any member who is tested as HIV+, and which have a

similar background to the HIV/AIDS HHs sample especially with reference to matters like educational qualifications and place of origin of the HH head, and locale and socio-cultural background of the HH. HHs having member(s) with critical life debilitating medical ailments like cancer were also to be excluded for the purpose of defining the working population.

3.3 SAMPLING PROCEDURE

3.3.1 Sampling procedure for HIV/AIDS individuals/households

The focus of the study is on one HIV+ person per HH, i.e. the interviewee/respondent, who may be earning or non-earning but in the age group of 18-60 years. However, although only one is considered for an in-depth study, all HH members taken together, HIV+ or not, are considered to obtain a comprehensive picture pertaining to the HH. This is in contrast to the study done by NCAER/NACO/UNDP which considers even up to two HIV+ individuals per HH (Pradhan, Sundar and Singh 2006). This latter procedure was not considered for the present study to avoid duplication of HH characteristics/experiences, and to give coverage to more/different HHs.

Considering that the universe of HIV+ individuals is unknown and that the study dealt with a highly sensitive issue involving hidden population, stigma, discrimination and non-disclosure of HIV+ status, to get the sample selected *non-probability sampling techniques* were adopted. Needless to say *probability sampling* is inappropriate, difficult and even impossible. As mentioned by Black and Champion (1976, 266), probability sampling requires amongst other things the following conditions to be satisfied, none of which though are feasible for a study like the present one: i] complete list of subjects to be studied has to be available; ii] size of universe must be known; and iii] each element must have an equal chance of being selected (as in Ahuja 2002, 166). An advantage of non-probability sampling for such a type of study is that it does not claim representativeness (*ibid*, 176) as every unit does not get a chance of being selected.

However, although non-probability sampling techniques were used personal biases were avoided and elements of randomness made use of to minimize potential and avoidable bias and hence unrepresentativeness of the sample. Sampling techniques adopted were a combination of *purposive, quota, snow-ball* and *convenience sampling techniques*. While purposive and quota sampling were appropriate due the heterogeneous nature of the population, convenience sampling was appropriate not only due to the sensitive nature of the topic but also because the true universe was not well defined, sampling unit was not clear and a complete source list was not available (Ghosh 1996, 235).

That non-probability sampling is the only way for sample selection for a topic like the present one can be seen from sampling techniques adopted by other similar studies. In a way the NCAER/NACO/UNDP study made use of the same (Pradhan, Sundar and Singh 2006) and so did Canning *et al* (2006a); Pradhan and Sundar (2006); and ILO (2003). AIDS researchers, Watters and Biernacki (1989), Martin and Dean (1993) and Heckathorn (1997), for their three separate studies, got their samples of hidden populations by likewise, as the present study, using combinations of non-probability sampling techniques, with all three incidentally using purposive sampling techniques and variants/modifications of snowball technique (as in Neuman 2000, 214-216). The study of Watters and Biernacki also made use of quota sampling as part of a procedure called *targeted sampling* in which alongside was used *chain referral*⁹ and *stratified sampling* (*ibid*, 215). Likewise, in dealing with studies involving hidden populations, an adaptation of the chain-referral or snowball sampling called as *Respondent Driven Sampling* [RDS] has also been cited and made use of quite extensively (Salganik 2006; Johnston *et al* 2006; Magnani *et al* 2005; and Robinson *et al* 2006).¹⁰

Two major ways were adopted to select the study sample, they are as follows: **A]** After highlighting the various aspects and objectives of the study, different NGOs including Care and Support Homes [C&S Homes] were instructed to prepare a list of potential respondents from amongst those registered with them. They were assured confidentiality, privacy and anonymity with regards to their clients. The list was to be made keeping in mind the respondent's profile [like district, gender, economic background, religion, occupation etc.] and after verifying whether they were able and willing to be part of the study. From this set/list, wherever possible, sample respondents were chosen randomly. The sampling procedure was done primarily through the assistance of NGOs since no where is a free list or sampling frame of respondents publicly available since it deals with identities that are to be kept strictly confidential. NCAER/NACO/UNDP followed more or less a similar method for garnering information; wherein, unable to get access to addresses of PLWHA the study relied on counsellors of State AIDS Control Societies [SACS] and representatives of NGOs among others for data collection on account of their contact with positive people (Pradhan, Sundar and Singh 2006, 19); **B]** The second major way adopted for sample selection was that on any given day all those admitted or visiting¹¹ C&S Homes or drop-in-centre's were chosen provided they qualified for the study keeping in mind the various exclusions, and were fit in all respects for the study. Needless to say their consent was obtained prior to the study and after explaining the nature and purpose of the same. This approach of sample selection has been followed by other studies as well including the NCAER/NACO/UNDP study mentioned earlier.

Of those pre-selected for study, the final sample whose details have been made use of for the purpose of analysis comprises of 200 HIV+ respondents representing 200 HHs. To corroborate findings, to get additional inputs, and/or to verify and counter-check on conclusions

drawn, especially since the present study also has elements of qualitative research, and since it deals with a sensitive issue involving hidden population, stigma and discrimination, *strategic informant sampling*¹² has also been made use of as per requirements. Likewise, in order to understand the proper nuances pertaining to the matter, a variation of the Focus Group Discussion [FGD] was also made use of wherein discussions were held with groups of members comprising of PLWHA as well as NGO counselors and field-workers together.

3.3.2 Sampling procedure for non-HIV/AIDS households

The present study has selected one non-HIV/AIDS HH for every HIV/AIDS HH.¹³ The non-HIV/AIDS HHs sample is a relatively matched sample with the HIV/AIDS HHs' sample. This was required in order to have a suitable comparative analysis between the two. The non-HIV/AIDS HHs sample was selected *post* HIV/AIDS HHs' sample selection.

In order to get an appropriately matched sample, the selection of non-HIV/AIDS HHs was done by giving broad consideration to the following parameters pertaining to the HIV/AIDS HHs: educational qualifications and place of origin [i.e. Goa or outside Goa] of the HH head; locale and socio-cultural-economic background of the HH; and employment/occupation profile of the HH head and/or members.¹⁴ Of the above, while qualifications and place of origin of the HH head, and locale and socio-cultural background of the HH were given greater consideration; occupational profile of the HH head and economic background of the HH were given lesser importance. This was because the last two, though *per se* appearing important,¹⁵ while they are bound to change periodically in HIV/AIDS HHs due to sickness, in case of non-HIV/AIDS HHs the situation c\ould remain the same or even improve. To elaborate, while in case of HIV/AIDS HHs the occupation of the HH head and/or even members can change [even leading to unemployment] due to sickness or care-giving, which in turn can worsen the economic situation

of the HH; the same will/need not happen in case of non-HIV/AIDS HHs where due to absence of HIV, employment profile of members and earning capacity will/can be better, and hence also the economic conditions of HHs. Thus, matching non-HIV/AIDS HHs exclusively or primarily on the economic background in terms of income or occupation profile of the HIV/AIDS HHs is undesirable and will/can provide improper and erroneous conclusions. Doing the same would have inferred that we are arbitrarily choosing *ab initio* non-HIV/AIDS HHs which are economically worse-off than HIV/AIDS HHs who incidentally have become worse-off, if at all, only after and due to HIV/AIDS. What therefore is an important consideration while selecting the matched sample is whether the two HHs would have more-or-less matched each other had the present HIV/AIDS HHs had no HIV/AIDS and thus had no related economic burden.

Since non-probability sampling techniques were used for selecting the HIV/AIDS HHs sample, similar techniques including purposive and snowball sampling techniques have been used for selecting the non-HIV/AIDS HHs sample. This approach appears appropriate not only because of matching the sampling techniques but also because of the need to have non-HIV/AIDS HHs with as-much-as-possible similar backgrounds to the HIV/AIDS HHs. Like in case of HIV/AIDS HHs, the non-HIV/AIDS HHs sample also comprises of 200 HHs.

The selection of non-HIV/AIDS HHs sample was based on inputs from PLWHA, NGOs, community leaders, social workers etc. Only adult members who had knowledge of the actual realities of the HHs were considered for the purpose of interview. While choosing this sample those HHs having known cases of long term, life debilitating and fatal sicknesses like cancer needing much financial resources, were not to be considered for the purpose of study – since the objective of the study was to compare and study economic realities facing HIV/AIDS HHs [on account of HIV/AIDS] vis-à-vis regular non-HIV/AIDS major-sickness-free HHs.

3.4 THE SAMPLE

For a study like the present one on account of various issues and constraints like unknown nature of universe; formal and informal exclusions [listed below]; sensitivity, discrimination and stigma associated; non-disclosure of HIV+ status; non-availability of ‘consenting’ respondents; errors and contradictions in responses; mental-cum-emotional break-downs of respondents; unreported cases of death; double counting at the time of registration; migration of HIV+ individuals; non-availability of details pertaining to HIV/AIDS HHs etc., the actual sample size nor its components cannot be predetermined *ante*-data collection. Considering the above; the study objectives; time, finance, manpower constraints; besides other arguments as listed below, a final sample of 200 respondents to represent 200 HHs was deemed sufficient for the present study.

3.4.1 Case for sample size of 200 HIV/AIDS individuals/households

Given below are reasons why a sample size of 200 was deemed sufficient for a State having under-11,700 officially registered HIV+ individuals [as of December 2008]:

A] *Formal exclusions:* The study excludes those below 18 and above 60 years; those who have died and whose death is officially registered on the records of GSACS/NGOs; and foreigners and individuals not belonging to any *taluka* of Goa, although tested positive in Goa.

B] *‘Informal’ exclusions:* These are exclusions on account of problems related to addresses and contacts of respondents. These exclusions include: # those registered as HIV+ in Goa but are unavailable due to temporary/permanent migration to native place; # those dead [within/outside Goa] but death was not reported and hence not recorded as per the GSACS list; # those who do not keep in touch with any NGO after initial registration and whose whereabouts are unknown; # those whose complete addresses are not recorded/available; # those who keep changing addresses [and phone numbers too, if any] for reasons including eviction, un-

affordability, ostracism, hiding of HIV+ status etc; # those who in order to ward-off enquiries or feared intrusion by public authorities have provided fictitious/wrong addresses; # those who agree for the interview but at the pre-fixed time refuse to speak due to reasons like indisposition and change in mind-set; # those who after getting their blood tested at ICTCs go to private practitioners only who do not provide any information on account of confidentiality clauses;¹⁶ # those though HIV+ who refuse to accept that they are so.

C] Other exclusions:¹⁷ Besides exclusions cited above, the study does not consider *freeze-outs*¹⁸ and responses of *floaters*.¹⁹ The study also excludes all the 'houseless households' if one goes by the term used by the Census of India²⁰ to represent those who do not have a proper home – own, leased/rented, 'gifted/sponsored' – and who stay in brothels, railway platforms, public gardens etc. HHs where no appropriate member was available for the interview were also excluded from the study. An appropriate person means an adult who is sane; physically, mentally and emotionally fit to respond; and with sufficient knowledge of HH details.

D] Primary focus: The focus of the present study is HHs and not only individuals. While in Goa as of 2008 there were under-11,700 HIV+ cases registered, the number of HHs will be a smaller figure since many HHs have two or more HIV+ individuals as members [in the present study 77 HHs had two or more HIV+ members].²¹ With records available pertaining to individuals only, there are no official records available as to how many HHs in Goa are directly affected by HIV/AIDS. The present study which states that the sample comprises of 200 respondents, refers to the fact that there are 200 different HHs. Incidentally these 200 HHs had 304 confirmed HIV+ members.

E] Basic purpose: The basic purpose of the study is to make an in-depth analysis of the economic implications of HIV/AIDS on the sample HHs and not for overgeneralization (Neuman

2000, 5 & 515) - since the true universe is unknown, and for having made use of non-probability sampling techniques and *non-parametric* tools of testing. The sample size thus does not unduly matter since the findings of the present study will be *indicative* in nature only for others.

F] Other studies: The NCAER/NACO/UNDP study (Pradhan, Sundar and Singh 2006), with funds and manpower resources at disposal chose as sample size 200 and 254 respondents for Nagaland and Manipur respectively [both *high HIV prevalence* States unlike Goa, a *moderate prevalence State*] despite taking even up to two HIV+ individuals per HH. Incidentally, the sample size for the much bigger, geographically and demographically, *high prevalence States* of Maharashtra, Tamil Nadu, Andhra Pradesh and Karnataka in the same study was 400 each. As the final report of the study comments with regards to the overall sample size “this number is large enough considering the difficulties... involved in identifying PLWHA and their HHs and more importantly in securing their consent for the interview” (*ibid*, 17). The study supported by ILO (2003, 10) conducted in four Indian States comprised of a total sample of 292; with 43, 96, 106 and 47 respondents being from Delhi, Maharashtra, Manipur, and Tamil Nadu respectively.

G] Miscellaneous: The study considers only those who stay alone [due to reasons like eviction, absence of others who have gone on work, marriage/death of family members etc.] or with other family members. Those who stay individually on an equal-cost-sharing basis along with non-family members as happens in a shared rented room are excluded from this study.

Considering the various factors as mentioned above and that it is the number of HHs that is important for the present study and not individuals *per se*, and that details/numbers of most of the ‘informal’ and ‘other’ exclusions, besides ‘miscellaneous’ as mentioned are generally unknown,²² and that sample sizes for studies involving hidden populations are often small, a final sample size of 200 was deemed to be adequate. If one considers the HIV+ population [as per the

ICTC list] in Goa in terms of HHs [and the above mentioned factors/exclusions] the sample size will be '> 5 percent' of the HIV/AIDS HHs in Goa.

3.4.2 Sample coverage to all economic sections of society

One uncontrollable and hence inherent feature of any sample involving hidden population and sensitive issues is that the sample so selected may appear biased in the sense that the rich and/or those in the professional's category do not get adequate coverage.²³ Deriving an ideal sample giving perfect weightage to all segments of society is not always possible. Those from the 'higher class' and 'upper middle class' rarely disclose their HIV+ status; those relatively more open and thus available for study are those from the lower economic backgrounds – those especially from, if one goes by terms used in common parlance, the 'lower middle class' and 'lower class' HHs.²⁴ Nevertheless, in spite of the constraining circumstances by making use of purposive sampling techniques efforts have gone to make the present sample as representative as possible, the same which was also done by the NCAER/NACO/UNDP study. However, despite the same, the sample still comprises more of those from the lower income brackets - an experience similar to the one encountered by the NCAER/NACO/UNDP study (Pradhan, Sundar and Singh 2006, 20).

Having a sample comprising more of the lower economic categories of HHs may not be just an indication of the huge stigma, discrimination and secrecy still linked with HIV especially among those from the higher echelons of society. It could instead, or additionally, as affirmed and reiterated by doctors, NGO representatives, *field-workers* and HIV+ members in leadership roles, be reflective of the ground reality that it is the mainly those from the lower income HHs who are amongst those registered as HIV+ at the government-run ICTCs in Goa or elsewhere.²⁵ If one considers this latter possibility one can say that the present sample is a substantially

representative sample pertaining to the actual types/categories of people registered at the ICTCs in Goa. Incidentally studies like ADB (2004, 3); Bertozzi, Opuni and Gutiérrez (2001); Dixit (2005, 142); Kadiyala and Barnett (2004, 1891); Mahal and Rao (2005, 593); Medhini, Jain and Gonsalves (2007b, 1088); Narain (2004, 29); UNAIDS (2006, 84-85) etc., have all made references to the disproportionate impact of HIV/AIDS on poorer HHs and/or how HIV/AIDS is usually concentrated amongst those from the marginalized and poorer economic segments.²⁶

3.5 INSTRUMENTATION

The study got much of the primary data with the help of questionnaires/schedules [Q-S]. Two separate Q-Ss were prepared: one for HIV/AIDS individuals/HHs and the other for non-HIV/AIDS individuals/HHs [copy of each has been provided under *Appendices* at the end].

3.5.1 Questionnaire/schedule for HIV/AIDS individuals/households

The Q-S prepared for the HIV/AIDS individuals/HHs was adapted from the ones prepared by NCAER (2004; Pradhan, Sundar and Singh 2006) and ILO (2003, 125-133) for their respective surveys. Of the two, the Q-S used for the present study was more in consonance with the former. The Q-S had to be altered/modified from the above cited ones due to time-manpower-financial constraints; objectives/methodology of the study, and on account of the ground realities in Goa.

The present Q-S differs substantially from the ILO one, since the latter besides not dealing with the issues in-depth as was the requirement of the present study, also covers issues pertaining to stigma and discrimination, HIV/AIDS status, attitude towards infected, precautions taken to prevent HIV transmission to spouse etc., which the present study was not concerned with. Incidentally, ILO prepared its questionnaire into two parts/categories for soliciting information from infected and affected HIV/AIDS HHs: one was for HHs having living HIV+

members and the other for HHs where an AIDS death had taken place. Unlike ILO, the present study makes use of only one Q-S prepared for HIV/AIDS HHs wherein it elicits information on both categories of HIV/AIDS members: living and dead.²⁷

Although the present Q-S closely resembles the one of NCAER, the two nevertheless differ on numerous grounds. While the present study focuses on only the economic implications of HIV/AIDS on individuals/HHs, NCAER alongside gives consideration to education of children; time use pattern of HH members age 12 years and above; stigma and discrimination in the family and community; medical discrimination etc. Also, while the NCAER questionnaire solicits information on each HH member, the present one while getting the information for the HH as a whole with regards to basic *demographics*, focuses primarily on the HH-head and the HIV+ respondent. Also, unlike the NCAER questionnaire which solicits information on up to two NHIEs during the last one month and up to three HIEs in the last one year, the present Q-S solicits information on the total number of NHIEs and HIEs in the last one month and one year respectively per respondent, irrespective of the number of episodes. This was done to get a comprehensive picture/analysis of the issues involved.

Leaving aside the differences, the present Q-S is in consonance with the ILO and more so with the NCAER questionnaire for HIV/AIDS individuals/HHs with regards to issues related to employment, care-giving, HH expenditure, medical expenditure, coping mechanism etc.

3.5.2 Questionnaire/schedule for non-HIV/AIDS individuals/households

The Q-S prepared for the non-HIV/AIDS HHs is an adaptation of the NCAER questionnaire and the one prepared for the present study meant for HIV/AIDS individuals/HHs. The list/codes of illnesses, occupations, sectors, source of financing and reasons for not seeking treatment

provided in both the Q-Ss for HIV/AIDS and non-HIV/AIDS HHs are based on the codes/list provided by NCAER albeit with a few alterations.

3.5.3 Difference in Q-Ss meant for HIV/AIDS and non-HIV/AIDS individuals/households

The difference between the two Q-Ss exists on account of the objectives of the study. For example as mentioned earlier, while HIV/AIDS Q-S considers NHIEs, HIEs and regular monthly medical treatment [RMMT] of *only* the HIV+ respondent who is in the age group of 18-60 years, the non-HIV/AIDS Q-S considers *all* HH members taken together. Doing the same helps not only understand the gravity of the economic burden on HIV/AIDS HHs, but also how worse it *would* be [present or future] for HHs if they had two or more HIV+ members.²⁸

Unlike the differences with regards to medical expenditure, with reference to income/employment and issues pertaining to inflow/outflow of income, the two Q-Ss are more or less in consonance with one another; with information sought vis-à-vis the former being from one HH member only - while it was an earning member in case of non-HIV/AIDS HHs, it was the interviewee/respondent [earning or non-earning] in the case of HIV/AIDS HHs.

3.5.4 Nature of the instrument used

The Q-Ss used were structured although flexibility was possible since it involved personal face-to-face interviews/interactions either involving self exclusively or in few cases along with personally trained investigators as well. Pretests were conducted in order to test the efficacy of the Q-Ss and to improve upon the same.

3.6 ETHICAL CONSIDERATIONS

The present study adheres to the basic principles of social research as outlined by Neuman (2000, 102). Considering the extremely sensitive nature of the subject [an issue involving stigma, discrimination and ostracism even in present times] the study which was based on *voluntary participation*, followed at all times the principle of *voluntary consent*.²⁹ Likewise, the study which had most of the elements of *informed consent* (*ibid*, 96-97 & 512),³⁰ always gave an unequivocal assurance of *privacy, anonymity and confidentiality* (*ibid*, 98-99).. Never was coercion or any unfair practice used on any respondent to participate in the study. Personal and sensitive questions like “How was the HIV infection acquired?”, or “What measures are taken by you to prevent the spread of HIV to the spouse or others?” etc. were not asked because of their personal/sensitive nature and since it would in no way assist the study findings. Likewise, to those who had unknown sources of income, with some sources being highly dubious in nature, no unwarranted in-depth probing was done for this would either clamp down and/or freeze-out the respondents or provide fabricated and incorrect responses.

To follow a proper ethical code especially since the present study involves a highly sensitive issue, *firstly*, the respective NGO representative, field worker or doctor did the needful by informing the selected respondent of the nature of the study and questions involved and that all responses would be kept confidential with no identity being asked for and hence revealed in any place. Only those who gave consent voluntarily were chosen for the final interview. *Secondly*, at the time of the personal interview, the respondent was once again reminded of the purpose of the study and the right of the individual not to take part in the study and/or to answer any or all questions. No information was elicited from respondents without the prior approval and permission of the NGO representatives or doctors and also from the concerned respondent.

Sample respondents thus gave their voluntary consent twice. The interviews were done on consenting adults only if they were in proper disposition.

3.7 DATA COLLECTION

3.7.1 Data collection in case of HIV/AIDS individuals/households

Being a sensitive topic with the HIV/AIDS population being hidden and not accessible even through direct contact through NGOs, C&S Homes or doctors on account of strict privacy, confidentiality and non-disclosure clauses, an interactive contact was built over a period of 6-8 months *ante-survey* with various NGOs, C&S Homes, doctors etc. directly involved with HIV/AIDS, wherein various issues pertaining to the objectives and requirements of the study were discussed, and respect for anonymity, confidentiality and privacy assured. More or less similar to the present study, NCAER/NACO/UNDP (Pradhan, Sundar and Singh 2006); Pradhan and Sundar (2006); Canning *et al* (2006); and ILO (2003), also made use of NGO counsellors and field workers amongst others to gather information from HIV+ respondents. In the case of the present study though, unlike others, since much of the data collection was done personally albeit with indirect help of NGOs and others, much personal involvement has gone in understanding the reality better and in reducing errors and misinterpretations.

Considering the nature of the study and the possible errors that could creep in vis-à-vis information obtained from respondents, instead of giving the questionnaires to the respondents, the same were primarily treated as *interview schedules*. This helped get factual information through checks and counter-checks during the process of *interview*.³¹ Interviews conducted had features of the following forms of interviews: *structured, depth, standardized, individual,*³² *personal and non-personal,*³³ *self administered and others-administered*. Interviews by their very nature helped rephrase items, ask supplementary questions and encourage responses. While

partial, inaccurate, irrelevant and no responses have been done away with generally, valuable additional information of qualitative nature was obtained due to the overall flexibility which an interview holds.

Most of the interviews were done personally at the respondents' residence or outside/nearby;³⁴ on the phone; at NGO premises/drop-in-centres; or at C&H Homes. In a few cases, especially from those who were averse to speaking to anyone else, doctors, counsellors and *field-workers* alongside assisted in collecting the information since they had a personal rapport with the HIV+ individuals. In certain communities the services of interpreters were made use of since the respondents were non-Konkani, non-Hindi or non-English speaking despite being residents of Goa for many years with a number of these even having ration-cards and/or election ID cards showing Goa as their State of residence. Most of the data collection was done between March 2009 and August 2009.

In the few cases where conducting the interviews were assisted by others on account of language, rapport or institutional clauses; those helping were first trained on the requirements of the study and how to take care of potential errors and misinterpretations. Periodic interactions were held to verify the direction in which the data collection was heading, to clarify doubts and difficulties, and to see that not only the completed Q-Ss were error-free but that future ones too would be likewise.

To cross-check responses for their authenticity, besides the Q-S itself asking related questions pertaining to certain items in different places, when/wherever possible the following actions/steps were also taken: a] other family members were questioned separately; b] verification of certain responses was done *post-interview* with members of NGOs including C&H Homes and/or doctors who were in contact with the said individual/HH; and c] verifying

certain figures like those related to medical, phone or electricity expenses with available bills/cash memos. To keep a check on the possible tendency of some respondents to inflate consumption expenditure and subdue income figures, an effort was made at the time of survey, as was also done by the NCAER/NACO/UNDP study (Pradhan, Sundar and Singh 2006, 61), to match the cash inflow of HHs with the cash outflow.

3.7.2 Data collection in case of non-HIV/AIDS individuals/households

Data collection from non-HIV/AIDS HHs was done in a similar manner and in the same time frame as was in the case of HIV/AIDS HHs, except that in case of non-HIV/AIDS HHs all interviews were done at the residence of the respondents. Data collection was done only after making the respondents fully aware of the nature and objectives of the study being conducted.

3.8 DATA METHODS AND TECHNIQUES

In order to facilitate data entry, Q-S items were *ab initio* pre-coded.³⁵ With regards to absolute data though the same have been entered and analysed in their actual form, for the purpose of portraying the same on a different canvas, data entry and analysis have also been done based on groups, with class intervals to suit the study, the Goan situation and present times. Absolute data/figures collected, on getting counter-checked, have been rounded-up to the nearest 50-500 for bigger sums³⁶ depending upon the amounts, and to the nearest 5-10 in case of smaller ones.³⁷ Absolute data are to be considered only as *approximate* figures closest to reality.

Data analysis has been done primarily through the use of the statistical package 'SPSS'. Statistical tools like *mean* and *standard deviation* [SD] and tests like *Correlation*, *Chi-Square* and *Mann-Whitney U* [MW-U]³⁸ have been made use of wherever necessary for the purpose of data interpretation and analyses. In case of correlation primary attention is given to the non-

parametric *Spearman's rank correlation*³⁹ and *Kendall's tau rank correlation*⁴⁰ on account of the nature of the present study. With regards to chi-square test,⁴¹ considering that it is not much suitable generally if there are 'less than 5' cases in any of the cells (Borse 2005, 323 & 325; Gaur and Gaur 2006, 98; Majumdar 2002, 383)⁴²; *redoing*, combining, amalgamation or regrouping of slabs (Bordens and Abbott 2006, 413; Borse 2005, 325; Kothari 1999, 282) has been done whenever it was found that percentage number of cells having expected count of less than five was greater than 20 percent (Voelkl and Gerber 2000, 162; Singh 2007, 71). Likewise in the eventuality of a '2 x 2' table providing a high percentage of cells with expected count of less than five [with *redoing* not possible] *Fishers Exact Test* [FET], a test for independence, has been made use of for the purpose of analysis (Bordens and Abbott 2006, 413; Singh 2007, 75)⁴³. Since chi-square *per se* is only a technique of judging the significance of association or relationship between two attributes, and since it is not a measure of the degree of relationship or the form of relationship between the two (Kothari 1999, 281), data available has been made use of to throw light on the form of association. Thus for example when chi-square is used to study an association vis-à-vis gender of the HH head, once significance is determined; data available has been used to decide whether it is to the disadvantage or not of female-headed HHs.

Pertaining to the issue of HH expenditures amongst other things, the study collected data either for the last one year or for the last one month depending upon the item. To get an appropriate picture of the total on 'per annum' basis, details of the last month have been in appropriate sections/sub-sections increased twelve-fold. As was mentioned earlier, on account of the care taken at the time of the survey to match cash inflows of HHs with outflows, as was likewise done by NCAER/NACO/UNDP, the monthly figures on being increased in general tally with the responses of sample respondents' vis-à-vis the total annual HH cash outflows.

To avoid getting an erroneous picture portrayed of the economic situation of the two categories of sample HHs, wherein HIV/AIDS HHs get reflected as unduly worse-off with high dependence on the uncertain and at times even dubious source i.e. UUI and non-HIV/AIDS HHs getting reflected as better-off with high levels of savings/investments; besides all care, scrutiny and double-checks wherever possible to verify the authenticity of responses, while in case of non-HIV/AIDS HHs savings/investments are taken at the bare minimum level, it is likewise so with reference to UUI in case of HIV/AIDS HHs; this also only after duly considering the actual responses, and by giving scope to the possibility that annual expenditure figures may not always be proportionately reflective of those of last month.⁴⁴

3.9 OPERATIONAL DEFINITIONS

The present study makes use of terms whose meanings may not be the same as those used in common parlance or otherwise. Given below are definitions of the same in the context of the present study, considering its objectives and constraints. The definitions have been listed in alphabetical order.

- ***Borrowings***: These are all those borrowings, financial in nature, which the respondents have made or admitted of making for various reasons.⁴⁵ These borrowings are either from banks, money lenders, employer, friends, neighbours, relatives or others; and are to be compulsorily repaid either with or without interest payment depending upon the source. For the purpose of this study borrowings also include advances taken from the employer which are to be adjusted/debited from future salary/wage earnings. (See also *UUI*).
- ***Care-giver [CG]***: Person who takes care of an HIV+ sick individual. For the present study care-giving may be full time or part time.

- ***Continuously***: With reference to NHIEs it refers to a member being regularly ill; such a member falls\is sick almost every single/alternate day. (See also *frequently*).
- ***Dependents***: Any non-working/non-earning member of any age group. As opposed to this a working member is one who has a regular or full time job: permanent, contractual and/or on day-to-day basis. Daily wage-earners who are capable of working and have been currently working, but whose job on a day-to-day basis is not guaranteed because of the very nature of such employment are not considered as dependents.
- ***Dissavings***: A term used to denote generation of resources to meet HH expenses wherein the concerned HH sells/liquidates assets/past savings [e.g. premature closure of term deposits].
- ***Frequently***: With reference to NHIEs it refers to a member being ill 4-5 times a month or more; such a member falls\is sick about once a week. (See also *continuously*).
- ***Fully-sponsored food***: A term coined for the present study, it refers to food which is provided free to a HH throughout the month by an individual, institution or another HH. Here the HH under consideration does not spend any money on food. (See also *partly-sponsored food* and *own food*).
- ***HIV/AIDS household***: Refers to a HH where there is at least one living member in the age group of 18-60 years who is HIV+. (See also *non-HIV/AIDS household*).
- ***Hospitalised illness episode [HIE]***: Any illness episode which required at least one night or 24 hours stay either at a hospital or C&S Home. (See also *non-hospitalised illness episode*).
- ***Household [HH]***: Residential premise, abode or dwelling where members of a family are living, eating and staying together. Also, while a common entrance to the abode is made use of by all members, meals are cooked at one place and consumed by all members as a unit.⁴⁶ Members of a HH comprise primarily of the following: all those who stay together and are

present in the dwelling; members who work elsewhere but return back regularly/periodically and/or contribute regularly to HH expenses; minors who may be in hostels or boarding schools. Adult family members who stay separate for reasons including settlement, marriage and/or work, and do not contribute in anyway to the said HH are not part of the HH for the purpose of this study. A HH can also comprise of a single member, who stays alone either due to eviction, ex-communication, and/or death/marriage of other members. A HH for the purpose of this study does not include unrelated individuals who for the purpose of employment or convenience stay together on an equal-cost-sharing basis.⁴⁷

- **Household head:** Generally, though not always, the senior most member in the HH in terms of age. The HH head is a person who is recognised as such by the HH. She or he is generally the person who bears the chief responsibility for managing the affairs of the HH and takes decision on behalf of the HH. The definition is quite similar to the one of Census of India⁴⁸
- **Household land:** Refers to any land, plot or open space owned by the HH but not including the land on which the dwelling is on.
- **Literate member:** A member who can read, write and understand basics of any language. For the purpose of the present study a member is also considered as a literate member if he/she currently goes to school and is at least in Class I and above.
- **Minor:** Any HH member who is below 18 years of age.
- **Non-HIV/AIDS household:** HH without any HIV+ tested member. (See also *HIV/AIDS HH*)
- **Non-hospitalised illness episode [NHIE]:** Any illness episode which requires medical attention, but which does not require hospitalisation. (See also *hospitalised illness episode*).
- **Non-wage income:** Refers primarily to income from rent, dividends, pension, regular financial help from charitable organizations etc. For the purpose of the present study, non-

wage income is that which is not earned through direct, active, productive or gainful employment during the last one year.⁴⁹ (See also *wage income*).

- ***Other annual household consumption expenditure:*** They are expenses which are not incurred regularly on a daily or monthly basis. While examples include expenses on medical treatment, education, repair/maintenance of house/vehicle, purchase of clothing/footwear, durable/electronic/electrical goods etc.; daily food and regular monthly expenses on house-rent, electricity/water/fuel, phone, entertainment, TV, alcohol, toiletries etc. are not part of the same.
- ***Own food:*** A term coined for the present study, it refers to food which is entirely purchased with own funds by the HHs. (See also *fully-sponsored food* and *partly-sponsored food*).
- ***Partly-sponsored food:*** This is another term coined exclusively for the present study. Besides the amount actually spent by the HH on food an additional amount towards food is received by the HH every month in cash or kind from external sources including NGOs. Actual food expenses of the HH thus stands reduced due to this assistance, if any. Also, besides HHs as a whole getting this support certain categories of workers like housemaids or those working in hotels/restaurants get part of their food requirements at the place of work on a daily basis thus reducing their monthly HH food expenses. Partly-sponsored food can also refer to the fact that of the actual food expenses shown, a part is reimbursed later by others like relations.⁵⁰ (See also *fully-sponsored food* and *own food*).
- ***Total annual household income (or Total HH income):*** It is the sum of total of wage and non-wage income. It is approximate net income after taxes [if any] and after taking into consideration loss of income due to absence of work due to sickness and/or care-giving. The total HH income is calculated inclusive of increments and bonuses, if any, and in case of

wage earners by considering annual wages in approximate terms keeping in mind both, the feedback obtained from the respondent and other HH members [if any], and the average number of days the respondent went to work during the previous month.

- ***Unrequited and/or unrevealed income [UUI]***: This is a term coined exclusively for the present study to define income, over and above borrowings, which is used by HHs to tide over deficits. If one does not consider this income, sources of which are often undisclosed, there can be no plausible explanation of how certain HHs cope with their deficits. UUI comes from sources which often are either not revealed initially or acknowledged even subsequently by the respondents. UUIs are different from borrowings. While borrowings are acknowledged and verifiable, UUIs are often unverifiable and hidden, and could even be from dubious sources like prostitution, gambling and petty crime. UUIs include the following modes of getting funds: borrowing from close relatives/friends wherein the amount borrowed does not have to be returned;⁵¹ amount obtained from dubious sources/activities like theft, prostitution and/or gambling;⁵² amount received from foreign benefactors, NGOs, religious organizations etc.⁵³ (See also *borrowings*).
- ***Wage income***: Refers primarily to income in the form of salary, wages, fees, commission, agricultural income etc. Amongst others, it is income earned during the last year from direct employment, self-employment, business and trade. (See also *non-wage income*).

3.10 SAMPLE PROFILE

Given below are self-explanatory tables providing details of the study samples. Table 3.10i which deals with HIV/AIDS HHs shows that majority of the respondents [55 percent] had their place of origin outside Goa; resided in rural areas [53 percent]; and were from South Goa [54 percent].

While from North Goa most of the respondents were from Bardez, Ponda and Tiswadi *talukas*; in South Goa they were from Salcete and Marmagoa.

Table 3.10i Profile of HIV/AIDS sample HHs vis-à-vis place of origin of HH-head; district- and *taluka*-wise HH distribution; location of HHs; sex and religion of HH-head; and place/source of obtaining information

	Frequency	Percent		Frequency	Percent
Place of origin of the HIV/AIDS HH-head			Location of HIV/AIDS HHs		
Goa	90	45	Urban	94	47
Outside Goa	110	55	Rural	106	53
Total	200	100	Total	200	100
District-wise HIV/AIDS HHs distribution			Sex of HIV/AIDS HH-head		
North Goa	92	46	Male	117	58.5
South Goa	108	54	Female	83	41.5
Total	200	100	Total	200	100
<i>Taluka</i>-wise HIV/AIDS HHs distribution			Religion of the HIV/AIDS HH-head		
Bardez	37	18.5	Catholic	50	25
Tiswadi	18	9	Hindu	124	62
Ponda	22	11	Muslim	21	10.5
Marmagoa	52	26	Others	5	2.5
Salcete	45	22.5	Total	200	100
Others [six <i>talukas</i>]	26	13	Place of obtaining information Respondents homes: 15%; C&S Homes: 21.5%; Drop-in-centres/NGO premises: 58%; Others: 5.5%		
Total	200	100			

Table 3.10ii provides a comparative profile of the two samples. As can be seen with regards to the age of the HH-head while most were from lower age groups in the case of HIV/AIDS HHs, reflective of death, disbanding and/or dissolution of HHs on account of HIV/AIDS,⁵⁴ it was the reverse in non-HIV/AIDS HHs with most belonging to the higher age brackets. Similarly, while HIV/AIDS HHs were mostly from lower annual HH income brackets, it was not so with regards to their 'matched' counterparts who were comparatively better-off. With regards to the nature of earnings, while non-HIV/AIDS HHs had more salary and wage earners, HIV/AIDS HHs had more from the 'not applicable' category, i.e. those not earning due to reasons like unemployment and sickness. Table 3.10ii also shows that there were more female-headed HIV/AIDS HHs [83 as compared to 48 in non-HIV/AIDS HHs] (see also Dixit 2005, 111 & 142), with there being more male-headed non-HIV/AIDS HHs. This is reflective of the ground reality wherein in a number of HIV/AIDS HHs male-heads had died leaving their widows as heads, with a few male-heads even

abandoning their spouses and living separately. The study has revealed that being widowed mothers at the age of 21 is not uncommon in HIV/AIDS HHs - in one case there was a widow of 20 years with four children!

Table 3.10ii Comparative profile of sample HHs based on age, educational qualifications and earning category of the HH-head, and total annual HH income [figures in percentage terms given in brackets]

	HIV/AIDS HHs			Non-HIV/AIDS HHs		
	Sex of HH-head			Sex of HH-head		
	Male	Female	Total	Male	Female	Total
Age of the HH-head						
20-30 years	6 [3]	13 [6.5]	19 [9.5]	6 [3]	2 [1]	8 [4]
31-40 years	49 [24.5]	28 [14]	77 [38.5]	34 [17]	14 [7]	48 [24]
41-50 years	32 [16]	15 [7.5]	47 [23.5]	53 [26.5]	15 [7.5]	68 [34]
51-60 years	20 [10]	17 [8.5]	37 [18.5]	42 [21]	10 [5]	52 [26]
Above 60 years	10 [5]	10 [5]	20 [10]	17 [8.5]	7 [3.5]	24 [12]
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]
Educational qualifications of the HH-head						
Illiterate	27 [13.5]	47 [23.5]	74 [37]	37 [18.5]	33 [16.5]	70 [35]
Primary	13 [6.5]	10 [5]	23 [11.5]	32 [16]	5 [2.5]	37 [18.5]
Fifth to SSC	57 [28.5]	20 [10]	77 [38.5]	69 [34.5]	10 [5]	79 [39.5]
HSSC	8 [4]	2 [1]	10 [5]	10 [5]	0	10 [5]
Graduate	9 [4.5]	3 [1.5]	12 [6]	3 [1.5]	0	3 [1.5]
Post-Graduate	1 [0.5]	0	1 [0.5]	0	0	0
Others	2 [1]	1 [0.5]	3 [1.5]	1 [0.5]	0	1 [0.5]
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]
Earning category of the HH-head						
Salary earner	36 [18]	10 [5]	46 [23]	50 [25]	4 [2]	54 [27]
Wage earner	26 [13]	23 [11.5]	49 [24.5]	65 [32.5]	22 [11]	87 [43.5]
Self employed	16 [8]	5 [2.5]	21 [10.5]	13 [6.5]	2 [1]	15 [7.5]
Not applicable*	39 [19.5]	45 [22.5]	84 [42]	24 [12]	20 [10]	44 [22]
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]
Total annual HH-income						
Up to ₹ 25,000	25 [12.5]	32 [16]	57 [28.5]	1 [0.5]	2 [1]	3 [1.5]
₹ 25,001-50,000	35 [17.5]	36 [18]	71 [35.5]	18 [9]	20 [10]	38 [19]
₹ 50,001-1,00,000	33 [16.5]	9 [4.5]	42 [21]	60 [30]	12 [6]	72 [36]
₹ 1,00,001-1,50,000	11 [5.5]	3 [1.5]	14 [7]	35 [17.5]	8 [4]	43 [21.5]
₹ 1,50,001-2,00,000	6 [3]	1 [0.5]	7 [3.5]	26 [13]	2 [1]	28 [14]
₹ 2,00,001-2,50,000	1 [0.5]	1 [0.5]	2 [1]	5 [2.5]	2 [1]	7 [3.5]
₹ 2,50,001-3,00,000	0	0	0	2 [1]	0	2 [1]
₹ 3,00,001-5,00,000	5 [2.5]	1 [0.5]	6 [3]	5 [2.5]	2 [1]	7 [3.5]
Above ₹ 5,00,000	1 [0.5]	0	1 [0.5]	0	0	0
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]

*Non-earning members on account of unemployment, sickness, being housewives, retired etc.

Table 3.10iii Comparative profile of sample HHs based on occupation and sector of employment of the HH-head [figures in percentage terms shown in brackets]

	HIV/AIDS HHs			Non-HIV/AIDS HHs		
	Sex of HH-head			Sex of HH-head		
	Male	Female	Total	Male	Female	Total
Occupation of the HH-head						
Farmer / cultivator	1 [.5]	0	1 [.5]	2 [1]	0	2 [1]
Agricultural labour	1 [.5]	0	1 [.5]	10 [5]	1 [.5]	11 [5.5]
Construction / related work	10 [5]	3 [1.5]	13 [6.5]	31 [15.5]	8 [4]	39 [19.5]
Skilled / semi-skilled / non-agri. labour	22 [11]	3 [1.5]	25 [12.5]	35 [17.5]	1 [.5]	36 [18]
Service (govt. / private)	21 [10.5]	9 [4.5]	30 [15]	29 [14.5]	6 [3]	35 [17.5]
Petty bus. / small shop	7 [3.5]	5 [2.5]	12 [6]	7 [3.5]	1 [.5]	8 [4]
Small artisan in household / cottage industry	0	1 [.5]	1 [.5]	0	0	0
Self employed / professional	3 [1.5]	0	3 [1.5]	1 [.5]	2 [1]	3 [1.5]
Truck driver / cleaner	5 [2.5]	0	5 [2.5]	4 [2]	0	4 [2]
Other kind of driver	4 [2]	0	4 [2]	8 [4]	0	8 [4]
Pensioner / retired	14 [7]	11 [5.5]	25 [12.5]	21 [10.5]	3 [1.5]	24 [12]
Domestic servant / house-maids	3 [1.5]	17 [8.5]	20 [10]	0	9 [4.5]	9 [4.5]
Rentier / house	0	1 [.5]	1 [.5]	0	0	0
Housewife	0	17 [8.5]	17 [8.5]	0	17 [8.5]	17 [8.5]
Unemployed	1 [.5]	0	1 [.5]	2 [1]	0	2 [1]
Sick - cannot work	25 [12.5]	16 [8]	41 [20.5]	2 [1]	0	2 [1]
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]
Sector of employment of the HH-head [if employed only]						
Agriculture / allied activities	2 [1]	0	2 [1]	13 [6.5]	0	13 [6.5]
Mining / quarrying	0	1 [.5]	1 [.5]	1 [.5]	0	1 [.5]
Manufacturing	1 [.5]	1 [.5]	2 [1]	3 [1.5]	1 [.5]	4 [2]
Construction	19 [9.5]	3 [1.5]	22 [11]	54 [27]	9 [4.5]	63 [31.5]
Trade	13 [6.5]	7 [3.5]	20 [10]	11 [5.5]	4 [2]	15 [7.5]
Transport / storage / communication	10	0	10 [5]	12 [6]	0	12 [6]
Hotel / restaurant	12 [6]	1 [.5]	13 [6.5]	5 [2.5]	1 [.5]	6 [3]
Finance/insurance/real estate/business services	3 [1.5]	0	3 [1.5]	1 [.5]	0	1 [.5]
Health	0	1 [.5]	1 [.5]	1 [.5]	0	1 [.5]
Community / social / personal services	16 [8]	24 [12]	40 [20]	16 [8]	13 [6.5]	29 [14.5]
Others (incl. govt. administration)	1 [.5]	0	1 [.5]	10 [5]	0	10 [5]
Total *	77 [38.5]	38 [19]	115 [57.5]	127 [63.5]	28 [14]	155 [77.5]

*The remaining 42.5 percent and 22.5 percent from the total HIV/AIDS and non-HIV/AIDS HHs respectively are currently not working due to unemployment, sickness, being housewives, retired etc.

Table 3.10iv Descriptive statistics of sample HHs vis-à-vis age of HH-head, size of HH, number of non-working members and total number of literate members in the HH

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	Min	Max	Sum of all HHs	Mean	SD	Min	Max	Sum of all HHs	Mean	SD
Age of HH-head [years]	22	85	---	44.95	12.82	25	83	---	48.42	10.71
Size of the HH	1	11	754*	3.77	1.86	1	9	895	4.48	1.50
No. of non-working members in HH	.00	8	521	2.61	1.65	.00	7	534	2.67	1.40
Total no. of literate members in HH	.00	8	490	2.45	1.41	.00	7	587	2.94	1.50

*Of this figure 304 members were having confirmed HIV+ status.

Table 3.10iii highlights the type of occupation and sector of employment of the HH head. One noteworthy difference in the type of occupation in the two samples' is the number of house-maids and those unable to work on account of sickness, both of which are more in the case of

HIV/AIDS HHs. Table 3.10iv shows that while the mean age of the HH-head is lower at 44.95 for HIV/AIDS HHs and higher at 48.42 in case of non-HIV/AIDS HHs, the average size of HHs is bigger in case of the latter at 4.48 instead of 3.77 in the former. The relatively lower figures with regards to the mean age of the HH-head [the youngest HIV/AIDS HH head was aged only 22 years!] and average size of HHs with respect to the HIV/AIDS sample is once again reflective of death in, and/or disbanding/dissolution of, witnessed in HIV/AIDS HHs. Table 3.10v which also shows sample HHs' profile but with regards to type of house, electricity, water, fuel and HH toilet; amongst other things highlights significant hardships faced by female-headed HIV/AIDS HHs with 35 of these HHs having no toilet and thus having to regularly go to open/public areas for one of the most basic human needs.⁵⁵

Table: 3.10v Comparative profile of sample HHs based on type of house, presence of electricity, main source of drinking water, type of fuel used for cooking and nature of HH toilet [figures in percentage terms shown in brackets]

	HIV/AIDS HHs			Non-HIV/AIDS HHs		
	Sex of HH-head			Sex of HH-head		
	Male	Female	Total	Male	Female	Total
Type of house						
Pucca	56 [28]	40 [20]	96 [48]	74 [37]	13 [6.5]	87 [43.5]
Semi-pucca	44 [22]	30 [15]	74 [37]	66 [33]	27 [13.5]	93 [46.5]
Kutchha	17 [8.5]	13 [6.5]	30 [15]	12 [6]	8 [4]	20 [10]
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]
Electricity in the house						
Yes	110 [55]	75 [37.5]	185 [92.5]	144 [72]	48 [24]	192 [96]
No	7 [3.5]	8 [4]	15 [7.5]	8 [4]	0	8 [4]
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]
Main source of drinking water						
Private tap	74 [37]	51 [25.5]	125 [62.5]	91 [45.5]	31 [15.5]	122 [61]
Public tap	20 [10]	13 [6.5]	33 [16.5]	26 [13]	9 [4.5]	35 [17.5]
Public hand pump	1 [.5]	1 [.5]	2 [1]	1 [.5]	0	1 [.5]
Tube-well / Pvt. hand-pump	5 [2.5]	2 [1]	7 [3.5]	4 [2]	1 [.5]	5 [2.5]
Own well	2 [1]	2 [1]	4 [2]	13 [6.5]	4 [2]	17 [8.5]
Public well	4 [2]	9 [4.5]	13 [6.5]	10 [5]	1 [.5]	11 [5.5]
River/Pond	1 [.5]	0	1 [.5]	0	0	0
Others	10 [5]	5 [2.5]	15 [7.5]	7 [3.5]	2 [1]	9 [4.5]
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]
Fuel used for cooking						
Firewood	19 [9.5]	18 [9]	37 [18.5]	38 [19]	17 [8.5]	55 [27.5]
Kerosene	28 [14]	15 [7.5]	43 [21.5]	20 [10]	8 [4]	28 [14]
LPG	67 [33.5]	50 [25]	117 [58.5]	94 [47]	23 [11.5]	117 [58.5]
Others	1 [.5]	0	1 [.5]	0	0	0
N.A. [No cooking]	2 [1]	0	2 [1]	0	0	0
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]

Contd...

Table 3.10v (Contd...)

Type of HH toilet						
No toilet*	27 [13.5]	35 [17.5]	62 [31]	41 [20.5]	25 [12.5]	66 [33]
Common toilet	33 [16.5]	10 [5]	43 [21.5]	25 [12.5]	7 [3.5]	32 [16]
Own toilet [flush]	47 [23.5]	31 [15.5]	78 [39]	64 [32]	12 [6]	76 [38]
Own toilet [traditional/pigs]	5 [2.5]	3 [1.5]	8 [4]	14 [7]	3 [1.5]	17 [8.5]
Sulabh toilet	5 [2.5]	4 [2]	9 [4.5]	8 [4]	1 [0.5]	9 [4.5]
Total	117 [58.5]	83 [41.5]	200 [100]	152 [76]	48 [24]	200 [100]

*These HHs make use of open/public areas for their needs.

Table 3.10vi distinguishes the two categories of HH samples vis-à-vis HH ownership of listed items. Except for air conditioners [AC] which can as well be ignored since it just about involves handful of HHs only, ownership of all other items is higher in case of non-HIV/AIDS HHs.

Table 3.10vii shows that in case of 139 [69.5 percent] of the HIV/AIDS HHs, HH-heads themselves were HIV+.

Table 3.10vi Comparative profile of sample HHs based on HH ownership of items [percentage figures in brackets]

	HIV/AIDS HHs		Non-HIV/AIDS HHs	
	Yes [HH owns]	No [HH does not own]	Yes [HH owns]	No [HH does not own]
Livestock	11 [5.5]	189 [94.5]	27 [13.5]	173 [86.5]
Radio/tape-recorder/audio-set	88 [44]	112 [56]	128 [64]	72 [36]
Television	124 [62]	76 [38]	145 [72.5]	55 [27.5]
Refrigerator	63 [31.5]	137 [68.5]	79 [39.5]	121 [60.5]
Phone [landline]	29 [14.5]	171 [85.5]	52 [26]	148 [74]
Cell-phone	144 [72]	56 [28]	148 [74]	52 [26]
Washing machine	15 [7.5]	185 [92.5]	31 [15.5]	169 [84.5]
Fan	162 [81]	38 [19]	178 [89]	22 [11]
Motorcycle	62 [31]	138 [69]	86 [43]	114 [57]
Own house / flat	102 [51]	98 [49]	143 [71.5]	57 [28.5]
Plot /land	37 [18.5]	163 [81.5]	54 [27]	146 [73]
Car / four-wheeler	8 [4]	192 [96]	13 [6.5]	187 [93.5]
Own well	10 [5]	190 [95]	27 [13.5]	173 [86.5]
AC	6 [3]	194 [97]	3 [1.5]	197 [98.5]
Computer	17 [8.5]	183 [91.5]	48 [24]	152 [76]

Table 3.10vii HIV status of HH-head [figures in brackets are percentage figures in terms of each category]

	Male HH-head	Female HH-head	Total
HH-head is HIV+	87 [74.36]	52 [62.65]	139 [69.5]
HH-head does not have HIV	30 [25.64]	31 [37.35]	61 [30.5]
Total	117 [58.5]	83 [41.5]	200 [100]

As shown in **Table 3.10viii** majority of the HIV+ respondents belonging to the HIV/AIDS HHs' sample at 72.5 percent were aged forty or below; with 55 percent of the total sample respondents being females and 45 percent males. While 12 percent were unmarried, 45 percent were currently

married, 9.5 percent were divorced, separated or abandoned, and 33.5 percent were widowed. Of the HIV+ respondents, while 42 percent were currently not working, 59 percent knew of their HIV+ status during the period of last 1-5 years. Almost 85 percent came to know of their HIV+ status due to prolonged illness and voluntary testing,⁵⁶ with 15 percent and 13 percent knowing on account of 'blood test' [done at time of seeking certain jobs or going abroad] and at time of delivery respectively. The mean age of the HIV+ sample respondents is 36.5 years [Table 3.10ix].

Table 3.10viii Profile of HIV+ respondents [figures in brackets are percentage figures in terms of total sample]

	Male	Female	Total
Age-group of HIV+ respondents			
Below 30 years	12 [6]	46 [23]	58 [29]
31-40 years	41 [20.5]	46 [23]	87 [43.5]
41-50 years	26 [13]	16 [8]	42 [21]
51-60 years	11 [5.5]	2 [1]	13 [6.5]
Total	90 [45]	110 [55]	200 [100]
HIV+ respondents: literate or illiterate			
Literate	78 [39]	77 [38.5]	155 [77.5]
Illiterate	12 [6]	33 [16.5]	45 [22.5]
Total	90 [45]	110 [55]	200 [100]
Marital status of HIV+ respondents			
Currently married	53 [26.5]	37 [18.5]	90 [45]
Separated / divorced / abandoned	8 [4]	11 [5.5]	19 [9.5]
Widowed	8 [4]	59 [29.5]	67 [33.5]
Unmarried	21 [10.5]	3 [1.5]	24 [12]
Total	90 [45]	110 [55]	200 [100]
Nature of present earnings of HIV+ respondents			
Salary earner	37 [18.5]	19 [9.5]	56 [28]
Wage earner	14 [7]	27 [13.5]	41 [20.5]
Self employed	12 [6]	7 [3.5]	19 [9.5]
N.A. [currently unemployed / housewife / retired / sick etc.]	27 [13.5]	57 [28.5]	84 [42]
Total	90 [45]	110 [55]	200 [100]
How HIV+ status was first discovered			
Voluntary testing	36 [18]	55 [27.5]	91 [45.5]
After prolonged illness	43 [21.5]	35 [17.5]	78 [39]
'Blood test'	10 [5]	5 [2.5]	15 [7.5]
During pregnancy	0	13 [6.5]	13 [6.5]
Others	1 [.5]	2 [1]	3 [1.5]
Total	90 [45]	110 [55]	200 [100]
Number of years back HIV+ status detected			
1 year or less	21 [10.5]	22 [11]	43 [21.5]
1 year to 5 years	52 [26]	66 [33]	118 [59]
Over 5 years	17 [8.5]	22 [11]	39 [19.5]
Total	90 [45]	110 [55]	200 [100]

Table 3.10ix Age description of sample HIV+ respondents

	Min.	Max.	Mean	SD
Age of the HIV+ respondents [years]	20	60	36.50	8.73

Notes

1. The main ailment in terms of time involved, expenses incurred, and that which was cited by the respondent/doctor/NGO.
2. This has been done since the study focuses on analysing the *economic burden* only caused by illness episodes, and not on nature of illnesses. Not giving undue importance to medical terminology vis-à-vis ailments happens to be the better option for a study as the present one since in a number of cases an illness episode is accompanied by two or more ailments/complications [especially if one considers the entire year] of which only one gets cited by the respondent or his/her medical case paper.
3. Generally speaking the figures of HIV+ individuals in Goa as cited by government agencies/GSACS are those tested/registered at the ICTCs.
4. These have their names listed with HIV/AIDS associated NGOs as well.
5. As per feedback from those on the field, the ICTC list may not be fully accurate since it could occasionally include those who have been tested/registered twice. GSACS also agrees that Goa's AIDS register does not reflect the true picture about HIV/AIDS in the State, mainly due to non-reporting and underreporting by hospitals. It is paradoxical that while the official list can get smaller from the mentioned viewpoint, from another perspective the list of HIV+ individuals will be bigger than that officially cited if one includes those who have not revealed their status besides those who are positive but yet do not know of the same.
6. Leaving aside those not having proper homes since their numbers are unavailable.
7. That such cases exist have been confirmed first hand at the time of conducting the present study.
8. Addresses provided are often fictitious, inaccurate and insufficient; or get changed due to unaffordability, eviction, etc.
9. Kind of snowball sampling.
10. Contrary to traditional view that it is not possible to make unbiased estimates, RDS, wherein current sample members recruit future sample members, is said to provide even asymptotically unbiased prevalence estimates if certain conditions are met and appropriate procedures used (Salganik 2006).
11. Including casual or 'by-chance' visits.
12. A sampling method designed to capitalize on the fact that knowledge is unequally distributed. Community leaders for example may be selected to supply knowledge regarding the overall situation in a community. Others without such a rank may also be selected to supply more detailed knowledge (Marshall 2002, 108).
13. The ratio was 1:3 in favour of non-HIV/AIDS HHs in the NCAER/NACO/UNDP study. A similar ratio has not been adopted for the present study due to financial, time and man-power constraints.
14. The selection of samples' as done by the present study in a way is similar to NCAER/NACO/UNDP study which also considered the locale and socio-economic strata of HIV/AIDS HHs while selecting the non-HIV/AIDS HHs sample (Pradhan, Sundar and Singh 2006, 20).
15. Because of which they have not been totally ignored.
16. The same is also true with some NGOs.
17. These along with the 'informal' exclusions have been considered on account of personal experiences encountered at the time of *field-work*.
18. Members who express an uncooperative attitude or overt unwillingness to participate or be involved in the study (Neuman 2000, 356 & 510). Their number for a study as the present one is quite large.
19. Respondents who lack belief or opinion, but who give an answer anyway if asked in a survey research question. Often their answers are inconsistent (Neuman 2000, 510).
20. <http://censusindia.gov.in/Metadata/Metada.htm> [accessed May 2010]
21. Fifty three HHs had 2, 21 HHs had 3, and 3 HHs had 4 confirmed HIV+ members.
22. Other than the cases personally encountered during the course of the study.
23. With regards to HIV/AIDS, majority of these opt for private treatment.
24. Incidentally, HHs can get pushed down the economic 'class' ladder on account of HIV/AIDS itself.
25. There is no sure way of verifying the same with precise figures.

26. Despite care taken at time of sample selection; confirmatory feedback obtained from *field*-experts; and citations of numerous studies as mentioned, that it is mainly the poorer segments that are more HIV/AIDS infected/affected, it is pertinent to note that even under the possibility of the sample not being ideal in terms of proportionate representation to all, it is not of much adverse consequence for the present study since: a] One major aim of the study was to make a comparative analysis of findings with those of non-HIV/AIDS HHs. For this purpose having as-much-as-possible matched sample of non-HIV/AIDS HHs was of greater need; b] Purpose of the study was not to generalize for the entire population due to reasons already recorded. Instead, the aim was to derive conclusions primarily for the present sample, with the same being indicative only for others not part of the study; c] Having more respondents from lower economic backgrounds is not detrimental [policy implications point of view] since it is they in reality who could be more in need of external assistance; d] Other than occasionally, the study does not overly/exclusively focus on HH income-based inter-HH comparisons. Perfect representation [which is not possible] to all economic segments would have been essential if there was a comprehensive/exclusive HH income-based inter-HH analysis.
27. Information of the dead member though was taken only if there was another HIV+ living member in the 18-60 years age group present in the HH.
28. These members were not considered for analysis, since the study focus was one HIV+ person per HH.
29. An ethical principle of social research that people should never participate in research unless they first explicitly agree to do so (Neuman 2000, 517).
30. Signatures of respondents in case of personal face-to-face interactions were not insisted upon, based on *pre*-survey guidelines provided by *field*-workers including doctors and NGO counsellors, so as to provide extra confidence to respondents vis-à-vis anonymity of identities/responses - having some proof or mark of personal identification like signature would not have provided the same.
31. For e.g. to get figures closer to reality vis-à-vis food expenses, data was first elicited item-by-item, and on getting the sum total, the figure was cross-checked with total HH income and expenses.
32. Considering amongst others, the sensitive nature of the topic, confidential nature of information, geographical spread and language of respondents.
33. On the phone since some did not want to reveal their identity due to stigma/fear of being recognized.
34. Some respondents did not want neighbours to see unknown visitors at their place on account of probing and inquisitiveness. In a number of cases even family members were unaware of the HIV+ status of respondents.
35. Additional qualitative forms of information obtained have been incorporated wherever appropriate, especially to substantiate arguments or clarify statements, and hence they did not necessitate conversion of responses to numeric/coded forms.
36. For e.g. in case of borrowings; dissavings; savings; annual HH income; expenditure on food, clothing, medical treatment, durable/electrical/electronic goods; income lost due to absence from work; etc.
37. Like those pertaining to fuel, electricity, toilet articles, phone bills, liquor, tobacco products etc.
38. Belonging to the family of *Rank Sum* tests, the MW-U test, which is also called the *Mann-Whitney-Wilcoxon* [MWW] or *Wilcoxon-Mann-Whitney* test, is a non-parametric test for assessing whether two independent samples of observations came from the same population/distribution (Kothari 1999, 342-343). The test, identical to the parametric independent samples t-test has been made use of since it is the appropriate alternative for data which does/may not meet the assumptions of the parametric test: assumptions such as scores not being normally distributed or variances being heterogeneous (Bordens and Abbott 2006, 414). A study like the present involving hidden population and a sensitive issue [and as a result depending on non-probability sampling techniques] at the outset itself cannot assume to have a normal distribution. MW-U was additionally deemed appropriate since: it is supposedly more efficient for sufficiently large sample sizes and it is more robust in the presence of outliers and therefore less likely to provide spuriously significant results.
39. Also called as *Rho correlation* (Ahuja 2002, 436; Bordens and Abbott 2006, 381); *Rank difference* or *Rank Order correlation* (Majumdar 2002, 357-358).

40. While Spearman's rank correlation is considered as the regular Pearson's correlation coefficient in terms of proportion of variability accounted for; Kendall's tau rank correlation represents a probability, i.e. the difference between the probability that the observed data are in the same order versus the probability that the observed data are not in the same order (Thennarasu *et al* 2010, 18). The non-parametric natured correlation methods are given preference herein since they do not warrant the assumption regarding normality of the distribution (Majumdar 2002, 359)
41. Basically a non-parametric test that can be used for any type of distribution with no rigid assumptions necessary in respect of type of population, it is a test of independence or measure of association based on the difference between the observed and predicted cell frequencies (Majumdar 2002, 381 & 416; Kothari 1999, 280-281; Bordens and Abbott 2006, 411).
42. See also http://www.unesco.org/webworld/idams/advguide/Chapt4_2.htm
43. *Ibid.*
44. Thus while *unaccounted/unexplained* deficits if any amounting to '<2%' have been ignored so as not to unnecessarily point at UUI, *unaccounted/unexplained* surpluses if any amounting to '<2%' have also been likewise ignored so as not to unduly show positive savings/investments [needless to say while deficits are usually seen in HIV/AIDS HHs, it is surpluses in non-HIV/AIDS HHs]. It needs to be mentioned that the unaccounted/unexplained differences cited besides being occurrences of a few sample HHs only - particularly non-HIV/AIDS HHs from better income brackets; the same generally never exceeded 2 percent. It needs to be placed on record that on account of the occasional marginal variances of the few HHs as a consequence of the above [and also additionally on account of unavailability of complete information vis-à-vis some items/heads – for e.g. data of UUI were totally and partially unavailable for 9 and 3 HIV/AIDS HHs respectively] the study attempts at arriving at broad indicative total HH inflow/outflow patterns only and not at perfect matching of the same.
45. In case of HIV/AIDS HHs, they are particularly to tide-up rising deficits on account of falling incomes and mounting expenditures.
46. A dwelling having members belonging to the same family, staying under the same roof, but who make use of separate entrances and/or cook/eat separately is not considered as one HH. Such a place constitutes two separate HHs.
47. The definition of HH as used by the study is quite similar to the one provided by the Office of the Registrar General & Census Commissioner, Census of India. See: <http://censusindia.gov.in/Metadata/Metada.htm#2d>
48. See: <http://censusindia.gov.in/Metadata/Metada.htm>
49. Though interest is a component of non-wage income, the present study only finds if there were interest earning or not during the year. Besides on account of the various constraints [time, manpower and financial], the study does not go into details of actual amounts of interest earned due to the following: a] it is not easy to find the correct interest amounts earned by a HH considering various types of savings, savings of different members, savings in different places and savings of different tenures; b] HHs usually do not reveal the correct interest earnings either because of ignorance or because it reveals the HH savings/investments structure; c] actual interest amount earned does not matter significantly for the present study since the basic focus is on last one year HH income and expenditure - to see if the annual income [excluding interest, since it is on past earnings/savings] would suffice to meet the annual expenditure.
50. Considering these expenses as those of the HH in no way affects the results of the study because the same get reflected later as borrowings or UUI.
51. Many respondents do not consider these as borrowings since it does not have to be returned. Such a source of covering deficits is present across all income brackets especially among the relatively better-off HHs. Usually it happens when on account of the seriousness of the matter and plight of the concerned, a relatively better-off sibling/close relative provides some lump-sum amount periodically or takes regular care of reimbursing pre-decided bills like those pertaining to medicines, electricity, fuel, education etc.

52. These sources of income or modes of covering deficits are usually never revealed - their actual size cannot be minutely verified. That such modes exist have been confirmed by *field-workers*/NGOs. This is an important source/mode of additional income for some, especially from the lower income brackets, since these neither have HH assets for sale/liquidation to generate resources or provide as security for borrowing, nor do they have wealthy relations who could unconditionally and regularly assist on account of their own poor economic background.
 53. These amounts are only occasional and they do not have to be repaid back.
 54. In 69 percent of the HIV/AIDS sample HHs' members lived alone as nuclear families, many of whom had to do so ever since HIV detection which forced people to move and stay separately. Incidentally, related to the present issue and also to the one related to the fact that there were relatively more female-headed HIV/AIDS HHs it is pertinent to note that 20 percent of the total sample HHs comprised of only the mother and her children.
 55. Significant hardship because this is despite there being more male-headed HHs in the total sample.
 56. The prolonged illness was mostly fever of a long duration as was the case with 21 respondents, TB in case of 13, skin infection/boils and vomiting/diarrhea in case of another 12 each. With regards to voluntary testing, amongst others, the same was done by 47 respondents since they knew their spouse/partner was infected, with 32 doing on account of sickness-cum-suggestion of health provider and since another family member [not spouse] was infected.
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CHAPTER 4: IMPACT OF HIV/AIDS ON INCOME AND EMPLOYMENT

4.1 GENERAL

4.2 DEATH OF A HIV/AIDS MEMBER

4.3 INCOME AND EMPLOYMENT OF THE HIV-POSITIVE RESPONDENT

4.3.1 Previous and present employment

4.3.2 Present employment

4.4 INCOME AND EMPLOYMENT PERTAINING TO THE CARE-GIVER

4.5 ADDITIONAL BURDEN: DEATH OF A NON-HIV/AIDS EARNING MEMBER

4.6 OTHER FINDINGS

4.6.1 Coping mechanism pertaining to income and employment

4.6.2 Loss of employment and income for HIV+ members or caregivers during the last one year

4.6.3 Loss of double employment and sources of income

4.6.4 Miscellaneous

4.7 SUMMARY

Notes

CHAPTER 4: IMPACT OF HIV/AIDS ON INCOME AND EMPLOYMENT

Employment is not only an economic necessity but also an important source of dignity and self esteem, as well as a medium for daily social interaction with co-workers (Medhini, Jain and Gonsalves 2007a, 153). HIV/AIDS places new demands on family resources and reduces the time that adults can spend on income-generating activities.... (Dixit 2005, 110).

Amongst others, Pradhan, Sundar and Natesh (2006, 125) highlighted that HIV HHs suffered income loss on account of HIV/AIDS in three main ways: a] currently working PLWHA are forced to take leave or be absent from work due to ill health; b] PLWHA dropping out of work force with worsening physical condition; and c] an employed caregiver in the family has to take leave to look after the PLWHA. The objective of the present chapter is to deal with the above and other issues related to impact of HIV/AIDS on individuals/HHs vis-à-vis income and employment. It outlines ways how employment gets affected, how income goes down, and how HHs cope with the same. A comparative analysis between the two study samples was part of the objective of this chapter. In appropriate places an analysis has also been done to find if any significant association exists based on gender of the HH-head.

4.1 GENERAL

To begin with a brief recapitulation to what was provided in Table 3.10iii [Chapter 3] and that which has a bearing on income and employment, most of the HH-heads of both samples' were employed in 'construction and related work', 'skilled/semi-skilled/non-agricultural labour' or 'services'. While numbers of the retired/pensioners were almost the same in both samples', there were more 'domestic servants' [10 percent] and those who 'cannot work due to sickness' [20.5

percent] in the HIV/AIDS HHs sample as compared to those in the 'control group' where the corresponding figures were 4.5 percent and 1 percent respectively. Table 3.10ii showed that with regards to the educational profile of the HH-heads the two samples' were more-or-less identical, with illiterate HH-heads constituting about 36 percent of the total.

If one considers the highest level of occupation [in terms of nature of work, designation and/or monetary earnings] and educational qualifications that any HH member has excluding the HH-head [see Table 4.1i]:¹ *firstly*, almost in 35 percent of the HHs in both samples' the better occupation was held by a member other than the HH-head;² and *secondly*, while in HIV/AIDS HHs 54 percent of the HH-heads had relatively superior educational qualifications as compared to other HH members, in case of non-HIV/AIDS HHs the figure was lower at 33.5 percent. The second of the above is often an indicator, as confirmed by *field*-experts/observations, of HIV/AIDS depriving younger HH members of higher education.³ Incidentally, not having sufficient/higher education can deprive HH member's better employment and higher earnings – present and future.

Table 4.1i Occupation, sector of employment & educational qualifications of HH members excl. the HH-head

	HIV/AIDS HHs		Non-HIV/AIDS HHs	
	Frequency	Percent	Frequency	Percent
'Highest category' occupation of any HH member excl. the HH-head in terms of earnings/designation/nature of job				
Farmer / cultivator	0	0	2	1
Agricultural labourer	1	.5	2	1
Construction	4	2	6	3
Skilled / semi-skilled / non-agricultural labourer	15	7.5	11	5.5
Service (government / private)	24	12	33	16.5
Petty business / small shop	3	1.5	4	2
Large business / medium-large shop	1	.5	0	0
Self employed / professional	1	.5	0	0
Truck driver / cleaner	3	1.5	1	.5
Transport worker	5	2.5	2	1
Domestic servant	12	6.0	9	4.5
Sub-total	69	34.5	70	35
HHs where no one has 'better' job than HH-head	131	65.5	130	65
Total	200	100	200	100

Contd...

Table 4.1i (Contd...)

Sector of employment of the above member				
Agriculture/allied	1	.5	4	2
Manufacturing	4	2	5	2.5
Construction	8	4	12	6
Trade	7	3.5	8	4
Transport / storage / communication	9	4.5	5	2.5
Hotel / restaurant	6	3	2	1
Finance / insurance / real estate / business services	2	1	1	.5
Community / social / personal services	27	13.5	29	14.5
Tourism	1	.5	0	0
Others (incl. government)	4	2	4	2
Sub-total	69	34.5	70	35
Not applicable	131	65.5	130	65
Total	200	100	200	100
Highest educational qualifications attained in the HH excluding that of the HH-head				
Primary	6	3	7	3.5
Fifth to SSC	55	27.5	47	23.5
HSSC	15	7.5	43	21.5
Graduate	9	4.5	28	14
Post-Graduate	3	1.5	4	2
Professional	0	0	1	.5
Diploma	4	2	3	1.5
Sub-total	92	46	133	66.5
HHs where no one has better educational qualifications than HH-head	108	54	67	33.5
Total	200	100	200	100

Table 4.1ii shows how the two categories of HHs' differ with regards to the numbers pertaining to HH members and annual HH incomes. Of the two samples, the HIV/AIDS HHs sample has fewer members as well as fewer working members. While 30.90 percent of the HIV/AIDS HHs' members were working, the figure was higher at 40.34 percent for non-HIV/AIDS HHs. From another perspective loosely related to the dependency ratio, while the number of non-working members in HIV/AIDS HHs was about 2.24 times that of working members, it was relatively better at about 1.48 in case of non-HIV/AIDS HHs. If we instead consider dependency in terms of total population vis-à-vis total number of earners (Pradhan, Sundar and Singh 2006, 42) the ratio is 3.24 and 2.48 in HIV/AIDS and non-HIV/AIDS HHs samples' respectively. We can thus conclude that there are more dependents in HIV/AIDS HHs as compared to non-HIV/AIDS HHs. The situation can get worse. In Botswana it was estimated that on average, every income earner was likely to acquire one additional dependent over the next 10 years due to the epidemic with

families in the poorest quartile to acquire an additional eight people who will become dependent on their income as a result of AIDS (UNAIDS 2006, 84). To highlight the gravity of the situation of non-working members in HIV/AIDS HHs from another viewpoint, 31 [15.5 percent] HIV/AIDS sample HHs had currently not a single member who was employed. The corresponding figure for non-HIV/AIDS HHs was only 2 [1 percent].

With regards to HIV/AIDS HHs having fewer members it was primarily because: a] a number of these HHs' members have died with AIDS, and/or b] in a number of cases these families have been kept isolated, with other family members staying separate ever since HIV detection. Studies have confirmed that AIDS related death to a bread-winner occasionally leads to HHs facing the situation of disbanding or dissolution (Dixit 2005, 110; Gaigbe-Togbe and Weinberger 2003, 32). According to Pradhan, Sundar and Singh (2006, 43) the small size of HHs could be for reasons like PLWHA generally living in nuclear family and/or preferring not to have children. The size of working members is fewer in the sample HIV/AIDS HHs since a number of members are unable to work, directly or indirectly due to HIV/AIDS - for example they are either sick for work, or those who can work⁴ are unable to take up employment of a regular nature since they have to do duties of care-giving.

That HIV/AIDS has adverse implications on per HH wage income, per capita wage income and per working member wage income, with all being substantially lower in HIV/AIDS HHs as compared to non-HIV/AIDS HHs can be seen in **Table 4.1ii**. While the annual average wage income *per* HIV/AIDS HH is only about 0.55 times that of non-HIV/AIDS HHs, the average wage income *per* HH *member* per annum is about 0.66 times that of non-HIV/AIDS HHs.⁵ The per capita wage income *per working member* in HIV/AIDS HHs which is proportionately 0.86 times that of non-HIV/AIDS HHs is lower on account of reasons like:

absenteeism due to sickness and/or care-giving; frequent changes in jobs denying the benefit of increments and better earnings especially in case of salaried individuals; in case of wage earners full-day work becomes part-day work due to HIV/AIDS contributed weakness and indisposition etc. Incidentally, while 19 [9.5 percent] HIV/AIDS HHs have no wage income due to HIV/AIDS contributed reasons, the figure for the non-HIV/AIDS HHs sample was only 2 [1 percent]. Likewise, while 10 [5 percent] HIV/AIDS HHs had neither wage nor non-wage income during the last 12 months, the corresponding figure was nil for non-HIV/AIDS HHs. Reference to the ‘dramatic’ increase in number of destitute HHs – those with no income earners – can be found in Greener (2004, as in UNAIDS 2006, 85).

With regards to details pertaining to annual non-wage HH income; except for total number of HHs having non-wage income excluding interest, and total non-wage income per HH [excluding interest] where *the figures were significantly higher and better for HIV/AIDS HHs* as compared to the ‘control group’ with Mann-Whitney U [MW-U] confirming the same *at the 0.01 level* [$U = 15445.5$; $Z = -4.241$; $p = .000$]; the figures of non-HIV/AIDS HHs are far superior than those of HIV/AIDS HHs. For instance, while there were 161 [80.5 percent] non-HIV/AIDS HHs having interest earnings, exclusively or along with other non-wage earnings alongside, the number was only 29 [14.5 percent] in case of HIV/AIDS HHs. Also, while 37 [18.5 percent] non-HIV/AIDS HHs had nil non-wage earnings [including nil interest], the figure was much higher in case of HIV/AIDS HHs at 112 [56 percent]. Incidentally, the *number* of HIV/AIDS HHs with non-wage income [excluding interest] are higher and so also the *per HH* non-wage income [excluding interest] since unlike their non-HIV/AIDS counterparts there were more widows [see **Table 5.2.1A/Chapter 5** for related information], many of who were receiving Goa Government provided pension on account of death of their husbands, majority of who died of

AIDS.⁶ That 'widow' pension does play an important role in HIV/AIDS HHs can be seen by the fact, as shown by MW-U results, that there was a *significant difference at the 0.1 level in total annual non-wage income [excluding interest] for the entire HIV/AIDS HHs sample based on gender of the HH-head* [$U = 4161.5$; $Z = -1.904$; $p = .057$], with the mean annual non-wage income being about ₹ 7,867 for female-headed HHs, and ₹ 3,156 for male-headed HHs.

With reference to the total HH income - wage and non-wage combined - the size of the HIV/AIDS HHs income is 0.59 times the size of their matched counterparts, with the average annual income per HH member being 0.70 times that of the non-HIV/AIDS HH member. As can be seen in **Table 4.1ii**, the per capita annual income per HIV/AIDS HH member is ₹ 16,750 as compared to ₹ 23,800 in case of non-HIV/AIDS HH members. While Pradhan, Sundar and Singh (2006, 43) affirm to present study findings on the fact that the total annual HH income of non-HIV/AIDS HHs is greater than that of HIV/AIDS HHs; the two differ vis-à-vis annual per capita income. While the same was found to be lower in HIV/AIDS HHs despite family size being smaller than non-HIV/AIDS HHs in the present study, the other study found that it was bigger despite lower annual HH incomes on account of the smaller size of HIV/AIDS families. Fall in levels of per capita income and/or HH incomes as a result of HIV/AIDS have also been recorded by other studies. For example Greener's study in Botswana found that HIV results in a decline in per capita HH income by 10 percent, with average income losses being almost twice as high for HHs in the lowest income level (UNAIDS 2008, 162). As reiterated by Mahal and Rao (2005, 592), to the extent HIV/AIDS is associated with declines in rate of growth of per capita income, *ceteris paribus* it increases the proportion of people living in poverty.

Table 4.1ii Sample HHs' profile vis-à-vis annual HH income

	HIV/AIDS HHs	Non-HIV/AIDS HHs
<i>Total number of HHs</i>	200	200
<i>Total HH members</i>	754 [Mean: 3.77;SD:1.86]	895 [Mean: 4.48; SD:1.50]
<i>Number of working members</i>	233[Mean:1.17; SD: 0.86]	361[Mean: 1.81; SD: 0.89]
<i>Number of non-working members</i>	521 [Mean:2.61;SD: 1.65]	534 [Mean:2.67; SD: 1.40]
Wage income		
Number of HHs where wage income per annum is nil	19	2
Average HH wage income per annum per HH	₹ 58,025 [SD: 78611]	₹ 1,04,990 [SD: 76385]
Average wage income per HH member per annum	₹ 15,391	₹ 23,464
Average annual wage income per working member	₹ 49,807	₹ 58,172
Number of HHs having nil wage and nil non-wage income p.a.*	10	0
Non-wage income		
Number of HHs having non-wage income excl. interest	50	25
Number of HHs with nil non-wage income per annum [excl. interest]	150	175
No. of HHs with nil non-wage income but have only interest earnings	38	138
No. of HHs with interest [exclusively and/or with other non-wage incomes]	29	161
No. of HHs with nil non-wage income p.a. [nil interest earnings also]	112	37
Total non-wage income per HH excluding interest earnings	₹ 5,111 [SD: 14321]	₹ 2,294 [SD: 9944]
Total HH income per annum		
Average total HH income per annum [per HH]	₹ 63,126 [SD: 81220]	₹ 1,07,280 [SD: 76750]
Average income per HH member per annum [approx/rounded-up]	₹ 16,750	₹ 23,800

*Not even interest

Table 4.1ii shows that the difference in mean total annual income per HH pertaining to the two study samples is a substantial amount of about ₹ 44,154. MW-U test confirms the *significant difference in the total annual HH income of the two samples' at the 0.01 level* [$U = 9143.5$, $Z = - 9.391$, $p = .000$]. Incidentally, MW-U also shows that *there was significant difference at the 0.01 level in total annual HH income based on gender of the HIV/AIDS HH-head* [$U = 3223$, $Z = - 4.048$, $p = .000$] as well as *non-HIV/AIDS HH-head* [$U = 2139$, $Z = - 4.318$, $p = .000$] to the disadvantage of female-headed HHs. While mean total annual HH income for male-headed and female-headed HIV/AIDS HHs was ₹ 76,982 [SD: 95078] and ₹ 43,593 [SD: 50606] respectively; the corresponding figures were ₹ 1,14,310 [SD: 74113] and ₹ 85,031 [SD: 81416] respectively in case of the non-HIV/AIDS HHs sample.

4.2 DEATH OF A HIV/AIDS MEMBER

Amongst the 200 HIV/AIDS HHs selected for study, 77 [38.5 percent] had experienced at least one death of an AIDS member. Of those who died with AIDS 70 members⁷ used to be working members: 33 working at the time of death, and 37 working earlier before HIV/AIDS made them to quit [see **Table 4.2i**]. The mean number of months for the 37 members who left their employment before death due to HIV/AIDS was 12.22 months [SD: 11.89], with some having lost their employment and earnings, and thus becoming economically unproductive and a burden on HHs for even 5 years [see **Table 4.2iii**]. Incidentally, as was mentioned in the earlier section, the loss of a breadwinner to HIV/AIDS tends to reduce the economic viability of the HH that remains, with some HHs facing the situation of disbanding or dissolution (Dixit 2005, 110; Gaigbe-Togbe and Weinberger 2003, 32; Nielsen and Melgaard 2004, 45). A study of rural South Africa (Hosegood, Herbst and Timæus 2003) found that HHs experiencing at least one AIDS death during a one-year period were nearly three times as likely to dissolve as other HHs (as in Gaigbe-Togbe and Weinberger 2003, 32).⁸ That loss of HH members can lead to dissolution or disbanding has been found by the present study as well. For instance, while there were 22 [11 percent] single-person HIV/AIDS HHs, there was only one [0.5 percent] non-HIV/AIDS HH. This is in sharp contrast to the “one member HHs” figures for Goa as provided by Census of India (2001) which stands at 5.8 percent and 5.7 percent for rural and urban areas respectively.

Seven members of the 77 who died of AIDS, never worked: amongst who were five minors and one housewife. Over 57 percent of the dead members had earnings in the range of ₹ 2,001-5,000 per month, with the figure becoming almost 65 percent if we exclude the non-working members and two earning members whose earnings are unknown. If we include the

dead members whose earnings were over ₹ 5,000 per month, then almost 80 percent of the HHs having at least one dead earning AIDS member have lost substantial amounts of monthly/annual incomes - substantial especially considering the socio-cultural-economic background of the HHs, prevailing educational qualifications, expenditure patterns etc. The mean earnings lost per dead member are ₹ 4,673; or ₹ 5,292 if we consider only the working members whose earnings are known [see Table 4.2iii]. On a per annum basis the income lost per HH is over ₹ 63,500 which happens to be higher than the annual total HH income of 146 [73 percent] HHs of the present study. The actual earnings lost are much larger than they appear given that they accumulate over several years when an individual dies, even under fairly conservative assumptions about working life spans (Bloom and Glied 1993a, as in Mahal and Rao 2005, 584). In Ivory Coast, urban HHs that have lost at least one family member to AIDS have seen their income drop by 52-67 percent with expenditures soaring four fold.⁹ A study in South Africa found that HHs that had experienced illness or death in the recent past were more than twice likely to be poor than non-affected HHs and were more likely to experience long-term poverty (Dixit 2005, 142). To make matters worse these sources of income have ceased for years altogether for a large number as shown in Table 4.2i, with almost 30 percent and 9 percent having died between '5-10 years' and 'above 10 years' back respectively. Studies in Tanzania found that PLWH typically experience an average of 12 months of deteriorating health in the year before death (Bollinger, Stover and Riwa 1999; Beegle 2003, as in UNAIDS 2008, 162). If one considers all working members the corresponding figure for the present study is 11.12 months [see Table 4.2iii]. Needless to say this figure has an adverse bearing not only on HH incomes but on HH expenses as well.

Notwithstanding the huge loss of HH income due to death of AIDS earning members as already highlighted, the loss becomes far worse when: a] the dead member was the only earning member, and/or b] there were two or more earning members in the HH who died of AIDS.

Table 4.2i Employment status, income-slabs and number of years since death of dead AIDS HH members

	Frequency	% figures for entire sample	% figures for only those dead
Employment status of the dead AIDS members			
Yes-employed at the time of death	33	16.5	42.9
Yes-but not at time of death but earlier*	37	18.5	48.1
Never employed [#]	7	3.5	9.1
Total - dead members' HHs	77	38.5	100
Others- i.e. those who did not die	123	61.5	
Total of all HHs	200	100	
Income slabs of the dead AIDS members			
Never employed	7	3.5	9.1
Up to ₹ 1000	4 [^]	2	5.2
₹ 1001- 2000	12	6	15.6
₹ 2001- 3500	27	13.5	35.1
₹ 3501- 5000	17	8.5	22.1
₹ 5001-7500	3	1.5	3.9
₹ 7501-10,000	3	1.5	3.9
₹ 10,001-20,000	2	1	2.6
Above ₹ 20,000	2	1	2.6
Total - dead members' HHs	77	38.5	100
Others- i.e. those who did not die	123	61.5	
Total of all HHs	200	100	
Number of years back the AIDS members died			
Below 2 years	12	6	15.6
2-5 years	35	17.5	45.5
5-10 years	23	11.5	29.9
Above 10 years	7	3.5	9.1
Total - dead members' HHs	77	38.5	100
Others- i.e. those who did not die	123	61.5	
Total of all HHs	200	100	

*Had to give up job due to HIV/AIDS contributed sickness.

#Includes five minors, one housewife and a youth in twenties who never got an opportunity to work.

[^]Includes the two whose earnings are unknown.

That death caused by AIDS to working members can have a tremendous adverse economic bearing on HHs' present and future can additionally be gauged from the fact that an overwhelming majority were in the economically productive age groups, with about 74 percent being in the age groups of 18-40 years and almost 90 percent in 18-50 years age groups. If we leave aside the minors who died at very young ages the figures become even higher at 81.4

percent and 98.6 percent respectively [see Table 4.2ii]. The mean age of dead members as shown in Table 4.2iii is 33.56 years [SD: 11.07]. Incidentally, death [and morbidity] caused by HIV/AIDS among those in prime working ages can cause a 'reverse demographic gift' thereby adversely affecting growth as well (Mahal and Rao 2005, 590). As Dixon, McDonald and Roberts (2001) reiterate, AIDS which predominantly affects adults, could result in severe economic effects with regards to decreasing human capital and impeding economic growth (as in Werker, Ahuja and Wendell 2007, 2). Majority of the dead members in the present study were skilled/semi-skilled/non-agricultural workers; construction and related workers; and truck/non-truck drivers/transport workers; with the remaining mostly being in private/government service or having petty business/small shops [see Table 4.2ii].

Table 4.2ii Age, occupation and sector-based distribution of the dead AIDS members

	Frequency	% figures for entire sample	% figures for only those dead
Age-wise distribution of the dead AIDS members			
Below 18 years	5	2.5	6.5
18-30 years	22	11	28.6
31-40 years	35	17.5	45.5
41-50 years	12	6	15.6
51-60 years	3	1.5	3.9
Total - dead members' HHs	77	38.5	100
Others- i.e. those who did not die	123	61.5	
Total of all HHs	200	100	
Occupation of the dead AIDS members			
Farmer / cultivator	1	.5	1.3
Agricultural labourer	1	.5	1.3
Construction	17	8.5	22.1
Skilled/semi skilled/non agri. labourer	20	10	26
Service (govt. / private)	8	4	10.4
Petty business / small shop	6	3	7.8
Self employed / professional	1	.5	1.3
Truck driver	4	2	5.2
Other transport worker	7	3.5	9.1
Domestic servant	2	1	2.6
Housewife	1	.5	1.3
Not working #	6	3	7.8
Others	3	1.5	3.9
Total - dead members' HHs	77	38.5	100
Others- i.e. those who did not die	123	61.5	
Total of all HHs	200	100	

Contd...

Table 4.2ii (Contd...)

Sector of employment of the above			
Agriculture / allied activities	2	1	2.6
Mining / quarrying	1	.5	1.3
Manufacturing	4	2	5.2
Construction	22	11	28.6
Trade	12	6	15.6
Transport / storage / communication	12	6	15.6
Hotels / restaurants	7	3.5	9.1
Finance/insurance/real estate/bus. services	1	.5	1.3
Health	1	.5	1.3
Community / social / personal services	1	.5	1.3
Others [incl. government service]	7	3.5	9.1
Non-working members	7	3.5	9.1
Total – dead members' HHs	77	38.5	100
Others- i.e. those who did not die	123	61.5	
Total of all HHs	200	100	

Includes five minors

Table 4.2iii Other details pertaining to the dead AIDS members

	Total members	Min.	Max.	Mean	SD
Number of months before dying left job*	37	1	60	12.22	11.89
Earnings lost per person per month [₹]	77	00	80,000	4,673 [#]	9455.62
Earnings lost per dead working AIDS HH member [₹]	68 [#]	1,000	80,000	5,292	9904.39
Age of dead persons [years]	77	2	60	33.56	11.08
Number of months suffering before death	77	1	60	11.12	12.42
Expenses incurred on funeral [₹]	77	1 ^{^^}	25,000	4,898 [^]	5158.26
Expenses incurred on funeral [where expenditure details are known] [₹]	54	500	25,000	6,983	4828.76

*Meant for those who were employed earlier but not at the time of death

#Mean earnings per month shown are of all dead members taken together.

##These figures exclude the 7 non-earning and 2 earning members whose earnings prior to death are unknown.

[^]This figure represents mean funeral expenses of all dead taken together including 23 whose actual funeral expenses were unknown and/or whose expenditure was entirely sponsored by relations outside of the 'household'.

^{^^}₹ 1 stands for cases where funeral expenses were unknown and/or were fully sponsored by relations or others 'outside' of the concerned HHs.

Loss of employment on account of HIV/AIDS and death has in no way helped HHs economically, possibly with the sole exception that it could have reduced for some HHs the high medical expenditures often associated with the treatment of certain OIs associated with HIV/AIDS. However, despite stating the same it needs to be reiterated though, that besides every adult who dies of AIDS leaving behind dependent family members, in economic terms the indirect costs due to loss of productivity far exceed the health care costs, with an estimate in Thailand indicating that health care cost for an AIDS patient was US\$ 1500, as compared to the indirect cost to the economy of US\$ 22,000 in case of death (Rao 2000b, 495). In Sri Lanka and

India, lost lifetime earnings due to an AIDS death were estimated to be more than 10 times the annual treatment costs of AIDS (Mahal and Rao 2005, 584). Under conservative assumptions of working life span and discount rates, the loss in lifetime earnings as brought out by Bloom and Mahal (1996) are estimated to be 3.5 times the annual costs of treatment of AIDS (Ojha and Pradhan 2006, 2).

Of the 70 HHs whose earning members died of AIDS only three got the benefit of Provident Fund [PF], with two getting some insurance amount, and two getting pension. The remaining got neither any form of financial assistance nor employment for any surviving HH members. Incidentally, for those who got the financial benefit much of the same went towards meeting funeral expenses with very little remaining for future HH support. Related to the issue of funeral expenses [see Table 4.2iii], the mean expenses for the dead members were ₹ 4,898 for all members taken together even if expenditure details are unknown, and ₹ 6,983 for only the 54 whose funeral expenditure details are known. In the case of 26 HHs/dead members the funeral expenses were above the ₹ 6,983 average, with the expenses being as high as even ₹ 25,000. Funeral expenses have drained much more of the already scarce resources of HHs who have lost two or more members due to AIDS.

Death of earning HIV/AIDS members as per the present study was witnessed primarily in female-headed HHs [61 HHs out of the 77 which experienced death of AIDS members, were currently female-headed]. Chi-square tests showed *significant association at the 0.01 level between gender of the HH-head and whether there was death of an earning HIV/AIDS member* [$\chi^2 = 73.379$, $df = 1$, $p = .000$]. MW-U also showed *significant difference in earnings [lost] of dead earning members in HIV/AIDS HHs based on gender of the HH-head at the 0.01 level* [$U = 273.5$; $Z = -2.707$, $p = .007$]. Needless to say, female-headed HHs have significant hardships to

face since the dead members in the study sample were usually male members; often the male-head and the spouse of the current female-head herself (see also Dixit 2005, 110-111 & 142). The statement that female-headed HHs face great hardships on the death of earning AIDS member has been made under the assumption that death leads to loss of income, which as Table 4.6.3ii [Sec 4.6.3] reveals is a substantial amount.¹⁰ Related to the same, MW-U shows *significant difference in total annual HH income in HIV/AIDS HHs based on gender of the HH-head [where death of AIDS members took place] at the 0.05 level [U = 309.5; Z = -2.242, p = .025]*.

4.3 INCOME AND EMPLOYMENT OF THE HIV+ RESPONDENT

As mentioned in Chapter 3 employment details of only one HH member from the working age group of 18-60 years have been considered for the purpose of the present study. While in case of the HIV/AIDS HHs sample the member considered is the HIV+ interviewee who may or may not be earning, in case of non-HIV/AIDS HHs the details pertain to a presently earning member.

4.3.1 Previous and present employment

Of the 200 HIV+ respondents only 9 percent *never* worked, with 47 percent who worked at the time of HIV detection also working now [see Table 4.3.1i]. While 30 percent who were working earlier are not working now on account of HIV/AIDS, 11 percent of those not working earlier have been forced to work and are presently working to make up for fall in HH income in general and to meet rising expenditures, especially medical, on account of HIV/AIDS to self or other member(s). Incidentally, 3 percent of the respondents who were neither working at the time of knowing their HIV+ status nor are working now were working in between to supplement HH income but had to give up the job due to inability on account of HIV/AIDS.¹¹

Table 4.3.1i Employment status of the HIV+ respondent at the time of HIV detection and now

	Frequency	Percent
Working earlier, working now	94	47
Working earlier, not working now	60	30
Not working earlier, working now	22	11
Not working earlier, not working now - "never worked"	18	9
Not working earlier, not working now - "worked in between"	6	3
Total	200	100

As per Table 4.3.1ii 53 percent of the total respondents had to change their job after knowing about their HIV+ status. If we exclude those who were not employed at the time, the figure of those who had to change or quit their job becomes even higher at almost 69 percent. Of these 57.5 percent had to change or quit due to being 'too ill to work', with another 14.2 percent getting 'dismissed from work' due to the HIV+ status [see Table 4.3.1iii]. In cases of dismissal from service¹² the value of lost earnings could be greater than the former since the period over which the HH does not have access to an individual's earnings is potentially longer (Mahal and Rao 2005, 584-585). It needs to be added that leaving aside dismissal from service and the role played by discrimination, the poor health contributed by HIV/AIDS itself is the main factor responsible for the loss of employment and hence income. Things on the employment front can get only worse if one adds the role played by actual or potential discrimination [i.e. if HIV+ employees inform their employer about their status]. Amongst others, discrimination can be economically harmful as it potentially excludes qualified and able workers from the labour force, and unnecessarily increases the burden on the social security system (Medhini, Jain and Gonsalves 2007a, 153). Incidentally, pertaining to the present study, of those who had to change their job after knowing of their HIV+ status, while the majority of 52.8 percent never worked again, most of the remaining changed their job on one or two occasions, with one extreme case changing as high as 12 times.

Close to 89 percent of those who had to change/quit their job received neither financial compensation nor any other benefit from their employer at the time of leaving. Of those who received compensation ranging from a paltry ₹ 500 to a high of ₹ 3 lakhs the mean amount received was ₹ 49,318 ¹³ [see Table 4.3.1iv]. One of the reasons for the majority not getting any compensation was that most¹⁴ were employed in the private unorganised sector, with 22 being illiterate.

Table 4.3.1ii 'Change in job' status of HIV+ respondent after detection of HIV

	Frequency	Percent
Yes [changed job]	106	53
No [did not change job]	48	24
Not employed at the time	46	23
Total	200	100

Table 4.3.1iii Reasons for leaving job, whether received any benefits at the time and no. of times changed jobs

	Frequency	% of total sample HHs	% of those who had to leave job
Reason for leaving the job			
Too ill to work	61	30.5	57.5
Dismissed from work	15	7.5	14.2
Took voluntary retirement [VRS]	3	1.5	2.8
Discrimination at workplace	1	.5	.9
Others	26	13	24.5
Sub-total	106	53	100
Those who were not employed at time of HIV detection & who did not have to leave the job	94	47	
Total	200	100	
Whether received benefits at the time of leaving the job			
No benefit	94	47	88.7
Provident Fund [PF]	5	2.5	4.7
Compensation	5	2.5	4.7
N.A. [self-employed / own business]	1	.5	.9
Others	1	.5	.9
Sub-total	106	53	100
Those who were not employed at time of HIV detection & who did not have to leave the job	94	47	
Total	200	100	

Contd...

Table 4.3.1iii (Contd...)

Number of times changed job after detection of HIV+ status			
1 time	25	12.5	23.6
2 times	13	6.5	12.3
3 times	2	1	1.9
4 times	4	2	3.8
6 times	2	1	1.9
7 times	1	.5	.9
8 times	1	.5	.9
10 times	1	.5	.9
12 times	1	.5	.9
Did not take up job again	56	28	52.8
Sub-total	106	53	100
Those who were not employed at time of HIV detection & who did not have to leave the job	94	47	
Total	200	100	

Table 4.3.1iv Amount received by those who got benefit at the time of leaving job

	No. of individuals/HHs	Min. [₹]	Max. [₹]	Mean [₹]	SD
Amount received at the time of leaving job	11	500	3,00,000	49,318	86817

Pertaining to those currently working, with regards to certain occupations, there has been some noticeable shift in the nature of jobs [see Table 4.3.1v]. While there has been a fall in number of agricultural and skilled/semi-skilled/non-agricultural labourers with the latter also being reported by Pradhan, Sundar and Singh (2006, xxi), there is a rise of those in service, petty business/small shops and domestic servants. That agricultural workers feel the adverse impact of HIV as the virus takes its course by reducing the attendance, productivity and earning power was well documented by a study on tea-pluckers in Kenya wherein besides losing earnings in the last two years of employment (Fox *et al* 2004, as in UNAIDS 2006, 101), the tea pluckers who died of AIDS-related causes produced roughly one-third less tea in their last two years of life than healthy workers (Fox *et al* 2003, as in Gaigbe-Togbe and Weinberger 2003, 35). With regards to agricultural workers and/or agriculture vis-à-vis the present study, leaving aside that there are no agricultural workers presently employed in HIV/AIDS HHs though there were at the time of HIV detection, that HIV/AIDS has some direct or indirect adverse bearing can be seen through a comparative glance in the position of the two study samples. While in non-HIV/AIDS HHs there

were 13 agricultural labourers/cultivators as HH-heads, with 27 HHs owning livestock and 54 owning plots of land including those used for plantation, the corresponding figures were lower at only 2, 11 and 37 respectively for HIV/AIDS HHs. Decline in the area cultivated, and less animal husbandry has also been recorded by Barnett and Blaikie (1992, as in Mahal and Rao 2005, 586). Similarly in Maharashtra, compared to HHs not affected by HIV/AIDS, fewer of the AIDS death experienced HHs owned means of production, land and animals (Verma *et al* 2002, as in Nielsen and Melgaard 2004, 44). While it is possible that the lack of assets in HIV-affected HHs could be an indication of the level of poverty *ante*-HIV/AIDS, it is nevertheless likely – as the present study also points out - that HIV/AIDS is a factor that fuels the process whereby families lose means of production or land (Nielsen and Melgaard 2004, 44). As the present study showed: a] non-HIV/AIDS HHs were currently having more assets than HIV/AIDS HHs; and b] even if lesser assets are owned by HIV/AIDS HHs on account of poverty levels which existed even prior to HIV-detection, while non-HIV/AIDS HHs have built up their assets position subsequently despite earlier similar poverty-level background as the HIV/AIDS HHs, the latter have been unable to build the same due to dwindling incomes and rising expenditures.

The rise in ‘service’ jobs and ‘domestic servants’ presently as reflected in **Table 4.3.1v** can be directly attributed to the following: a] in case of ‘service’ a number of HIV+ individuals have been provided employment by NGOs which are associated with HIV/AIDS; b] with regards to the ‘domestic servants’ the rise in numbers is on account that it is an appealing option for a number of individuals especially females due to flexibility in work hours, availability of at least one free meal [reduces HH food expenses], closeness to ones residence [saves transport expense], unskilled nature of job [unqualified individuals can take up the job], availability of free time [for taking care of own HH, for care-giving and for resting if oneself is HIV+] etc.

Incidentally, of the seven 'unpaid' housewives at the time of HIV-detection, there are none at present since they have taken up remunerative jobs to supplement HH income.

Table 4.3.1v Important job changes: HIV-detection time and now

Nature of job	Earlier number [time of HIV detection]	Present number
Agricultural labour	3	0
Skilled/semi skilled/non agri. lab.	30	21
Service	32	39
Petty business / small shop	3	9
Domestic servant	20	23
Housewife	7	0

With regards to income slabs of those who working at the time of HIV detection, now or both, as Table 4.3.1vi shows there has been a significant rise in the number of those unemployed and hence coming in the 'nil' income bracket. While there were 22 who were not earning earlier, the figure has gone up to 60 at present with the percentage figures being 12.5 and 34.01 respectively. There is thus rise in unemployment *post*-HIV detection - the same of which was also noted by the NCAER/NACO/UNDP study which showed an increase in percentage of unemployed PLWHA from 3.61 percent before test to 9.80 percent after test (Pradhan, Sundar and Singh 2006, xxi). With regards to the others working at present also, barring an inconsequential case wherein there is one extra individual in the ₹ 1,001–2,000 per month bracket, there were generally more individuals in each income slab for the earlier employment as compared to the present. The mean earnings at present¹⁵ are also much lower at ₹ 2,856 per month as opposed to ₹ 4,694 at the time of HIV detection, despite there normally being an increase in earnings periodically be it with reference to wages or salaries [see Table 4.3.1vii]. Earnings which were as high as ₹ 75,000 per month earlier are only as high as ₹ 37,000 at present. In case of 51.1 percent of the respondents who ever worked, the earnings have become lower now, with the earnings of 15.3 percent not undergoing any change [see Table 4.3.1viii].

Knowing the reasons for changes in present earnings as compared to the earlier ones will be in order at this juncture: a] *earnings are higher now* – this happens mainly because of three reasons - *firstly*, some of those who were not working earlier are working now and hence their income slab shifts from ‘nil’ to a positive bracket; *secondly*, those who have not changed their job get their annual increase in earnings, especially through increments if they are salary incomes; and *thirdly*, in a number of cases members have taken additional jobs; b] *earnings are lower now* - this primarily takes place because: *firstly*, some of those working earlier are not working now - and hence shift from a positive income brackets to the ‘nil’ income bracket; *secondly*, there is often cut in earnings due to absenteeism, exhaustion of leave, inability to work full-time etc.; and *thirdly*, even where another previously non-working HH member takes up temporarily the job of the HIV+ respondent due to the latter’s indisposition and inability, the earnings are lower on account of inexperience, immaturity and/or inappropriate temperament to the task at hand; c] *no change in earnings* - this happens despite number of years since HIV detection on account of the fact that while earnings go up periodically, the same are neutralized in the case of HIV+ salaried individuals due to salary cuts on account of increased absenteeism. In case of wage earners, while wage rates rise periodically HIV+ individuals cannot always work as much as before - their hours of work per day or days of work per month get reduced. Higher prevailing wage rate thus gets off-set with lesser working hours or days. As a consequence the present net earnings may remain the same as before. It will not be wrong to say in relative terms keeping in mind regular rise in cost of living that earnings of over 66 percent of those employed are lower at present than what they were at the time of HIV detection¹⁶ [see Table 4.3.1viii].

Table 4.3.1vi Monthly income slabs of those employed at time of HIV detection and now

Per month income slabs of HIV+ respondents	No. of those employed at time of HIV detection	% of those employed at time of HIV detection	No. of those employed now	% of those employed now
Nil [not employed]	22	12.5	60	34.1
Up to ₹ 1000	21	11.9	16	9.1
₹ 1001-2000	37	21	38	21.6
₹ 2001-3500	35	19.9	21	11.9
₹ 3501-5000	26	14.8	19	10.8
₹ 5001-7500	14	8	10	5.7
₹ 7501-10,000	8	4.5	2	1.1
₹ 10,001-20,000	6	3.4	6	3.4
Above ₹ 20,000	7	4	4	2.3
Total	176	100	176	100

Table 4.3.1vii Monthly income of the earlier and present employment of the HIV+ respondent

	No. of individuals	Min. [₹]	Max. [₹]	Mean [₹]	SD
Monthly income at time of HIV-detection	176	.00	75,000	4,694	8568
Monthly income now	176	.00	37,000	2,856	5092

Table 4.3.1viii Nature of change in earnings from the time of HIV detection to present earnings*

	Frequency	Percent
Higher now	59	33.5
Lower now	90	51.1
No change	27	15.3
Total	176	100

*These are based on actual earnings in absolute figures [and not on the basis of monthly income slabs]

4.3.2 Present employment

As mentioned in Section 4.3.1i, 24 HIV+ respondents neither worked at the time of HIV detection nor are presently working. Of the remaining 176, while 60 [34.1 percent] are currently not working, 116 [65.9 percent] are, albeit with the unsavory fact that mean earnings of about 52 percent of these were even lower than the prevailing official minimum wage rate in Goa which as of July/August 2009 was ₹ 103 per day.

Majority of those working [50.9 percent] have not disclosed their HIV+ status to their employer [see Table 4.3.2i], with the figure becoming even higher at 64 percent if we exclude the 24 who are self-employed. In Maharashtra the figure of those not reporting their positive status to their employer was 79 percent (Pradhan and Sundar 2006, vi). With regards to the present

study, over 83 percent of those who have not disclosed their status have admitted of not doing so on account of the 'fear of losing their job'. Similar reasons for non-disclosure of status to employers, compounded by stigma and discrimination, were also reported by ILO (2004; as in Mahal and Rao 2005, 585). On an encouraging note though, among those in the present study who reported their HIV+ status all stated that they faced no discrimination. However, although this is in contrast to an ILO study on HIV discrimination in India which found that approximately 6 percent of HIV+ interviewees reported discrimination in the workplace (as in Medhini, Jain and Gonsalves 2007a, 161), it is pertinent to note that the true extent of discrimination may have been a positive figure had the HIV+ status been revealed by all. Incidentally, of those who reported their status to the employers, 20 were provided work by NGOs themselves associated with HIV/AIDS – and it is primarily these NGOs who were the employers providing support to the HIV+ respondents in a combination of ways including provision of nutritional and/or medical support, flexibility of work hours, paid leave, financial advances etc. Amongst the remaining who reported their HIV status to the employers four were domestic servants whose employers came to know of the status on account of regular absenteeism, indisposition, weakness and frequent visits to clinics/hospitals; three were drivers whose employers were in no regular contact since they resided abroad; and the rest were primarily unskilled/semi-skilled skilled workers or employees in shops.

Table 4.3.2i Employment, discrimination & employer-support of presently employed HIV+ respondents

	Frequency	Percent [for concerned categories only]
Number of HIV+ respondents/interviewees currently working		
Yes	116	65.9
No	60	34.1
Total	176	100
If currently working, does employer know of HIV+ status		
Yes	33	28.4
No	59	50.9
N.A. [Self employed]	24	20.7
Total	116	100

Contd...

Table 4.3.2i (Contd...)

If employer does not know of status, reasons for not disclosing the same		
Social discrimination and isolation	6	10.17
Fear of losing the job	49	83.05
Lowered prestige	4	6.78
Total	59	100
If employer knows of HIV+ status, whether faced any type of discrimination		
Yes	0	0
No	33	100
Total	33	100
If employer knows of status, is there any support from employer		
Yes	28	84.85
No	5	15.15
Total	33	100
If employer gives support, nature of support provided		
Reimbursement of medical expenses	2	7.14
Paid leave	3	10.71
Flexibility in work hours	2	7.14
Others [nutritional support and/or combination of above]	21	75
Total	28	100

In the productive sector one immediate consequence of HIV/AIDS is the high level of absenteeism due to being increasingly afflicted with AIDS related illnesses and for taking a longer time away from work for seeking treatment Rao (2000b, 496). A study in Kenya substantiates the same, with even healthy workers not being spared because many, especially women, also take time-off to attend the health needs of family members who are infected and need care (*ibid*). Fox *et al* (2004, 321) highlight that during their last three years of life, tea-pluckers who ultimately were terminated because of AIDS were absent from work almost twice as often as other tea-pluckers. That HIV/AIDS has an adverse bearing on employment and income due to absenteeism caused by illnesses can also be seen in the present study which points to a big number of 44.8 percent currently working HIV+ respondents who lost income over the last one year due to the same [see **Table 4.3.2ii**]. The corresponding figure was only 10.10 percent for non-HIV/AIDS HHs. The mean number of days absent for all working members was 34.36 days for HIV/AIDS HHs, as against only 3.47 for non-HIV/AIDS HHs [see **Table 4.3.2iii**]. Duraisamy *et al* (2003) estimated that on an average 43 workdays were lost in a 6-month reference period per HIV infected person (as in Mahal and Rao 2005, 584-585).

For those who were sick *and* lost income due to absence while the mean number of days absent was 65.04 days for the HIV+ working respondents during the last one year, it was only 18.05 for the working members from non-HIV/AIDS HHs. To compound matters further as a study in a sugar estate in Zambia revealed, besides AIDS contributing to significant man-hours lost, even on returning to work, infected workers often cannot perform their duties satisfactorily (Rao 2000b, 496). Among those members who were absent but did not lose income the figures were again better in case of non-HIV/AIDS HHs. Incidentally, while 210 days was the maximum number of days of absence due to illness in case of HIV/AIDS HHs, it was only 45 for non-HIV/AIDS HHs. It is pertinent to note here that details of absence mentioned herein are only those related to absence from work on account of illness - absence from work due to other reasons, like religious/marriage ceremonies, touring etc. have not been considered.

Besides affecting HHs adversely as seen above, absenteeism [or even death] related to illness and/or care for sick family members can additionally cause organisational disruption, underutilization of equipment and use of temporary staff, all of which can affect quality of products and services, and lead to decline in productivity and profits of organisations. HIV/AIDS caused illnesses/death lead to disorganisation within the company workforce due to factors like rising staff turnover, loss of skills, loss of tacit knowledge gained from experience, declining morale and replacement costs (Sharma 2006, 131). Dixit (2005, 105) indicates that the costs of absenteeism and reduced productivity may be higher than the costs of eventual death itself.

Table 4.3.2ii Details whether earning HH member lost income last year due to sickness caused absenteeism

	HIV/AIDS HHs		Non-HIV/AIDS HHs	
	No. of cases	% for respective categories	No. of cases	% for respective categories
Yes	52	44.8	20	10.10
No	28	24.1	31	15.66
N.A. [never absent]	36	31	147	74.24
Total of those currently working	116	100	198	100

Table 4.3.2iii Number of days absent due to sickness for those currently working

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	No. of HHs / members	Min	Max	Mean	SD	No. of HHs / members	Min	Max	Mean	SD
For all presently working members	116	0	210	34.36	44.18	198	0	45	3.47	7.82
For those absent and lost income	52	3	210	65.04	49.16	20	3	45	18.05	12.53
For those absent but did not lose income	28	2	60	21.57	13.89	31	2	30	10.48	7.09

Related to the days absent from work due to illness, is the amount of income lost due to the same. While amount lost in HIV/AIDS HHs was as high as ₹ 44,000, it was only ₹ 4,500 for non-HIV/AIDS HHs for the last 12 months. The mean earnings lost in the case of *only* those losing income due to absence were ₹ 7,210 and ₹ 1,620 respectively for the two categories of HHs. With regards to *all* working members taken together, irrespective of whether they lost income or not, the mean earnings lost last year is a substantial ₹ 3,232 for HIV/AIDS HHs and a paltry ₹ 164 for non-HIV/AIDS HHs. MW-U test conducted on *all* presently working members in the two categories of HHs showed there was a *significant difference at the 0.01 level in the income lost during the last 12 months on account of absence from work due to illness* [$U = 7179.5$, $Z = -7.529$, $p = .000$]. Incidentally, while Duraisamy *et al* (2003) had estimated that, on an average in a 6-month reference period per HIV infected person, income lost was roughly ₹ 3000 during that time (as in Mahal and Rao 2005, 584-585); Pradhan, Sundar and Singh (2006, xxii) revealed that the average income lost due to leave/absence in the last one year was ₹ 3,736.

Table 4.3.2iv Income lost due to illness caused absence during the last one year

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
For ONLY those presently working and have lost income [₹]	52	150	44,000	7,210	8611	20	150	4,500	1,620	1218
For ALL presently working members [₹]	116	00	44,000	3,232	6771	198	00	4,500	164	619

In fine, we can add that when an HIV+ person who was absent from work due to HIV/AIDS contributed illnesses dies, not only the temporary loss of income becomes a permanent loss, but funeral/mourning costs get incurred as well (Gaigbe-Togbe and Weinberger 2003, 29).

Unfortunately, besides dipping into precious and scarce savings to meet high costs, families get some of the costs ‘compensated’ by reducing investments in productive activities - for e.g. by removing children from school to save on expenses and/or increase HH labour (*ibid*).

4.4 INCOME AND EMPLOYMENT PERTAINING TO THE CARE-GIVER

HIV/AIDS often necessitates the assistance, services and/or time of another individual – the caregiver [CG] – and it is usually women who are most responsible for care of sick family members (Medhini, Jain and Gonsalves 2007b, 1090-1091; D’Cruz 2004, 17). According to Walker, Pratt and Eddy (1995) criterion for care-giving is, dependence by one on another for any activity essential for daily living; care-giving is thus assistance provided to someone who is dependent on the same (as in D’Cruz 2004, 12).

At the outset it needs to be remembered that most of the sample respondents came from HHs from lower income brackets, and hence having full time care-giving facility is a luxury that most cannot afford considering that able HH members need to work to supplement HH income due to rising expenditures and dwindling incomes. Care-giving wherever\whenever done is thus often only part-time. Table 4.4i shows that majority of the HHs [54.5 percent] required a CG, either to take care of the HIV+ interviewee him\herself or other HIV+ members. However, despite the need for a CG, 21 percent of the said HHs had to do without one.¹⁷ The mean number of months for which care-giving was required was 12.33 months [see Table 4.4iii].

Table 4.4i Need for a care-giver in the HH

	Frequency	Percentage
Yes for self [available at least part-time basis or occasionally]	51	25.5
No	91	45.5
Yes, but nobody available	42	21
Yes - not for self but for spouse / HH member	16	8
Total	200	100

In HHs where there was the benefit of CGs while in case of 53.8 percent of the cases it was the spouse who did the job, in case of 10.8 percent each it was the children or parents [see **Table 4.4ii**].¹⁸ Majority of the CGs [61.29 percent] who happened to be HH members or close relatives of the HIV+ individuals were presently employed, with the majority being 'skilled/semi-skilled/non-agricultural labourers' and 'domestic servants' at 30.2 and 18.6 percent respectively. The study revealed that especially with regards to female HH members who double-up as CGs, being domestic servants to supplement HH income is a matter of choice, primarily due to flexibility of work hours [on account of care-giving at other times]. **Table 4.4ii** shows that 9.7 and 4.8 percent of the CGs were minors and members aged above 60 years respectively. Incidentally, the youngest CG was aged 13 years and the oldest 72 years. Children, the least acknowledged CGs within the home take the adult role especially in nuclear families when a parent dies and there is usually no one to look after the others some of who themselves may be HIV+ (D'Cruz 2001; UNAIDS 2000c, 2001; UNAIDS/UNICEF/USAID 2002; as in D' Cruz 2004, 53). With regards to those above 60 years as CGs, it is not uncommon to have grandparents performing the role (D'Cruz 2004, 55; Dixit 2005, 142; FXB 2009, 43; Pradhan and Sundar 2006, 35; Pradhan, Sundar and Singh 2006, 42; Singhal and Rogers 2006, 23) often on account of incapacity or death of parents due to HIV/AIDS. As put by Dixit (2005, 111), HIV/AIDS can lead to increase in multi-generational HHs without the middle [income-generating] generation. Pertaining to the present study, majority [85.5 percent] of the employed CGs who were HH members or relatives were from the economically productive age groups of 18-60 years. The mean age of CGs who were HH members or relatives was 35.19 years [see **Table 4.4iii**]. Almost 79 percent of these CGs lost income due to absence from work on account of care-giving [see **Table 4.4ii**].

Table 4.4ii Identity, employment, occupation and age of CGs, and whether lost income due to care-giving

	Percentage figure for CGs only
If care-giving required and is provided for the identity of the CG	
Spouse	53.8
Children	10.8
Parents	10.8
Siblings	4.6
Other relatives	13.8
Care & Support centre/home	1.5
Others	4.6
Total	100
If CG is HH member/relation, whether employed at present	
Yes	61.29
No	38.71
Total	100
Present occupation of CGs	
Construction	11.6
Skilled / semi skilled / non-agricultural labourer	30.2
Service (govt. / private)	14
Petty business/small shop	11.6
Other transport worker	2.3
Pensioner/retired	2.3
Domestic servant	18.6
Housewife	4.7
Student	4.7
Total	100
If CG is HH member/relative, age of the CG	
Up to 18 years	9.7
18-30 years	24.2
31-50 years	56.5
51-60 years	4.8
Above 60 years	4.8
Total	100
Did CG who is presently employed lose any income due to absence from work	
Yes	78.95
No	21.05
Total	100

Table 4.4iii shows the mean income lost by HHs where CGs have lost income due to care-giving. While the maximum amount lost is as high as ₹ 15,000 during the year, the mean income lost by employed CGs who did lose income due to care-giving was ₹ 2,695 for all, or ₹ 2,788 if we exclude the one CG whose loss of income details are unknown.¹⁹ Incidentally, an ILO (2003) study which documented the impact on women who took responsibility of ill members, had found 44 percent of the respondents reporting loss of income ranging from ₹ 100-18,000, with the average loss being ₹ 2,200 (as in Medhini, Jain and Gonsalves 2007b, 1091). According to

Pradhan, Sundar and Singh (2006, xxii) the income lost due to absence from work of CGs is around 3.5 percent of the current income of the HHs so affected. For the present study the figure pertaining to income lost during the year by those HHs where CGs lost income²⁰ due to care-giving, taken as a percentage of the total annual HH wage income is about 5.55 percent.²¹

Table 4.4iii Months since care-giving required; age of CGs and amounts lost due to care-giving

	No. of HHs	Min.	Max.	Mean	SD
If CG is required, whether available or not, since when [months]	109	1	72	12.33	15.13
If CG is HH member / relative age of the CG [years]	62	13	72	35.19	12.50
If CG is presently employed and has lost income due to care-giving, total amount lost last year [₹]	30	1 / 200 #	15,000	2,695*	3029.43

₹1 is put since actual earnings of one CG are unknown. Of those earnings lost last year which are known the lowest amount is ₹200.

*This is mean of 30 individuals including one whose lost income for last year was unknown. If we exclude the same, mean income lost by 29 CGs last year due to care-giving was ₹ 2787.93.

Amongst CGs currently not employed, six were employed earlier with four having to give up their job because of care-giving [see Table 4.4iv]. The earlier earnings of these CGs ranged from ₹ 600-1,560 per month, with the mean earnings [thus income lost] being ₹ 1,220 [see Table 4.4v].

Table 4.4iv Details of CGs currently not employed

	Frequency	% in terms of total HHs	% of HHs in terms of CGs currently not employed
Was CG who is presently not employed, employed earlier			
Yes	6	3	25
No	15	7.5	62.5
Not applicable [students]	3	1.5	12.5
Total	24	12	100
If CG was employed earlier did he/she have to give up employment due to care-giving			
Yes	4	2	66.7
No	2	1	33.3
Total	6	3	100

Table 4.4v Amount lost per month by CGs who were working earlier

Minimum [₹]	Maximum [₹]	Mean [₹]	SD
600	1,560	1,220*	537.77

*This figure is only considering the earnings lost of 3 individuals since details of the fourth are not available.

From all of the above it can be seen that despite non-availability of full-time CGs in most cases and that care-giving is done only part-time and that too only when absolutely needed, there has been loss of income due to care-giving in HIV/AIDS HHs over and above the regular loss of income on account of death AIDS working members and/or loss of income and employment of HIV+ members. As **Table 4.4vi** summarises, CGs have lost income not only in their current jobs, but a few have lost incomes/employment earlier as well. Care-giving is an area that needs attention in the economic sense especially since it involves women, those from the working age-groups and to some extent those above 60 years and minors. While having minors/children as CGs can contribute to mental ill health and adversely affect their psycho-social development (D’Cruz 2004, 54; Dixit 2005, 110) as well as education, thereby making them less qualified for more remunerative jobs in the future; women can be a subject of ‘time poverty’, wherein besides depletion of financial resources to meet the mounting medical expenses, they face emotional exhaustion, fatigue and burn out, with the role as CGs being extremely taxing in terms of time as well as physical exertion (Pradhan and Sundar 2006, 23). Things get accentuated in case of women since they perform not only routine HH chores, but also do care-giving duties and remunerative work which occasionally includes additional job taken to supplement fast reducing HH income (Medhini, Jain and Gonsalves 2007b, 1091; UNDP 2003a, as in Pradhan and Sundar 2006, 23). Additionally there is also an ‘empowerment cost’ when women’s time is taken away from other productive work to unpaid care of those who have AIDS related illnesses. There is an opportunity cost which women have to pay since their ability to participate in income generating activities, skill building and leisure activities are reduced drastically (UNAIDS Task Team on Gender and HIV and AIDS, as in *ibid*).

Table 4.4vi Summarised details of present and past employment status of CGs*

	Present status of CGs	Past status of CGs
Total no. of CGs employed at present: 38 [19%] (61.29%)	• No. of CGs who lost income last year: 30 [15%] (78.95%)	---
	• No. of CGs who did not lose income last year: 8 [4%] (21.05%)	---
Total no. of CGs unemployed at present: 24 [12%] (38.71%)	○ No. of CGs presently unemployed but were employed earlier: 6 [3%] (25%)	▪ Lost income: 4 [2%] (66.67%)
	○ No. of CGs unemployed at present and unemployed earlier: 15 [7.5%] (62.5%)	▪ Did not lose income: 2 [1%] (33.33)
	○ N.A. [minors]: 3 [1.5%] (12.5%)	---
Total: 62 [31%] (100%)	62 [31%] (100%)	6 [3%] (100%)

*Percentage figures in square brackets “[]” represent total number of HHs, with italicized figures in round brackets “()” representing percentage figures for the said category only.

4.5 ADDITIONAL BURDEN: DEATH OF A NON-HIV/AIDS EARNING MEMBER

In HIV/AIDS HHs there were five cases of death of non-HIV/AIDS earning members during the last two years - including one 60 years and one 65 years old members. We can thus say that 2.5 percent of the HIV/AIDS HHs had witnessed death of at least one HIV-negative HH member. As opposed to this there were four deaths of earning members in non-HIV/AIDS HHs. Incidentally, of the five HIV/AIDS HHs where there was death, in three HHs an HIV/AIDS earning member had also died. As a result there has been double hardship due to loss of employment and income in these HHs [1.5 percent of the total sample]. No HH got any compensation from the employer after death of the HH member.

Table 4.5i provides details pertaining to the death of employed non-HIV/AIDS members in the two samples. As can be seen, in HIV/AIDS HHs the mean earnings are lower than in non-HIV/AIDS HHs. Amongst other reasons, this is due to the fact that in the former, non-HIV/AIDS members have to often take care of HIV/AIDS members and hence because of reasons like absenteeism they are unable to earn better incomes. **Table 4.5ii** shows that while all the dead employed non-HIV/AIDS members from HIV/AIDS HHs were from the lower monthly income brackets, in case of non-HIV/AIDS HHs, they belonged to relatively higher income brackets.

With regards to the number of months the dead non-HIV/AIDS members suffered and/or were ill before dying, the figures were lower for non-HIV/AIDS HHs at 6.5 months as against 9.8 for HIV/AIDS HHs [the maximum term a dead earning member was sick was 24 and 12 months in HIV/AIDS and non-HIV/AIDS HHs respectively]. As *field*-observations revealed, the above often reflects two things vis-à-vis HIV/AIDS HHs: i] despite illness non-HIV/AIDS members have to work for longer periods in order to sustain HH incomes; and ii] non-HIV/AIDS members do not get enough medical attention due to HIV caused scarcity of HH resources. Table 4.5i shows that while in HIV/AIDS HHs even those above 60 years were engaged in earning activities to supplement income which is not the case in non-HIV/AIDS HHs, amounts spent on funerals are almost 50 percent less in HIV/AIDS HHs as compared to non-HIV/AIDS HHs.

Table 4.5i Details pertaining to the dead non-HIV/AIDS earning members in the last two years

	HIV/AIDS HHs [N = 5]				Non-HIV/AIDS HHs [N = 4]			
	Min.	Max.	Mean	SD	Min.	Max.	Mean	SD
Age [years]	24	65	47.8	16.02	19	50	36	16.35
Earnings of the person per month [₹]	1,500	7,000	3,100	2274.86	2,000	8,000	4,500	2516.61
Number of months suffering / ill	1	24	9.8	9.09	1	12	6.5	6.35
Total amount spent on funeral [₹]	1*	10,000	4,340 [#]	4101.93	3,000	20,000	9,500	7593.86

* Amount to indicate unknown funeral expenses [expenses were sponsored by somebody outside of the 'household']

If we exclude the unknown funeral expenses of one dead person, mean funeral expenses will be ₹5,425.

Table 4.5ii Distribution of dead non-HIV/AIDS earning members based on monthly income slabs

Monthly income slabs	HIV/AIDS HHs			Non-HIV/AIDS HHs		
	No.	% figures for total sample	% figures for only those dead	No.	% figures for total sample	% figures for only those dead
₹ 1001-2000	2	1	40	1	.5	25
₹ 2001-3500	2	1	40	0	0	0
₹ 3501-5000	0	0	0	2	1	50
₹ 5001-7500	1	.5	20	0	0	0
₹ 7501-10,000	0	0	0	1	.5	25
Sub-total	5	2.5	100	4	2	100
HHs without non-HIV/AIDS death	195	97.5		196	98	
Total	200	100		200	100	

From the above it can be seen that while the number of deaths pertaining to employed non-HIV/AIDS members is more or less similar in both categories of HHs, the two sets of HHs

nevertheless differ substantially on other parameters – with the HIV/AIDS HHs standing at a greater disadvantage than non-HIV/AIDS HHs. Incidentally, even with regards to the number of deaths of non-HIV/AIDS employed members wherein HIV/AIDS HHs have only one extra death as compared to non-HIV/AIDS HHs, although the difference appears marginal, coincidental and/or inconsequential with no conclusion that can be given with certainty with regards to the same, it can nevertheless not be ruled out – as affirmed by *field*–interactions - that extra deaths of non-HIV/AIDS members’ could take place in HIV/AIDS HHs either because attention vis-à-vis care and medical expenses is on HIV+ member(s) with non-HIV/AIDS members not getting sufficient amount since their ailment is not considered ‘as serious as HIV/AIDS’, or on account of scarcity of resources caused by high expenses and fall in incomes contributed by HIV/AIDS.

If we consider earnings lost in three HIV/AIDS HHs where, both, HIV/AIDS and non-HIV/AIDS earning members have died the mean is approximately ₹ 5,250 per month per HH if we consider only those whose details are available.

4.6 OTHER FINDINGS

4.6.1 Coping mechanism pertaining to income and employment

HIV/AIDS HHs adopt numerous ways, or coping mechanisms, to address their precarious situation of rising expenditures and falling incomes. Amongst these, four that are directly associated with income and employment are: a] wife of HH head or female HIV+ respondent takes up job to supplement income; b] minor children take up remunerative activity; c] those above 60 years take up employment; and d] the HIV+ respondent takes an additional job. As can be seen in **Table 4.6.1i**, in 22 percent HHs the wife/HIV+ female respondent had to take up employment for the first time. Also in 6.5, 5 and 6 percent HHs, minor children took up earning activity [in a few cases the minor children were themselves HIV+]; those above 60 years took up

employment; and the HIV+ respondents took up additional employment respectively. The total number of HHs using the above mentioned coping mechanisms either singly or in more than one combination was 65 [32.5 percent] of the total sample HHs.

Table 4.6.1i Coping mechanisms related to income and employment made use of in HIV/AIDS HHs

	No. of HHs based on sex of the HH-head			Percentage of total HHs
	Male	Female	Total	
Wife/HIV+ female resp. had to take up job to support HH	24	20	44	22
Children had to take up job to support HH	2	11	13	6.5
Those above 60 years had to take up job	7	3	10	5
HIV+ respondent had to take additional job	8	4	12	6

That the wife has to take up employment as reflected in **Table 4.6.1i** is a common happening in HIV/AIDS HHs irrespective of whether it is male or female-headed. In male-headed HHs the wife has to often take up a job due to unemployment or ‘*un-employability*’ of the husband, and/or due to increasing requirement of extra income to take care of rising expenses, especially medical, on account of HIV/AIDS. Occasionally the wife takes up employment to compensate for the drop in HH income due to absenteeism contributed by HIV/AIDS. In female-headed HHs a woman takes up job on account of the death of her spouse which is more often than not due to AIDS. With regards to children [≤ 16 years] taking up remunerative activity to supplement HH income, it happens especially in female-headed HHs – wherein the woman usually the mother is unable to support the family with her meagre income.²² Also, children have to work more in female-headed HHs because the female-head is herself at times HIV+ and hence unable to work or work much. Studies like those of Pradhan, Sundar and Singh (2006, 43) have also confirmed that there is higher WFPR among children and the elderly in the HIV/AIDS HHs as compared to non-HIV/AIDS HHs, wherein it is the female members of the former that are more vulnerable than their male counterparts. The coping mechanisms as mentioned are not usual happenings in

HHs in general - that they are peculiar especially to HIV/AIDS HHs can be seen by the fact that all were absent in the 'control group'.

With regards to the issue of working minor children stated earlier, leaving aside care-giving duties which some do almost single-handedly, the WFPR of children in HIV/AIDS HHs although appearing to be a small figure is nevertheless a positive figure, unlike non-HIV/AIDS HHs where it was nil. That demand for children's labour for domestic chores, income-generating work, or care for an ailing parent increases with HIV/AIDS in the HH has also been cited in Dixit (2005, 110). Though NCAER/NACO/UNDP findings pertaining to the WFPR among minor children were quite similar to the ones of the present study, the two nevertheless differ on the point of gender of the HIV+ minor working children. While the present study found working HIV+ male children amongst the minor children employed in remunerative activities – the other study found WFPR among HIV+ minor females only (Pradhan, Sundar and Singh 2006, xxi).

On a related issue pertaining to children, the present study shows that 21 [10.5 percent] HIV/AIDS HHs, of which 17 [81 percent] were female-headed, withdrew their children aged 16 years and below from educational institutions on account of reasons like 'un-affordability', taking care of HIV+ members, and taking up of remunerative activity. The corresponding figure was nil for non-HIV/AIDS HHs. A study in Thailand had also shown amongst other fallouts that once a family member developed AIDS, 15 percent HHs pulled their children out from school/education (Pitayanon, Kongsin and Janjareon 1997, as in Narain 2004, 29; UNAIDS 2002; Whiteside 2002b, as in Nielsen and Melgaard 2004, 45).

Despite the fact that there are more working children in female-headed HHs, if one considers the 65 HHs where at least one of the four mentioned coping mechanism was adopted,

chi-square analysis showed that *there was no significant association even at the 0.1 level between coping mechanisms used and gender of the HH-head* [$\chi^2 = 1.521, df = 1, p = .217$].

Table 4.6.1ii shows that most of the coping mechanisms were adopted by HHs from the lower HH income brackets. The listed coping mechanisms which are totally absent in non-HIV/AIDS HHs are conspicuous by their absence in case of relatively better HIV/AIDS HHs as well, barring an exception of two in the annual HH income bracket of ₹ 3,00,001-5,00,000 where the wife had to take up the job of the spouse who incidentally had own/private business. Chi-square test performed on redone slabs²³ showed *there was a significant association at the 0.05 level between coping mechanisms used and total annual HH income slabs* [$\chi^2 = 6.252, df = 2, p = .044$].

Table 4.6.1ii Coping mechanisms adopted and total annual HH income slabs

Total annual HH income slabs	Wife/HIV+ female resp. took up job	Minor children took up job	Those above 60 years took up job	HIV+ respondent took additional job
Up to ₹ 25,000	11	5	1	1
₹ 25,001-50,000	22	6	4	8
₹ 50,001-1,00,000	6	1	4	2
₹ 1,00,001-1,50,000	2	1	1	1
₹ 1,50,001-2,00,000	1	0	0	0
₹ 2,00,001-2,50,000	0	0	0	0
₹ 2,50,001-3,00,000	0	0	0	0
₹ 3,00,001-5,00,000	2	0	0	0
Above ₹ 5,00,000	0	0	0	0
TOTAL	44	13	10	12

4.6.2 Loss of employment and income for HIV+ members or CGs during the last one year

As can be seen from **Table 4.6.2i**, in 43 [21.5 percent] HHs there have been job losses during the year as a direct result of HIV/AIDS. Of the remaining 157 where permanent job loss has not occurred, the status of 24 [12 percent] HHs is unknown vis-à-vis future employment since these have respondents who are currently sick for 3 months or more – and although the minds of these wish them to work after recovery, in reality the body may not permit the same. Thus, besides the

21.5 percent HHs which have during the course of last 12 months one earning member less due to HIV/AIDS contributed job loss, the status of employment is doubtful with regards to another 12 percent HHs. Presently 66.5 percent of the sample HHs have had no job loss during the year [these include those who lost/quit their jobs over 12 months back]. Chi-square tests *do not show any association at even the 0.1 level between gender of the HH-head and whether lost job during the year* [$\chi^2 = .594, df = 2, p = .743$].

Table 4.6.2i Details of HIV+ members and/or CGs who lost job/income during last one year due to HIV/AIDS

	No. of HHs	% of HHs
Yes – lost job	43	21.5
No – did not lose job [includes HHs with non-working members]	133	66.5
Presently not working due to sickness but hopes to work in future [future emp. status unknown]	24	12
Total	200	100

If one considers only those HHs where there has been loss of income to a HIV+ member or CG during the year on account of HIV/AIDS, the mean amount of income lost is ₹ 15,460 per HH; with the mean income lost becoming ₹ 3,324 if we consider *all* sample HHs together [see Table 4.6.2ii]. While the amount lost during the year has been as high as ₹ 81,000, the income lost per month was as high as ₹ 9,000. The mean number of months since members have lost jobs is 5.84 months. Close to 49 percent of those who lost employment during the course of last year lost between ₹ 5,000-15,000, with almost 21 percent losing within the range of ₹ 15,001-25,000, and another 14 percent approximately losing above ₹ 25,000 [see Table 4.6.2iii].

Table 4.6.2ii Income lost last year, amount lost per month and number of months not working, pertaining to the HIV+ individuals and/or CGs who lost income/employment due to HIV/AIDS during the last one year

	No. of cases	Min.	Max.	Mean	SD
Total amount actually lost last year [₹]	43	1,000	81,000	15,460 ^{#^}	15979.70
Income lost per month [₹]	43	500	9,000	2,627*	1796.76
Months without work in last one year	43	1	11	5.84	3.26

[#]The mean income lost during the year for all 200 sample HHs taken together is ₹ 3,324.

[^]This figure cannot provide per month data since the number of months where HHs have lost income last year vary from HH to HH.

*Unlike the earlier annual figure of income lost which cannot under the present case provide per month figures, this figure is useful for arriving at potential loss of income for the coming year.

Table 4.6.2iii Slab-wise total income lost last year due to loss of job on account of HIV/AIDS

Total income lost	No. of HHs	% in terms of total HHs	% of HHs where loss of job took place
Below ₹ 5000	7	3.5	16.3
₹ 5000-15,000	21	10.5	48.8
₹ 15,001-25,000	9	4.5	20.9
₹ 25,001-50,000	4	2	9.3
₹ 50,001-75,000	1	.5	2.3
₹ 75,001-1,00,000	1	.5	2.3
Sub-total	43	21.5	100
Those who did not lose employment	157	78.5	
Total	200	100	

Table 4.6.2iv Slab-wise total income lost last year vis-à-vis total annual HH income slabs of concerned HHs

		Total amount lost last year due to loss of employment on account of HIV/AIDS						
		Below ₹ 5000	₹ 5000-15,000	₹ 15001-25,000	₹ 25001-50,000	₹ 50,001-75,000	₹ 75,001-1,00,000	Total
Total annual HH income slabs	Up to ₹ 25,000	1	8	2	0	0	0	11
	₹ 25,001-50,000	5	7	4	2	1	0	19
	₹ 50,001-1,00,000	1	4	1	1	0	1	8
	₹ 1,00,001-1,50,000	0	2	0	0	0	0	2
	₹ 1,50,001-2,00,000	0	0	2	1	0	0	3
	₹ 2,00,001-2,50,000	0	0	0	0	0	0	0
	₹ 2,50,001-3,00,000	0	0	0	0	0	0	0
	₹ 3,00,001-5,00,000	0	0	0	0	0	0	0
Above ₹ 5,00,000	0	0	0	0	0	0	0	
Total	7	21	9	4	1	1	43	

Table 4.6.2iv shows that most of the unemployment which took place during the last 12 months due to HIV/AIDS was in HHs whose total annual incomes were less. Incidentally, the loss of employment itself has contributed to HHs to have less annual incomes. With the impact being more on poor and marginalized groups, poor HHs become poorer, and lower middle-income HHs become poor (Narain 2004, 29; Dixit 2005, 142). The reservoirs of disease among poor populations inevitably prevent HHs from climbing out of poverty traps (ADB 2004, 3). As Mahal and Rao (2005, 593) mention with reference to the less well-off in India, including women who already have pre-existing low relative economic position, HIV/AIDS will contribute to increased poverty and inequality - with things for women getting accentuated through forms like even loss of family support (also Dixit 2005, 110-111 & 142-143). While poor individuals

and HHs are not necessarily more likely to become infected with HIV (Dinkelman, Lam and Leibbrandt 2007; Mishra *et al* 2007), the impact of HIV infection is often magnified in conditions of poverty (as in UNAIDS 2008, 162). For example, ADB/UNAIDS (2004) in the same source as above, reveals that the financial burden associated with HIV for the poorest HHs in India represents 82 percent of annual income, while the comparable burden for the wealthiest families is slightly more than 20 percent.

As per the findings of the present study the total amount of income lost during the year is 'up to ₹ 15,000' per HH in the case of 28 [65.12 percent] HHs which lost income during the year, with the percentage going up to a whopping 86.05 percent if we include those who lost income 'up to ₹ 25,000'. In short we can state that, while most of the HHs who lost income last year came from lower annual HH income brackets the amount so lost was '≤ ₹ 25,000' in 86.05 percent of the cases. To understand in the right perspective the gravity of the situation of what the loss of income means to HHs, let us assume that loss of income is only ₹ 15,000 if one goes by the rounded approximation of mean income lost as given in **Table 4.6.2ii**. This loss of income taking place during the year is over 28.5 percent of the current average annual HH income of the 43 HHs which lost income due to unemployment caused by HIV/AIDS²⁴ and over 30 percent of current average HH wage income.²⁵ Additionally, if we consider the fact that of the 43 HHs losing income during the year, 30 had their current annual HH incomes '≤ ₹ 50,000'; the average income lost, calculated at ₹ 15,000, due to unemployment during the year will be almost 50 percent of the total annual HH income²⁶ with the current average HH wage income lost being over 56 percent per HH.²⁷

4.6.3 Loss of double employment and sources of income

As has been seen HIV/AIDS is notorious on its impact on employment and income. It causes death of earning members, leads to absenteeism, weakness and inability to work full-time and/or *un-employability* due to all of which HH incomes plummet. CGs losing employment and income is an added cause for concern. Economic fallout on HHs gets further compounded in the eventuality of HHs losing two or more sources of income.

Table 4.6.3i Details of those losing two income sources: that of dead working HIV/AIDS or non-HIV/AIDS member AND that of a living member who has lost job this year due to HIV/AIDS*

Total annual HH income	Male-headed HHs	Female-headed HHs	Total
Up to ₹ 25,000	1	4	5
₹ 25,001 - 50,000	2	7 + {3}	9 + {3}
₹ 50,001 - 1,00,000	0	2	2
₹ 1,00,001 - 1,50,000	---	---	---
₹ 1,50,001 - 2,00,000	---	---	---
₹ 2,00,001 - 2,50,000	---	---	---
₹ 2,50,001 - 3,00,000	---	---	---
₹ 3,00,001 - 5,00,000	---	---	---
Above ₹ 5,00,000	---	---	---
Total	3	13 + {3}	16 + {3}

*Those which have lost two sources of income due to death - earning AIDS person and earning non-HIV/AIDS person - have been put alongside in parenthesis.

Table 4.6.3i and Table 4.6.3ii highlight that 16 [8 percent] of the total sample HHs had in one way stronger economic crises than some of the remaining HHs since these had experienced double loss of income during the year, most-often-than-not directly on account of HIV/AIDS. This figure becomes 19 [9.5 percent] if we add HHs where two earning members have died including a non-HIV/AIDS member. From Table 4.6.3i two observations come to fore: *firstly*, it is the female-headed HHs which are worst affected due to loss of employment and hence income of two earning members;²⁸ *secondly*, the loss of two earning members can be seen in HHs with lower annual incomes.²⁹ On a per month basis the average income lost by the 16 HHs from the two sources is ₹ 5,248 approximately per HH, which on an annual basis works out to a substantial ₹ 62,970 approximately per HH, an amount which would have placed them in higher

income brackets and relatively better conditions than currently shown/faced. The income lost per year on account of loss of job during the year as shown is more in terms of estimated loss of potential future income per annum based on per month earnings lost.³⁰ If however, instead of the above mentioned method to calculate mean amount of earnings lost by HHs having double loss of employment, mean is calculated by considering mean of each category separately, i.e. considering the mean earnings lost by all dead earning HIV/AIDS members' HHs taken separately³¹ irrespective of whether there was double loss of employment or not, and mean earnings lost by all those who lost their job during the last 12 months due to HIV/AIDS contributed sickness taken separately,³² then the average earnings lost by the 16 HHs will be much higher at ₹ 7,918 and ₹ 95,016 per month and per annum per HH respectively.

Table 4.6.3ii Summarised details of different categories of HIV/AIDS HHs pertaining to loss of employment and income

No. of HHs [% represents total sample HHs]	Nature/category of HHs	Average HH income lost per month [₹]	Average HH income lost per annum [₹]
16 [8%]	HHs where two earning members do not contribute anymore to HH income on account of: a) death of an earning AIDS member or earning non-HIV/AIDS member and b) unemployment for an earning member during the year due to illness caused by HIV/AIDS	5,247.50*	62,970*
19 [9.5%]	HHs where two earning members do not contribute anymore to HH income: these include those from above and also three HHs wherein besides an earning AIDS member who died, another earning non-HIV/AIDS member has also died.	5,215 ^	62,580 ^
43 [21.5%]	HHs where somebody has lost job and thus source of income directly on account of HIV/AIDS	2,627	31,524
77 [38.5%]	HHs where AIDS members have died	4,673	56,076
68 [34%]	HHs where earning HIV/AIDS members have died and whose earnings are known	5,292	63,504

*These figures are arrived by considering earnings lost of *only* the concerned HHs with double loss of employment/income sources. If, however, we take HHs separately i.e. those that lost earnings of dead AIDS members [68 HHs] and those that lost earnings during the year due to job loss caused by HIV/AIDS [43 HHs], then the mean figures will be higher at ₹7,918 p.m. and ₹95,016 p.a. per HH having two sources of income lost.

^Figures arrived at in the same way as was the earlier case given above.

To put things in perspective as Table 4.6.3ii highlights, had it not been for HIV/AIDS contributed illness and consequent loss of full time employment and hence source(s) of income, the HH income of at least 68 [34 percent] HHs would have been higher by an average amount of around

₹ 63,500 per annum. Needless to say, if this was the case 34 percent of the sample HHs would have been in higher income brackets than shown herein. Incidentally, to show the severity of the situation of income lost by HHs due to HIV/AIDS, we need to note that 147 [73.5 percent] of the sample HHs had their last total annual HH income '≤ ₹ 63,500' per HH. For those having double income loss, if the mean income lost is calculated on the basis of average of income lost by all concerned HHs as reflected by [*] in Table 4.6.3ii, then income lost will be a whopping high of ₹ 7,918 per month and ₹ 95,016 per annum per HH – at least for the 16 [8 percent] HHs. If we exclude those PLWHA who lost their job over 12 months back and instead if we consider only those [including CGs] who lost their job on account of HIV/AIDS during the course of last 12 months the mean earnings lost per HH is ₹ 31,524 [see Table 4.6.3ii]. Total average income lost 'in the last one year' by PLWHA currently not working was found to be ₹ 27,421 by Pradhan, Sundar and Singh (2006, xxii). The high amount of income loss directly or indirectly contributed by HIV/AIDS was found by other studies as well. Booyesen *et al* (2002) for instance reported that direct and indirect income losses from HIV/AIDS amounted to more than three times the average monthly income per capita of a HH in South Africa (as in Canning *et al* 2006a, 14).

4.6.4 Miscellaneous

Besides all of the above, one needs to add that amongst the total HIV/AIDS sample HHs there were some facing far serious and desperate throes of despair and economic ordeal than other HHs. The crises was accentuated in HHs where: a] more than one earning AIDS members had died; b] two or more earning members including non-HIV/AIDS members had lost their jobs during the course of last 12 months;³³ and c] there was not a single member who was employed

during the entire year. Not only these HHs faced the problem of coping with huge expenses, but with loan repayments as well which in many cases were yet to even commence.³⁴

HIV/AIDS has an adverse bearing not only on present HH income and employment as much of the present study findings have indicated, but premature morbidity and mortality among sick individuals can lead to fall in income and employment in the future as well. The adverse implications faced by HIV/AIDS HHs can only get worse in years to come. For instance to elaborate on the same: a] Many of those who are presently working are gradually becoming more sick/weak. This coupled by insufficient medical treatment and nutrition due to 'un-affordability' will make them gradually be unemployed themselves thereby reducing HH income even further than herein stated; b] Many of those in the study who have lost employment and income, have lost it during the course of last 12 months – in the future their contribution to HH income will be nil - although this year it was positive despite having lost the job; and c] Children doing remunerative or even HH chores and/or care-giving are deprived of sufficient education which in turn can deprive them of better earnings in the future due to insufficient qualifications/skills. Additionally, if we consider the possibility of the need for care-giving when present HIV/AIDS members need the same in the future there will/can be further drop in HH income.

Lost earnings and increased expenditures have long-term adverse impacts on HH savings and asset-holdings for a majority of HHs as they are not covered by social security or health and life insurance (see **Chp. 5, Sec. 5.3.3**; Ojha and Pradhan 2006, 3). Members of HIV/AIDS HHs also have lower long-term accumulation of human capital in terms of health and education. The extent of the long-term adverse economic impact varies according to the initial economic status of the HH, with richer HHs having greater resilience in absorbing the adverse economic shock of AIDS than poorer ones (Basu, Gupta and Krishna 1997, as in Ojha and Pradhan 2006, 3).

Losing income and employment due to HIV/AIDS is a serious cause for concern not only because of fall in HH incomes especially in times of rising expenses, but also on account of the fact that for the purpose of covering deficits HHs depend disproportionately on borrowings and UUI, the latter which as affirmed by *field-workers* even include amounts raised through dubious means like gambling and commercial sex (see also Pradhan and Sundar 2006, 106).

Findings of the present study correspond with existing evidence indicating that while individuals and HHs are economically affected by HIV/AIDS, it is the poor and marginalized HHs that are more vulnerable to the impacts than economically well-off and stable ones (Kadiyala and Barnett 2004, 1891). One possible reason for the same could be that while HIV/AIDS, at least visibly, is more concentrated on the poorer segments on account of numerous reasons, the resilience of these HHs towards facing the fallouts of HIV/AIDS is much weaker as compared to that of their relatively richer counterparts (see also Bertozzi, Opuni and Gutiérrez 2001). The poor thus get poorer - with the risk of becoming 'irreversibly impoverished' (Medhini, Jain and Gonsalves 2007b, 1088). A review of economic research on AIDS in India concluded that HHs belonging to the poor, less educated or unskilled groups, besides female members of HHs, face a proportionately greater economic burden due to AIDS (Mahal and Rao 2005, as in UNAIDS 2006, 85).

Incidentally, the implications of HIV/AIDS on income and employment affect adversely not only individuals and HHs, but economic growth as well. Channels through which AIDS affects economic growth, which indirectly pertain to income/employment include: a] decline in total factor productivity resulting from the increased mortality and morbidity associated with AIDS, b] change in skill composition of the labour force due to unequal incidence of AIDS among different grades of labour, and c] decline in growth rate of the economically active

population because of deaths caused by AIDS to young adults (Ojha and Pradhan 2006, xiv-xv). In the context of 'demographic gift' of Bloom and Williamson (1998), growth can get adversely affected due to the 'reverse demographic gift' caused by HIV/AIDS related deaths and morbidity among people in their prime working ages (as in Mahal and Rao 2005, 590).

To conclude, a few consequences of HIV/AIDS on individuals and HHs related to employment and income as per Medhini, Jain and Gonsalves (2007b, 1087-1088):

HIV decreases productivity of a HH due to illness ... and ultimately death. When an individual falls ill or dies, the burden rests on his/her HH to compensate for the loss of income or assets. As a result, surviving HH members are forced to take extra work or seek alternative forms of employment. Families struggle to earn a living, send children to school, and to manage the increasing burden of care for sick family members. In addition to the loss of income, medical and funeral costs further exacerbate the financial security Assets, such as land and livestock are sold to afford funeral and medical expenses. The loss of intergenerational skills is particularly disastrous in rural areas.... Immediate loss of productivity in agricultural areas leads to long term weakening because of loss of skills, assets and labour. Mortality increases dependency ratios and further tightens resources. Poor HHs that experience direct or indirect losses due to HIV are at risk of becoming irreversibly impoverished ...these impacts make HHs more vulnerable to food insecurity, and to poor health, through loss of physical, capital and human resources.

4.7 SUMMARY

The present chapter has highlighted the serious nature of economic hardships caused directly/indirectly by HIV/AIDS on HHs through loss of employment and income, contributed by factors such as: absenteeism due to sickness or care-giving; loss of job due to sickness or care-giving; 'un-employability' of the HIV+ person due to sickness; incapability and/or indisposition for regular work; death of a working member; part-time work; working at lower remunerations due to changes in jobs etc. As a coping mechanism, minor children including those HIV+ themselves, have not been spared of remunerative employment to supplement

meager HH income. While much of the study findings are substantially and significantly graver in HIV/AIDS HHs as compared to the ‘control group’, in the former itself they are experienced more by those from lower income brackets. Though significant gender based associations in general were not visible, nevertheless female-headed HHs have not been spared of hardships, with the same being indeed significant in HHs where earning AIDS members had died and in HHs where there was loss of income from two earning sources.

* * * * *

Notes

1. Considered herein only if it is higher/superior than that of the HH-head:
2. HH-head was either having an *inferior* job, or was unemployed, retired/housewife or not working due to sickness.
3. Contributed by reasons such as ‘un-affordability’ to pay fees and/or other expenses related to education; care-giving duties for children; employment of children for supplementing dwindling HH incomes etc.
4. These may be HIV+ or negative.
5. In other words the average annual wage income per HH and per HH member is higher in non-HIV/AIDS HHs than HIV/AIDS HHs by 1.81 and 1.52 times respectively.
6. That there are more female-headed HIV/AIDS HHs obviously due to death to the male heads can also be found in other studies like Dixit (2005, 142).
7. Seventy members represent 70 HHs since this study considers only one dead member per HH.
8. Hosegood *et al* (2004) [*re*]state that dissolution was four times greater than non-HIV affected HHs (as in Avert 2008).
9. http://dsacs.delhigovt.nic.in/naco_policy.asp [accessed July 2007]
10. *Field*-interactions revealed HIV/AIDS reducing HHs from ‘riches to rags’; and even occasionally from being donors/lenders to borrowers, especially *post*-death of the earning male HH head.
11. Henceforth, the 9 percent who ‘never worked’ and 3 percent who ‘worked in between’ will be clubbed together to constitute the *never worked* category since they were not working at the time of HIV detection and nor are so now.
12. Dismissal due to stigma associated with HIV and not because of illness contributed by an OI.
13. This too will not be in the case of most if one goes by the high SD value at 86817.
14. Amongst others these included 3 agricultural labourers, 10 construction/manual workers, 29 skilled/semi-skilled/non-agricultural labourers, 4 drivers, 19 domestic servants, and 3 workers in small shops/petty business.
15. This pertains to all HIV+ respondents who worked either earlier, are presently working, or both. It excludes the 24 from the *never worked* category.
16. This figure includes those whose current earnings are the same as before.
17. This was especially a serious problem in HHs where both parents who were HIV+ needed CGs, and there were none, with children present being small to do CG duties.
18. As per an ILO (2003, 3) supported study, CGs who looked after PLWHA were mostly spouses [60 percent], followed by parents [32 percent], children [6 percent] and siblings [2 percent].
19. The mean income lost for *all* sample HHs’ taken together is just over ₹ 406.
20. Taking into consideration the 29 cases whose lost earnings are known.

21. Mean annual HH wage income for the concerned HHs is ₹ 50,276 [SD: 43355].
 22. Women usually get lower earnings especially with regards to manual/unskilled labour in the unorganised sector.
 23. Redone income slabs were as follows: 'Up to ₹25,000', '₹25,001-50,000' and 'Above ₹50,000'.
 24. Mean income: ₹ 52,340 [SD: 43232].
 25. Mean income: ₹ 48,991 [SD: 44118].
 26. Mean income: ₹ 30,020 [SD: 13356].
 27. Mean: ₹ 26,620 [SD: 13000].
 28. Of those losing double earning members about 84 percent are from female-headed HHs.
 29. The loss of double income itself is primarily responsible for placing the HHs in lower annual HH income brackets.
 30. The mean income lost per month by the 16 HHs facing double income loss is about ₹ 3,213 per HH on account of an earning AIDS member dying and ₹ 2,035 per HH due to loss of employment during the course of last one year due to HIV/AIDS.
 31. Mean earnings of the 68 members, excluding non-working members and two whose earnings were not known, were ₹ 5,292.
 32. Forty-three in number, their mean earnings were ₹ 2,627.
 33. In one HH four members, including one HIV+ had lost their jobs during the last one year. Incidentally, the loss of employment with regards to the earning non-HIV member(s) need not always be an in\direct consequence of HIV/AIDS. However, it remains a fact that irrespective of who loses a job HHs receive less income per annum.
 34. Though details of the mentioned scenarios were observed at the time of data collection, the same have not been detailed since they were not part of the study objectives.
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CHAPTER 5: IMPACT OF HIV/AIDS ON THE INFLOW AND OUTFLOW OF HOUSEHOLD INCOME

The impact of AIDS is no less destructive than war itself, and by some measures, far worse: Kofi Annan (UNAIDS 2000a, as in Singhal and Rogers 2006, 204).

This chapter, on account of the broad study objective of documenting the economic ground realities facing HIV/AIDS HHs, analyses through quantitative and qualitative findings the impact of HIV/AIDS by primarily highlighting two main issues: a] how the HH rupee is used/spent; and b] how and from where the rupee comes from. Additionally, the chapter also addresses the following sub-objectives: i] whether there exist differences between HIV/AIDS and non-HIV/AIDS HHs; ii] whether there are gender based differences, and if so whether they are to the disadvantage of female-headed HHs; and iii] if differences exist [with reference to sub-objectives 'i' and/or 'ii'] whether they are significant in nature.

5.1 HOW AND WHERE THE HOUSEHOLD RUPEE GOES

5.1.1 Household income outflows

This section includes analyses and comments pertaining to three broad areas: HH expenditure; remittances; and savings/investments.

5.1.1A Household expenditure

For the purpose of analyses HH expenditure has been sub-divided into three broad categories: i] expenditure on food; ii] regular monthly HH consumption expenditure [excluding food]; and iii] 'other annual HH consumption expenditure'. In later stages of analyses when/wherever required the first two expenditures as mentioned, being monthly in nature, have been increased twelve-fold to provide an approximate value in terms of annual expenditures.

5.1.1Aa Monthly expenditure on food

One important head of expenditure for any HH is food. In South Africa, average monthly per capita food expenditure of afflicted HHs was 70 to 80 percent that of other HHs, though no significant difference was found in total monthly expenditures, most likely because of rises in health-related expenditures (Medhini, Jain and Gonsalves 2007b, 1088). In Thailand, a study found that once a family member developed AIDS, more than half the HH reduced food intake (Pitayanon, Kongsin and Janjaeron 1997, as in Narain 2004, 29). Likewise, in urban areas of Côte d'Ivoire, food consumption went down by 41 percent per capita (UNAIDS 2000b, as in Adeyi *et al* 2001, 10). If one assumes that 'total HH income' [i.e. wage and non-wage income] was the only mode of meeting expenses, then with reference to the present study, food expenses in relation to total HH income was almost 51 percent in case of HIV/AIDS HHs and only 37 percent in case of non-HIV/AIDS HHs. Thus, unlike the 'control group' the major chunk of HIV/AIDS HH income goes for meeting food expenses alone, this despite the fact that a huge number of 71 percent of the latter sample depended partly or fully on others for free food, as opposed to only around 5 percent in case of the non-HIV/AIDS HHs. The high food expenses vis-à-vis total HH income could be considered as an indicator of two things: a) the comparatively lower HH incomes in general prevailing in HIV/AIDS HHs [see **Table 4.1ii**; **Chp. 4**]; and b) food, a basic human need universally, cannot be compromised much upon, especially so in the context of HIV/AIDS where due to the very nature of sickness, care and treatment, proper consumption of nutritious/balanced food is mandatorily recommended to ensure a longer and healthier life for the PLWHA (Pradhan, Sundar and Singh 2006, 60).¹ With HIV/AIDS HHs spending a greater proportion of total HH income on food, less wage/non-wage income remains for savings and/or to meet other non-food expenditures - due to which, as shown in later sub-sections, HHs are

often forced to opt for dissavings, borrowings and/or even UUI. Needless to say the above, generally speaking, does not happen in non-HIV/AIDS HHs.

The fact that food expenses form a greater portion of total HH income in HIV/AIDS HHs as compared to non-HIV/AIDS HHs, does not reflect though that per capita expenditure on food is likewise high in the former. On the contrary, while per capita monthly food expenses were only ₹ 698 approximately for members belonging to the HIV/AIDS HHs sample, the corresponding figure was relatively better at ₹ 741 approximately for non-HIV/AIDS HHs' members – this despite the fact that there were more members in the sample. A comparison of food expenses vis-à-vis HHs also shows that non-HIV/AIDS HHs spend more than their counterparts. While monthly food expenses were about ₹ 2,632 per HIV/AIDS HH, the corresponding figure was relatively higher at ₹ 3,314 per non-HIV/AIDS HH.² The difference in food expenses in the two samples, wherein in case of HIV/AIDS HHs though proportion of HH income spent on food is higher, the per capita expenses are lower [reverse in case of non-HIV/AIDS HHs], can be related to the elasticity of expenditure on food being generally less than one³ (Pradhan, Sundar and Singh 2006, 68).

At the outset itself one can consider the mean values mentioned, and the fact that there were six [3 percent] HIV/AIDS HHs spending nil amounts on food during the last month, as opposed to none of non-HIV/AIDS HHs,⁴ as indicators of the adverse effect of HIV/AIDS on consumption of food. MW-U results show *the difference in food expenses of the two samples' to be significantly different at the 0.01 level [U = 13243; Z = -5.859; p = .000].*⁵

As referred to earlier, an overwhelming majority [68 percent] of the sample HIV/AIDS HHs got their food 'partly sponsored' - and hence got their own personal/HH food expenses reduced. 'Partly sponsored' food refers to food, cooked or uncooked, over and above what is

purchased at ones own cost, and obtained free regularly - for e.g. getting food items free once a month from NGOs;⁶ getting a meal free at the work place [for e.g. happens in case of housemaids and those working in hotels/restaurants]; getting somebody to pay for part of the food expenses during the month; or even getting extra sponsored food over and above what is actually paid for and shown herein. In the absence of this 'partly sponsored' food, the situation of the HIV/AIDS HHs would have been worse than what it already is. As was mentioned earlier an additional 3 percent HIV/AIDS HHs got their food 'fully sponsored' with these not in position to spend even a single rupee on food. That HIV/AIDS has an adverse bearing on food in light of the above can be seen with a comparison of figures of non-HIV/AIDS HHs, where, while only 5.5 percent of the sample HHs got the benefit of 'partly sponsored' food, there were none depending on 'fully sponsored' food. To put things in perspective, while less than one-third of the HIV/AIDS HHs sample did not depend on external sources for assistance with regards to food, the corresponding figure was a huge 94.5 percent in case of non-HIV/AIDS HHs.

To find whether the 'nature' of the food consumed by the HIV/AIDS HHs [i.e. whether it was 'partly sponsored', 'fully sponsored' or purchased entirely at own cost] was gender in\dependent a chi-square test was done by first merging HHs with 'fully sponsored' food with those with 'partly sponsored' food to arrive at only two categories of HHs: those with 'partly/fully sponsored' food and those with food entirely at own cost. Test results showed *there was a significant association at the 0.01 level between the 'nature' of food and gender of the HH-head* [$\chi^2 = 14.572$, $df = 1$, $p = .000$], with the female-headed HHs being more dependent on partly/fully sponsored food unlike their male counterparts. FET results, in case of non-HIV/AIDS HHs sample, also showed *significant association at the 0.01 level* [$p = .005$].

Table 5.1.1Aa highlights the distribution of the two HHs' samples based on monthly food expense slabs. The same is useful to highlight from another angle the adverse implications of HIV/AIDS on food. While 17 percent of the HIV/AIDS HHs spent up to ₹ 1,000 during the last one month on food including 6 percent of the total sample who spent only up to ₹ 500 [this latter category includes the 3 percent of the total HHs which got their food requirements 'fully sponsored'], the corresponding figure was only 1 percent in case of non-HIV/AIDS HHs. Incidentally, as the table shows majority of the respondents in both categories of HHs spent between ₹ 1,001 and ₹ 5,000 per month with the figure being as high as 92 percent of non-HIV/AIDS HHs and a relatively lower figure of 77 percent of HIV/AIDS HHs. Interestingly, while chi-square test of independence *has not shown any significant association between the gender of the HIV/AIDS HH head and slab-wise monthly food expenses even at the 0.1 level* despite redoing the food expense slabs⁷ [$\chi^2 = 2.416, df = 3, p = .491$]; in case of non-HIV/AIDS HHs though, it has shown *significant association at the 0.01 level* [$\chi^2 = 15.775, df = 3, p = .001$].⁸ The findings were also corroborated by MW-U test results. While in case of HIV/AIDS HHs, MW-U *did not find any significant difference in monthly food expenses based on the gender of the HH-head at the 0.1 level* [$U = 4264.5; Z = -1.469; p = .142$], it has though *at the 0.01 level in case of non-HIV/AIDS HHs* [$U = 2472; Z = -3.379; p = .001$]. That there is no association or difference between gender and monthly food expenses in case of HIV/AIDS HHs is an important finding of the present study, for this is despite female-headed HHs having significantly lower total annual HH income unlike male-headed HHs as seen in the previous chapter. The absence of gender based association is a pointer of female-headed HHs making up for their low annual HH income by substantially and significantly depending on 'partly/fully sponsored' food [and UUI, as shown in **Sec 5.2.1Bc**].

Table 5.1.1Aa Comparative monthly food expense slabs

Food expense slabs	HIV/AIDS HHs				Non-HIV/AIDS HHs			
	Male-headed	Female-headed	Total no. of HHs	% of HHs	Male-headed	Female-headed	Total no. of HHs	% of HHs
Up to ₹ 500	8	4	12*	6*	0	0	0	0
₹ 501-1000	9	13	22	11	0	2	2	1
₹ 1001-2,500	49	37	86	43	42	24	66	33
₹ 2,501-3,500	25	12	37	18.5	57	11	68	34
₹ 3,501-5,000	16	15	31	15.5	41	9	50	25
₹ 5,001-7,500	6	1	7	3.5	9	2	11	5.5
₹ 7,501-10,000	3	1	4	2	2	0	2	1
Above ₹ 10,000	1	0	1	.5	1	0	1	.5
Total	117	83	200	100	152	48	200	100

**Includes 6 HHs which did not spend any amount on food [their food requirements were fully sponsored]. Of these four were male-headed HHs and two female-headed HHs.*

The primary explanations for the difference in relationship between gender of the HH head and monthly food expenses in the two independent samples' as stated above are as follows: a) In case of HIV/AIDS HHs, a large number of HHs get their food 'partly/fully sponsored' which amongst other options includes getting part of the expenses reimbursed by others external to the HH. Additionally, as was highlighted there is a significant association between gender of the HH head and 'nature' of food; b) Although no significant association was found between gender and coping mechanisms used by HIV/AIDS HHs [see **Chp. 4/Sec. 4.6.1**], nevertheless a number of HIV/AIDS HHs, including female-headed HHs had adopted different ways of generating additional resources such as wife/HIV+ female respondent taking up a job for the first time, taking up of an additional job, minor children being put into remunerative forms of employment etc. – all of which were conspicuous by their absence in non-HIV/AIDS HHs, including female-headed HHs; c) There is a significant association between gender of the HIV/AIDS HH head and dependence on UUI in 'favour' of female-headed HHs [see **Sec 5.2.1Bc**]; amounts raised via UUI contribute towards meeting food expenses. As a consequence of the above reasons, while in HIV/AIDS HHs death to the male-HH head does not cause severe changes to monthly food expense slabs despite female-headed HHs having significantly lower total annual HH income, in case of non-HIV/AIDS HHs, since the said reasons do not play any substantial role,⁹ there is a

significant association between gender and monthly food expense slabs to the disadvantage of female-headed HHs.

To put things in perspective from a different viewpoint, a viewpoint that could not only help in further understanding why gender of the HH head does not have any significant association with monthly food expense slabs in HIV/AIDS HHs [though it does in non-HIV/AIDS HHs], but also in understanding the nature of relationship between monthly food expenses and total HH income,¹⁰ is the correlation analysis between total HH income and total monthly food expenses. While needless to say there is bound to be and in fact there indeed was a *positive correlation existing at the 0.01 level of significance between the two* in both sample categories,¹¹ *the correlation was relatively smaller in case of HIV/AIDS HHs [Kendall's tau_b corr. coeff. = .483; Spearman's rho corr. coeff. = .634], and higher - and thus stronger - in case of non-HIV/AIDS HHs [Kendall's = .675; Spearman's = .833].*¹² This is in a way an indicator that in non-HIV/AIDS HHs if the male-heads die, as the HH income goes down so also will quite strongly the monthly food expenses, since the female-heads¹³ besides not depending on 'partly/fully sponsored' food [and UUI], also generally do not seek employment or additional employment for self or minor children. If, however, there is no death of the male-heads in non-HIV/AIDS HHs, then with higher HH incomes there is significantly higher amount spent on food, especially considering the fact that majority of the sample HHs came from lower economic backgrounds. In case of HIV/AIDS HHs on the other hand, on account of dependence on 'partly/fully sponsored food', UUI and coping mechanisms, in the eventuality of death to the male-head, the correlation between the two variables though positive is relatively weaker since consumption although directly affected will not be as much as in case of non-HIV/AIDS HHs. Similarly, if there is no death of the male-head in HIV/AIDS HHs, then under the assumption

that HH income will be intact or possibly even more, although food expenses/consumption will go up, it will not be as strongly as in case of non-HIV/AIDS HHs on account of huge outflows [especially medical expenses] which HIV/AIDS HHs in particular have to contend with.

Majority of the HIV/AIDS sample HHs at 77 percent admitted to a perceptible drop in HH food consumption ever since detection of HIV. These admitted to compromising on food due to paucity of funds.¹⁴ In one case, an HIV+ person strictly advised by doctors to at least eat a packet of glucose “*Tiger*” biscuits available for ₹ 5 on days when she could not afford regular food, had no money to buy the same on a regular basis. In another case, a person lived with extremely low levels of food intake, despite NGOs providing free food items, since the person on account of extreme frailty was not in a position to *carry* the provision-bag from the NGO centre to her residence. Amongst other HHs, a mode frequently adopted to reduce/adjust consumption expenses was dropping consumption of milk totally. Individuals, including babies/toddlers in the age group of 1-36 months, were deprived of [purchased] milk and were instead given black tea, often without sugar.¹⁵ Consumption of other dairy products, fruits, meat etc. was either absent or at best restricted to rare occasions only in most HHs. While a number of HIV/AIDS HHs had members who had already committed suicide due to serious hardships including those related to food, a number of HIV+ sample respondents themselves had failed in their own suicide attempts, with some even contemplating of future attempts if things do not improve. That HIV/AIDS causes food related hardships to a much larger section of affected HHs can be seen from the fact that besides the 77 percent HHs which admitted drop in food consumption due to financial inadequacies, of the remaining [23 percent] which claimed no fall, 34.8 percent [16 HHs] actually depended on ‘partly sponsored’ food on a regular basis. Incidentally, all those needing nutritional support do not always get the same from NGOs. As numerous *field*-interactions

revealed, a number of HIV+ individuals facing financial difficulties, were denied the monthly nutritional support on account of having a '*relatively good CD-4 count*'.¹⁶ To accentuate the problem vis-à-vis food especially considering testing times was the fact that many HHs were deprived of subsidised food - and other items like kerosene - available under the State controlled Price Distribution System [PDS] due to non-possession of ration-cards, although some still tried to avail of some minimum assistance by borrowing ration-cards from others. It is another matter altogether that even the assistance availed by those with ration-cards was not sufficient to meet actual HH needs. The financial crisis faced by HIV/AIDS HHs, whether with reference to meeting food or other HH expenses can also be seen with the help of another example. In Goa, when the government announced in 2008 plans for providing ₹ 1,000 per month to all HIV+ individuals on ART, instances were recorded of infected persons trying to compromise on their health with the intention of reducing their *CD-4 count*¹⁷ to less than 200 so that they are put on ART which would then qualify them for receiving the monthly assistance (Nair 2008a, 1).¹⁸

As was mentioned earlier food is a basic necessity - and though it is so universally, the consumption of proper, quantitatively and qualitatively, nutritious food becomes especially very important in case of HIV+ individuals. In addition to HIV care and treatment, improved dietary intake is essential to regain lost weight after an OI. As nutrition expert Dr. Prisca Nemapare says, "*Proper nutrition is the best frontline drug for AIDS*" (Singhal and Rogers 2006, 125 & 156-157). Good nutrition and medical care can increase bodily strength and delay the onset as well as frequency of OIs - a person who can afford two square meals a day along with quality medical care [whenever OIs take place] can live for several years even without ART; and those on ART having proper nutrition and medical care being able to increase their life span by 20 years or more (Gautham 2008, 1). Nutritional intervention studies suggest that early improvements in the

energy and protein intake of PLWHA can help build their reserves and reduce vulnerability to OIs (*ibid*). Nutritional interventions are a must especially for young children, orphans and mothers (Medhini, Jain and Gonsalves 2007b, 1085). Incidentally, while being sero-positive increases the body's energy needs and diminishes appetite, it also decreases the body's ability to digest and absorb nutrients. Nutritional status can affect both the efficacy of ART treatment and the patient's ability to adhere to the treatment regime (*ibid*, 153). The present study revealed that 100 percent of the HIV/AIDS HHs were advised 'proper' nutrition. Nevertheless, despite the medical recommendation, 68 percent did not spend extra on food due to inadequacy of funds. Fortunately though, a number of these got occasional assistance from NGOs. Of the remaining 32 percent which spent extra for additional food¹⁹ due to recommendations, while the minimum amount spent was a paltry ₹ 40 per month, it was as high as ₹ 1,500 per month. While the average amount spent additionally on nutrition is ₹ 460 per month if we consider the 64 HHs which actually spent additional money, it becomes a paltry ₹ 147 if all sample HHs are considered together.²⁰

In fine, HIV/AIDS HHs are to a disadvantage when it comes to food as compared to their non-HIV/AIDS counterparts. The adverse implications of HIV on food cannot be ignored. Leaving aside that HIV/AIDS members should have proper nutritional standards on account of their state and treatment; food insecurity and malnutrition can indeed accelerate the spread of HIV itself - it can be a cause by increasing people's exposure to the virus²¹ and by increasing the risk of infection following exposure²² (Sharma 2006, 150-151; see also A. Malavia in HRLN 2008, 152). It needs to be additionally noted that even within the HIV/AIDS HHs it is often the female-headed HHs which bear significantly the greater burden. A study in Zambia showed female-headed HHs being 'food-insufficient' for an average 3.4 months per year (FAO 2004, as

in UNAIDS 2006, 85). Incidentally, the present study found to the disadvantage of female-headed HHs, a *significant association at the 0.05 level between gender of the HH-head and the two issues mentioned earlier pertaining to, “has there been a drop in food since HIV detection due to financial inadequacies”* [$\chi^2 = 5.846, df = 1, p = .016$] and *“whether extra amount was spent on buying additional food as recommended”* [$\chi^2 = 4.073, df = 1, p = .044$].

5.1.1Ab Regular monthly consumption expenditure

That there is a significant difference between the two samples' HHs [to the disadvantage of HIV/AIDS HHs] vis-à-vis regular monthly consumption is apparent in **Table 5.1.1bi** [meant for HHs actually spending own money, even if an amount over and above was sponsored/reimbursed by others] and **Table 5.1.1Abii** [meant for *all* sample HHs taken together]. For example, as **Table 5.1.1Abi** highlights, while 21 [10.5 percent] HIV/AIDS HHs, including the 6 [3 percent] which were totally dependent on others for food spent nil amounts on fuel/water, the corresponding number was zero in case of non-HIV/AIDS HHs. Spending nil amounts on fuel/water in the present context is not a sign of self-sufficiency but of immense hardships. From another viewpoint though, i.e. with regards to the mean amount spent per month on fuel/water, the figure is comparatively higher in HIV/AIDS HHs – particularly on account of the fuel component due to regular heating of drinking water as per medical advice given to HIV+ members.

Pertaining to entertainment [movies in theatres/VCDs/DVDs/cassettes; picnics; dramas; etc], while only 28 [14 percent] HIV/AIDS HHs spent on the same, the corresponding figure was higher at 59 [29.5 percent] in case of non-HIV/AIDS HHs. Additionally, related to the issue of entertainment the study found that while 66.5 percent of the HIV/AIDS HHs revealed there was a drop in entertainment ever since detection of HIV, 14 percent felt there was no change, with

the remaining 19.5 percent stating that even before HIV they were not into entertainment. Pertaining to the first two categories of the mentioned responses, *there was no significant association between drop in entertainment and gender of the HH-head at even the 0.1 level [$\chi^2 = 1.250, df = 1, p = .264$]* – drop in entertainment was thus gender independent.

With regards to cable/dish TV, while there were 54 [27 percent] HIV/AIDS HHs having the same, the number was 85 [44.5 percent] in case of non-HIV/AIDS HHs. Incidentally, with reference to a related issue, 124 [62 percent] HIV/AIDS HHs had a TV, with the number being 145 [72.5 percent] in case of non-HIV/AIDS HHs. Not only are the numbers of TV sets and cable/dish connections less in HIV/AIDS HHs, but the ratio of cable/dish connections to TV sets is better in non-HIV/AIDS HHs at 58.6 percent as compared to 43.5 percent in HIV/AIDS HHs. Also, while a number of HIV/AIDS HHs had TV sets in non-working condition due to insufficiency of funds for repair, there were amongst those having cable connections a few who got the same through illegal means like tapping and parallel connections, at best for a mutually settled price as nominal as ₹ 50 per month, that too not paid on a regular basis. Non-functioning TVs and illegal connections were as good as absent in non-HIV/AIDS HHs.

Table 5.1.1A also shows that there were more HIV/AIDS HHs in rented premises than non-HIV/AIDS ones. This primarily happens because in case of the former on detection of HIV members are often forced to move out and stay separate. In a handful of cases families had to sell their own premises and move into rented ones for the purpose of generating resources to meet high expenses. Incidentally there were HHs whose future in rented premises was uncertain and bleak since they did not pay rent and electricity bills for even 5-6 months due to financial troubles, and were being regularly reminded of eviction and/or confiscation of HH assets! As was shown in the previous chapter, HIV is one cause for disbanding and dissolution of HHs.

More HIV/AIDS HHs in rented premises²³ along with fact that that fewer HIV/AIDS HHs have TVs and dish/cable connections, besides less electrical appliances like washing machines, PCs, fans, audio sets and refrigerators [see Table 3.10vi; Chp. 3] contributes to the monthly electricity bills being less on an average as compared to that of non-HIV/AIDS HHs. Likewise, as shown in Table 5.1.1A*bi* usage in terms of number of HHs of other regular things like telephone, transport and toiletries, the numbers were lesser in case of the former HHs. Also, while there were a number of HIV/AIDS HHs depending on external sources for getting certain expenses fully sponsored/reimbursed there were none when it came to non-HIV/AIDS HHs.²⁴ Incidentally, number of HHs having members consuming *paan/bidi*/cigarettes is more or less the same in both categories of HHs notwithstanding the fact that mean amount spent was different on account of the presence of an extreme sample element. In case of alcohol, mean amounts spent, barring a few exceptions,²⁵ is generally lower in HIV/AIDS HHs if one considers *all* HHs together [see Table 5.1.1A*bii*] - an outcome of the strong medical recommendation given to HIV+ persons to abstain from alcohol on account of illness/treatment.

Table 5.1.1A*bi* Regular monthly HH consumption expenditure pertaining to HHs actually incurring expenses

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min ₹]	Max ₹]	Mean ₹]	SD	N	Min ₹]	Max ₹]	Mean ₹]	SD
Fuel/water	179	30	800	304	150.73	200	30	600	264	129.96
Electricity #	135##	20	1000	217	135.81	167	50	500	225	92.20
House rent	88@	150	6000	1053	801.02	60@@	300	2000	948	344.25
Transport	195	100	5000	701	631.38	200	50	2000	563	441.23
Entertainment	28	20	2300	357	477.23	59	50	500	201	106.26
Telephone	139*	20	2000	331	360.70	153	20	1500	299	240.12
Cable/Dish TV	53^	50	300	208	64.01	85	100	350	248	50.58
Toilet articles	194	20	1000	243	164.23	200	50	1000	255	141.07
Alcohol	39	30	3000	651	717.52	70	50	2000	428	403.60
<i>Bidi</i> /cigarettes/ <i>paan</i>	42	10	1200	234	266.66	43	30	400	97	85.37
Total of all heads	196	120	10790	2359	1555.72	200	330	5380	2116	1072.83

@ Additionally there were another 10 HHs on rent – who have either not paid the amounts during the last month on account of financial difficulties or have got their rental amounts paid by externals.

@@ Additionally there were two others on rental basis but did not pay for the same [they got others to pay].

* Additional 7 HHs had a phone but whose expenses were fully reimbursed by others.

^ Additional one HH had a connection but its expenses were fully reimbursed by others.

In rental cases the amount is usually taken in the rent amount itself - electricity thus gets reflected as nil.

An additional 13 HHs having the benefit of electricity have either defaulted on payments; have illegally tapped power lines or have expenses fully reimbursed by others.

If one considers the aggregate of regular monthly HH consumption expenses, the average expense per HIV/AIDS HH and per capita per month are approximately ₹ 2,312 and ₹ 613 respectively. Surprising that it may sound, these figures are higher than those for non-HIV/AIDS HHs where the corresponding figures were about ₹ 2,116 and ₹ 473. It needs to be noted that in terms of per capita figures, leaving aside the fact that non-HIV/AIDS HHs were having more members than HIV/AIDS HHs [895:754], higher amounts spent by the latter is not an indicator of well being *per se*. Amounts are higher in HIV/AIDS HHs primarily due to the higher house rent component,²⁶ higher amount of traveling expenditure and also the role played by a couple of extreme sample elements. Similar to present findings, Pradhan, Sundar and Singh (2006, 60) also revealed that HIV HHs spend a higher proportion of their total consumption expenditure on rent, which as they reiterate is suggestive of the fact that these HHs have lower assets than non-HIV HHs. It needs to be added that the relatively poor state of HIV/AIDS HHs in terms of expenses on various heads²⁷ can only get worse if we consider that in a number of HHs the figures of amounts spent are not entirely of the concerned HHs but of others external to the HH. If this assistance was absent figures mentioned would have been even lower than shown herein.

Table 5.1.1Abii Comparative regular monthly HH consumption expenses [excluding food] of all sample HHs

	HIV/AIDS HHs [N = 200]					Non-HIV/AIDS HHs [N = 200]					Mann-Whitney 'U'
	Min [₹]	Max [₹]	Mean [₹]	SD	% of total	Min [₹]	Max [₹]	Mean [₹]	SD	% of total	
Fuel/water	.00	800	272	170.35	11.77	30	600	264	129.96	12.48	19470.5
Electricity	.00	1000	147	151.02	6.34	.00	500	187	118.61	8.86	15773.5#
House rent	.00	6000	463	744.98	20.06	.00	2000	284	473.93	13.45	17199.5#
Transport	.00	5000	683	632.95	29.65	50	2000	563	441.23	26.71	17910@
Entertainment	.00	2300	50	215.26	2.16	.00	500	59	108.14	2.78	17014.5#
Telephone	.00	2000	230	337.01	9.95	.00	1500	228	245.26	10.80	18220.5
Cable/Dish TV	.00	300	55	97.64	2.38	.00	350	105	127.19	4.98	16035#
Toilet articles	.00	1000	236	166.95	10.21	50	1000	255	141.07	12.05	17879.5@
Alcohol	.00	3000	127	406.35	5.49	.00	2000	150	313.72	7.09	17101.5#
Bidi/pan/cigarettes	.00	1200	49	154.16	2.12	.00	400	21	55.98	0.98	19728.5
Total of all heads	.00	10790	2312	1575.08	100*	330	5380	2116	1072.83	100*	19449

*The percentage figures including the total are in approximate terms.

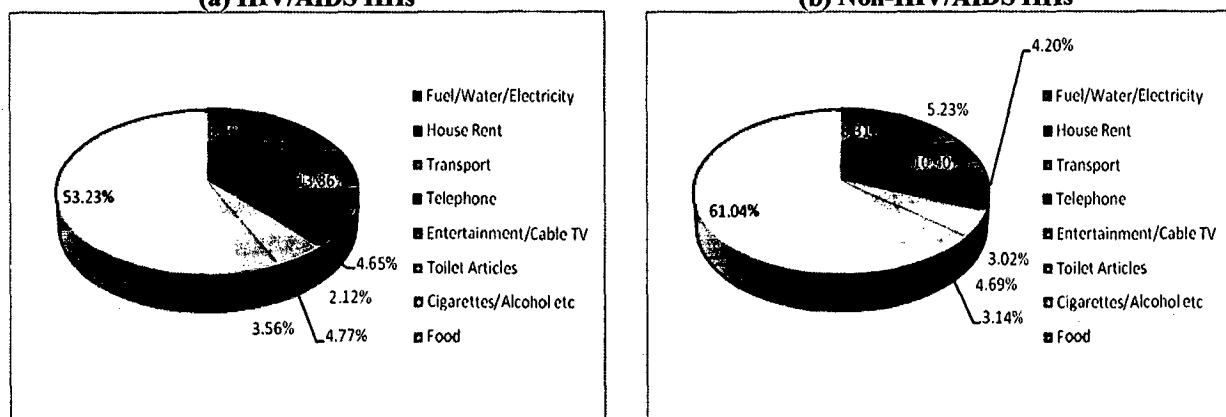
#MW-U results show significant difference in mean values of the two independent samples at the 0.01 level. In case of house rent alone mean is significantly higher for HIV/AIDS HHs - in case of the remaining heads mean is significantly higher for non-HIV/AIDS HHs.

@MW-U results show significant difference at the 0.1 level.

Table 5.1.1Abii amongst other things additionally highlights significant differences existing between the two total sample HHs' pertaining to regular monthly HH consumption expenses. To reduce number of expense heads if we merge the percentage figures [as in Table 5.1.1Abii] of cable/dish TV with entertainment; electricity with fuel/water; and alcohol with cigarettes/*paan/bidis*; the distribution of regular monthly HH expenses highlights amongst others three differences: a] in case of HIV/AIDS HHs there is a relatively smaller share of total expenditure on entertainment/cable/dish TV; b] the share of house rent is comparatively larger in HIV/AIDS HHs; and c] in non-HIV/AIDS HHs the fuel/water/electricity component is relatively higher.²⁸

If for comparative purpose, we include monthly HH food expenditure to the regular monthly HH expenditure, the monthly expense distribution will appear as in Figure 5.1.1Ab, wherein the food component forms the largest chunk in both categories of HHs, with the same being higher at 61.04 percent in non-HIV/AIDS HHs, as compared to 53.23 percent in HIV/AIDS HHs. That HIV/AIDS HHs spend a relatively lower proportion of their total consumption expenditure on food than non-HIV/AIDS HHs was also found by Pradhan, Sundar and Singh (2006, 59).

Figure 5.1.1Ab Comparative distribution of regular monthly HH expenditure including food
(a) HIV/AIDS HHs **(b) Non-HIV/AIDS HHs**



If we consider total regular monthly HH consumption expenditure [excluding food] as the only outflow and relate it as percentage of 'total HH income', the ratio of the same for *all* HHs is 44 percent for HIV/AIDS HHs, and 23.6 percent for non-HIV/AIDS HHs. The difference in proportions arise primarily due to differences in total annual HH income itself and due to the relatively higher rent and monthly travelling expense components in case of the HIV/AIDS HHs.

The travelling expenditure component needs a brief overview especially since it got a mention earlier. HIV/AIDS HHs face a paradoxical situation vis-à-vis travelling needs. While per HH travelling expenses are relatively higher for HIV/AIDS HHs, the expenses are nevertheless insufficient to meet actual needs - which is generally not so in case of non-HIV/AIDS HHs. There is much compromising done by HIV/AIDS HHs' members despite part of the travelling expenses being borne/reimbursed at times by others like NGOs. To put things in perspective from another viewpoint, travelling costs are relatively higher in HIV/AIDS HHs despite only 35 percent HHs having own two/four wheelers as compared to almost 50 percent in case of non-HIV/AIDS HHs [see **Chp. 3; Table 3.10vi**]. The fact is that HIV+ members regularly need to travel on account of medical reasons including checkups, ART treatment, *CD-4/viral-load* count test, treatment of OIs etc. Despite the higher average travelling costs and the fact that in a number of cases there is reimbursement of the same, a number of HIV/AIDS HHs face serious financial problems such that besides compromising on medical visits to save on travel expenses and making even primary-school going children walk long distances each day, with some HHs even contemplating withdrawing children from schools on account of travelling cost burden, many adult HH members including HIV+ members and senior citizens resort to walking long distances of even 4-5 kilometres on a regular basis, or asking neighbours to do marketing along with their own to reduce paid trips by public transport. Many HHs having native place

outside Goa, either refrain from going there on account of financial difficulties, or travel in the cheapest 'no reservation' general class, with some even travelling without proper tickets.

Table 5.1.1Abiii shows a comparative distribution of the two samples' HHs based on regular monthly expense slabs, with the distribution of HHs being positively skewed in nature. Chi-square found a significant association at the 0.05 level between gender of the HH-head and regular monthly HH consumption expenditure slabs pertaining to HIV/AIDS HHs [$\chi^2 = 12.781$, $df = 5$, $p = .026$] to the disadvantage of female-headed HHs. MW-U also brings the significant difference in expenses [vis-à-vis gender] to the fore at the 0.01 level [$U = 3290$; $Z = -3.882$; $p = .000$]. In case of non-HIV/AIDS HHs as well, similar difference have been found at the 0.01 level [$U = 2612.5$; $Z = -2.962$; $p = .003$].²⁹ Death of the male-head thus obviously has an adverse bearing on regular monthly HH consumption expenses [excluding food] of both samples'.

Table 5.1.1Abiii Comparative regular monthly HH consumption expense slabs [excluding food]

Expense slabs	HIV/AIDS HHs				Non-HIV/AIDS HHs			
	Male-headed	Female-headed	Total HHs	% of HHs	Male-headed	Female-headed	Total HHs	% of HHs
Up to ₹ 1,000	14	18	32	16	14	12	26	13
₹1,001-2,000	34	33	67	33.5	59	20	79	39.5
₹ 2,001-3,000	29	20	49	24.5	48	10	58	29
₹ 3,001-4,000	23	9	32	16	23	5	28	14
₹ 4,001-5,000	8	1	9	4.5	5	0	5	2.5
Above ₹ 5,000	9	2	11	5.5	3	1	4	2
Total	117	83	200	100	152	48	200	100

5.1.1Ac Other annual household consumption expenditure

Other annual HH consumption expenditure excludes food and regular monthly HH consumption expenditure, except for those related to travelling. From the point of view of numbers of HHs involved, that a relatively higher number of HIV/AIDS HHs are at a comparative disadvantage pertaining to various heads can be seen in **Table 5.1.1Aci**. It needs to be noted that HH figures

pertain to only those which have actually spent own money, though part of it may have been later reimbursed by others, or though they may have got additional benefits through external assistance as well. As was with regular monthly HH consumption expenditure, here also HHs which got benefits fully sponsored, have been excluded.

Table 5.1.1Aci Comparative 'other annual HH consumption expenditure' details for concerned HHs

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min [₹]	Max [₹]	Mean [₹]	SD	N	Min [₹]	Max [₹]	Mean [₹]	SD
Clothing / footwear	169	50	50000	3147	4627	200	200	25000	2693	2726
Automobile	10	4500	86000	32950	28500	6	2000	300000	73667	112777
Electronic/electrical appl.	26	650	72000	6656	14176	30	300	17000	3887	4475
Other durable goods	14	50	5500	2193	1998	81	200	10000	1643	2009
Education of children	107#	300	150000	6014	16883	144	100	100000	4722	10149
Medical [OPD, reg. monthly treat., cost of medicines...etc]	183'	200	500000	14197	39909	139	10	26000	3676	5577
Travel	196^	500	60000	8699	7674	200	800	25000	7238	5284
Repairs/taxes/insurance/maint. of house/vehicle...	94*	60	150000	5857	17203	145	50	150000	3528	14202
Other exp.[wedding/parties/feasts...etc]	57@	300	400000	13137	53807	129	200	400000	8386	37796
Total other ann. HH consump. exp. [as per above heads]	196	1200	547000	37280	63920	200	1000	455000	27311	45038

#The actual number of HHs with children of school going age was 128. Of these, while 15 were fully dependent on others for assistance, 6 withdrew children from school during the year.

'Another 9 HHs had medical expenses but the same were fully reimbursed/sponsored by others.

*An additional 3 HHs had major expenses but they have not been considered herein since they were fully sponsored by externals/others.

^Another 4HHs which spent nil amount of their own and got their expenses fully paid by others have been excluded.

@ An additional HH had major expenses but the same have not been considered since fully paid by others.

One implication of HIV/AIDS is reduced non-health consumption expenditures among HH members (Bechu 1998; Booyesen *et al* 2002); another is reduced nutrition and educational attainment for children in affected HHs (Booyesen *et al* 2002; Donovan *et al* 2003, Nampanya-Serpell 2000, as in Canning *et al* (2006, 3). As can be seen from Table 5.1.1Aci with regards to numbers of HHs involved, HIV/AIDS HHs are to a disadvantage with regards to all heads as listed barring one, an inconsequential one - pertaining to number of HHs spending money on purchase of automobiles - considering the few number of HHs involved. On a comparative basis, there were fewer HIV/AIDS HHs spending amounts on clothing/footwear, electronic/electrical appliances, other

durable goods [like furniture and utensils], education of children, travel, repairs/maintenance of house/vehicle etc, besides those incurring expenses on weddings, ceremonies and parties. Other than automobiles the only item where there were more HIV/AIDS HHs was *medical expenses*.

AIDS threatens the educational system and undermines the social capital of the country (UNAIDS 2000b, as in Adeyi *et al* 2001, 10). With regards to education in the present study there were 128 HIV/AIDS HHs with children in school going age [144 non-HIV/AIDS HHs] of which only 107 actually spent an amount of their own on education [many of these additionally depended alongside for further education related assistance on others like NGOs]. Of the rest, while 15 HHs were *fully* dependent on others for assistance and were thus spending nil amounts of their own, 6 withdrew children from school during the last one year on account of financial reasons – including ‘un-affordability’ of school uniforms and tuition fees (see also Nielsen and Melgaard 2004, 45), besides the need to perform remunerative and/or care-giving duties – thus compounding the losses of the labour force due to the prevalence of HIV among the young, the losses in the economy’s ‘education force’ – the number of children attending school (Drummond and Kelly 2006, 8). Pertaining to the issue of withdrawing children from school, if we consider the time period ever since HIV detection, there were 21 [10.5 percent] HHs which withdrew at least one child below the age of 16 years from school due to afore mentioned reasons. There were none of such cases in non-HIV/AIDS HHs. While the resulting adverse impact on children and on long-term national development may be serious (Reid 2000a, 21), children not getting education can mean they will be unable to fill more advanced positions in the future, will therefore not reap monetary gains associated with education and thus will find themselves further marginalized (Drummond and Kelly 2006, 9). With low salaries, their children in turn will end up with less human capital - in this context HIV/AIDS can have adverse effects that persist

through generations (Sharma 2006, 120). Pradhan, Sundar and Singh (2006, 60), who also show adverse implications of HIV/AIDS on education, reiterate that the long-term impact could be more acute, especially if the children are orphaned.

Interestingly though, while with regards to numbers of HHs the HIV/AIDS sample is to a disadvantage, with regards to average amounts spent on education though, the figures are comparatively higher than those of non-HIV/AIDS HHs [see **Table 5.1.1Aci**] ^{30, 31} - albeit often assisted through part/full reimbursements by others, dependence on UUI and/or borrowings. In case of education [and also clothing/footwear discussed separately] although mean amount spent by the concerned HHs are higher for HIV/AIDS HHs, when it comes to the total sample HHs the average amount spent is instead higher for non-HIV/AIDS HHs. Also, in terms of total amount spent on 'other annual HH consumption expenditure' the proportion of expenditures of non-HIV/AIDS HHs on education [and as mentioned clothing/footwear] is higher in case of non-HIV/AIDS HHs [Table 5.1.1Aci]. Incidentally, to a related issue on education, approximately 47 percent of the HIV/AIDS HHs having children of school going age felt that there was a drop in HH expenses vis-à-vis education due to HIV in the HH. Chi-square test of independence showed *significant association at the 0.1 level between the perceived drop in education and gender of the HH-head* [$\chi^2 = 3.413$; $df = 1$; $p = .065$], to the disadvantage of female-headed HHs. Seeing that HIV/AIDS does adversely influence education, it appears that the assumption made by studies like that of Bell, Devarajan and Gersbach (2003) that one of the channels of impact of HIV/AIDS is through reduced HH expenditure or investment on education appears to be empirically sustainable (as in Pradhan, Sundar and Singh 2006, 62 & 81). Low levels of expenditure on education by HIV/AIDS HHs in general is reflective not only of lower enrolment levels (*ibid*) and/or possibly high enrolment in government/aided schools, but additionally as

well to receiving assistance from NGOs. The poor relative position of HIV/AIDS HHs vis-à-vis education as shown herein can only get worse with regards to attainment of higher education in the future.

Other than education if one looks at **Table 5.1.1Aci** for numbers of HHs having medical expenses during the last one year, 192 [96 percent] HIV/AIDS HHs had to bear expenses of which 9 HHs got theirs fully sponsored by others. Only 8 [4 percent] HIV/AIDS HHs were free from medical expenses during the year. Of the 183 [91.5 percent] HHs which actually bore medical expenses of their own, while a number got part reimbursed by others subsequently, another 14 got additional amounts sponsored by others over and above the actual HH expenses shown herein. With regards to non-HIV/AIDS HHs, while 61 [30.5 percent] did not have any medical ailment necessitating expenses, there were nil HHs depending on assistance of others.

In the case of annual expenditure on clothing/footwear, a reference to which was already made earlier, while with regards to numbers of HHs, HIV/AIDS HHs were at a disadvantage with 31 [15.5 percent] spending nil amounts as opposed to none with reference to non-HIV/AIDS HHs, with regards to the mean amount spent by the concerned HHs however the HIV/AIDS HHs were at an advantage.³² Notwithstanding the above, the general perception in HIV/AIDS HHs vis-à-vis clothing/footwear is that there has been a drop in the same on account of HIV/AIDS as was indicated by 80.5 percent HHs. With regards to this perception chi-square analysis has shown *a significant association between the same and gender of the HH-head at the 0.01 level* [$\chi^2 = 10.065$; $df = 1$; $p = .002$] with female-headed HHs experiencing the fall more.

Related to the other heads of expenses like repairs/maintenance of house/vehicles, there were HIV/AIDS HHs which did not spend any amount despite urgent need due to financial reasons. There were HHs which had part of their residence in a dilapidated state, with other parts

structurally on the verge of collapse due to non-maintenance or termites. Likewise, while only 14 [7 percent] HIV/AIDS HHs spent money to buy 'other durable goods' during the last one year, there were 81 [40.5 percent] non-HIV/AIDS HHs. Similarly, in case of expenditures like those on celebrations, the numbers of non-HIV/AIDS HHs are higher at 129 [64.5 percent] as compared to only 57 [28.5 percent] HIV/AIDS HHs. However, despite the said fact, the study revealed that in case of HIV/AIDS HHs there was an occasional tendency in some to splurge as was witnessed in the case of three HHs during the last one year and another six the previous year. This tendency, rare but not unknown, happens on account of the mental frame wherein the perception is, "*contracting HIV/AIDS means all is lost, and hence before one dies it would be better to have a once in a lifetime celebration – even if one has to borrow or resort to dissavings - when all members are alive and together*".

Table 5.1.1A shows comparative details of *all* HHs taken together. It also highlights heads/items where there are significant expense differences existing between the two study samples'. Leaving aside mean values pertaining to HH expenditures on celebrations and on purchase of 'other durable goods' which were relatively and significantly higher in case of non-HIV/AIDS HHs, the mean values which were substantially and significantly higher in case of HIV/AIDS HHs were those pertaining to medical expenses.³³ The medical expenses of HIV/AIDS HHs are a little over five times those of non-HIV/AIDS HHs.³⁴ Incidentally the increase in HH medical expenses due to HIV/AIDS is likely to be met by reduction in other expenses. For HHs that are below or close to poverty line, it can imply reduced expenditure on even essential needs like food and clothing. It can also imply reduced spending on education of children, which could reduce the future stock of human capital (Pradhan, Sundar and Singh 2006, 59).

Table 5.1.1Acii Comparative 'other annual HH consumption expenditure' details of all sample HHs

	HIV/AIDS HHs [N = 200]					Non-HIV/AIDS HHs [N = 200]					Mann-Whitney 'U'
	Min [₹]	Max [₹]	Mean [₹]	SD	% of total	Min [₹]	Max [₹]	Mean [₹]	SD	% of total	
Clothing/footwear	.00	50000	2659	4402	7.28	200	25000	2693	2726	9.87	17297.5##
Automobile	.00	86000	1648	9411	4.51	.00	300000	2210	21870	8.10	19600
Electr-ical/onic appl.	.00	72000	865	5503	2.37	.00	17000	583	2203	2.14	19677
Other durable goods	.00	5500	154	759	0.42	.00	10000	666	1509	2.44	13339.5#
Education	.00	150000	3218	12683	8.81	.00	100000	3400	8862	12.45	16960 # ^
Medical [... OPD, reg. treat., medicines...]	.00	500000	12991	38372	35.57	.00	26000	2555	4945	9.36	8746 #
Travel	.00	60000	8525	7694	23.26	800	25000	7238	5284	26.56	18408.5
Repairs/taxes/insurance/ maintenance - house/vehicle	.00	150000	2667	12044	7.46	.00	150000	2558	12184	9.38	16231.5 # ^^
Other exp.[wedding/parties/feasts/religious ceremonies etc.]	.00	400000	3744	29156	10.25	.00	400000	5409	30579	19.78	13900.5 #
Total 'other annual HH consump. exp.' [as per above heads]	.00	547000	36535	63491	100*	1000	455000	27311	45038	100*	16794 #

*Percentage figures are in approximate terms only.

#MW-U tests have shown significant differences existing between the two samples' at the 0.01 level.

##MW-U shows significant differences between the two samples' at the 0.05 level.

^If HHs without children are excluded there is significant difference at the 0.1 level only [U = 8084].

^^If HHs without 'house repair...' expenses are excluded there is significant difference between the two samples' at the 0.1 level only [U = 6001].

From Table 5.1.1Acii it can be seen that from the entire sample perspective the percentage expenditure of non-HIV/AIDS HHs on each head, barring medical expenditure and expenditure on electronic/electrical appliances, was higher than their HIV/AIDS counterparts. Incidentally, expenses of non-HIV/AIDS HHs on electronic/electrical appliances are partly lower because the basic things are already owned by these HHs. From percentage figures point of view non-HIV/AIDS HHs are better compared to their counterparts with regards to educational expenses of children and expenses on ceremonies, feasts, weddings etc. HIV/AIDS HHs on the other hand besides having an apparently less advantage with regards to purchase of 'other durable goods', have a very great share of expenses in the form of medical expenses in relation to total expenses at over one-third the amount at 35.57 percent, unlike non-HIV/AIDS HHs whose share is only 9.36 percent. Medical expenses, forming the greatest chunk of 'other annual HH consumption expenses' for HIV/AIDS HHs', are followed by travel expenses. To show the influence medical

and travel expenses bear on total 'other annual HH consumption expenditure', if the two are ignored, there will be 19 [10.5 percent] HIV/AIDS HHs whose 'other annual HH consumption expenses' become nil. Unlike HIV/AIDS HHs, in case of non-HIV/AIDS HHs the major chunk of expenses in percentage terms is related to travel - proportion of which though higher, was comparatively close to that of HIV/AIDS HHs. Medical expenses form less than 10 percent proportion of the total 'other annual HH consumption expenditure' in case of non-HIV/AIDS HHs. [More details pertaining to medical expenditure can be found in Chapter 6]

Table 5.1.1Aciii Comparative distribution of HHs based on other annual HH consumption expenditure slabs

Expense slabs	HIV/AIDS HHs				Non-HIV/AIDS HHs			
	Male-headed	Female-headed	Total HHs	% of HHs	Male-headed	Female-headed	Total HHs	% of HHs
Up to ₹ 5,000	5	9	14	7	9	10	19	9.5
₹ 5,001-10,000	16	12	28	14	33	13	46	23
₹ 10,001-20,000	32	21	53	26.5	44	11	55	27.5
₹ 20,001- 30,000	25	18	43	21.5	33	6	39	19.5
₹ 30,001-50,000	15	15	30	15	13	4	17	8.5
₹ 50,001-75,000	8	6	14	7	11	2	13	6.5
₹ 75,001-1,00,000	9	0	9	4.5	4	1	5	2.5
₹ 1,00,001-2,00,000	2	1	3	1.5	3	1	4	2
Above ₹ 2,00,000	5	1	6	3	2	0	2	1
Total	117	83	200	100	152	48	200	100

Table 5.1.1Aciii reveals through the comparative scenario of the two samples' 'other annual HH consumption expenditure', a positively skewed distribution of HHs. While in the smaller three slabs of 'up to ₹ 20,000' there are comparatively more non-HIV/AIDS HHs, from '₹ 20,001 and upwards' slabs there are relatively more HIV/AIDS HHs barring for one slab of '₹ 1,00,001-2,00,000'. Much of the same is caused on account of the high medical expenses in HIV/AIDS HHs. While chi-square tests performed on redone slabs³⁵ have not shown any significant association at the 0.05 level between gender of the HH-head and other annual HH consumption expenditure for HIV/AIDS HHs [$\chi^2 = 7.576$; $df = 5$, $p = .181$], in case of non-HIV/AIDS HHs however there was a significant association at the 0.05 level [$\chi^2 = 11.776$; $df = 5$, $p = .038$]. MW-U has also shown similar conclusions. While for HIV/AIDS HHs there was no significant

difference in means based on gender at the 0.05 level [U = 4136; Z = -1.784; p = .074]; there was though significant difference in case of non-HIV/AIDS HHs [U = 2710; Z = -2.683; p = .007]. The findings were indicators that while in non-HIV/AIDS HHs on account of death to the male-head, the female-head experiences cut in HH expenses, in HIV/AIDS HHs annual expenditures are by and large gender independent [despite female-headed HHs having comparatively lower total annual HH income as seen earlier]. This is primarily on account of adoption of different coping mechanisms [including dependence on UUI] by female-headed HHs; the general prevalence of high medical expenses irrespective of the gender of the HH head; and partly due to the assistance received at times in the form of reimbursements through external sources like NGOs.

If we consider ‘other annual HH consumption expenditure’ as the only expenditure [excluding food and other regular monthly HH expenditure] and relate it to the ‘total annual HH income’, then, while in case of HIV/AIDS HHs the proportion of the same is about 58 percent; in the case of non-HIV/AIDS HHs it is much lower at 25.40 percent – the main factor contributing to the difference being the huge medical expenses prevalent in the former.

5.1.1B Remittances

Beside the direct outflow of money on HH consumption, inclusive of food, regular monthly HH expenditure and other annual HH expenditure, outflow also takes place via remittances. For the purpose of this study remittances include any monetary outflow in the form of loan repayments, donations, assistance provided to non-HH relations, unilateral payments, etc. wherein at the time of outflow there is no direct *quid pro quo*. In case of HIV/AIDS sample, 43 [21.5 percent] HHs indicated they made remittances during the course of last one year - for 33 of these [76.7 percent of the concerned] remittances were in the nature of loan repayments. The corresponding figures

for the non-HIV/AIDS counterparts were 26 [13 percent] HHs - with 22 [84.6 percent] making remittances in the form of loan repayments [see Table 5.1.1B for details].

Table 5.1.1B Comparative amount of remittances during the last one year

HIV/AIDS HHs					Non-HIV/AIDS HHs				
N	Min [₹]	Max [₹]	Mean [₹]	SD	N	Min [₹]	Max [₹]	Mean [₹]	SD
43	250	1,35,000	13,141	24316	26	300	15,000	5,262	4708
200	.00	1,35,000	2,825	12413	200	.00	15,000	684	2435

If remittances were the only head of outflow, the ratio of the same to the total annual HH income would be 4.48 percent for HIV/AIDS HHs, and a much lower figure of 0.64 percent for non-HIV/AIDS HHs. The mean remittance value of *all* HIV/AIDS HHs taken together standing at ₹ 2,825, is 4.13 times higher than that of *all* non-HIV/AIDS HHs [Mean: ₹ 684]. The figure of remittances is lower for the latter since borrowings are much less as compared to those in the former. MW-U shows that *HH remittances of the two independent samples' are significantly different at the 0.05 level [U = 18192; Z = -2.376; p = .018].*

5.1.1C Savings and investments

Amongst the major economic fallouts of HIV/AIDS, one that has received much attention is the reduction in savings rate (Over 1992; Cuddington 1993a; Pradhan, Sundar and Singh 2006). While HIV/AIDS primarily contributes to decline in savings rates owing to the generally increased medical treatment costs prevalent in such HHs [accompanied by fall in earnings/employment], savings rates could also decline if people expect to live for a fewer number of years owing to HIV/AIDS, and so feel less need for saving to meet their old age consumption needs, or to add to their skills (Mahal and Rao 2005, 590). The shortened expected lifespan, while reducing incentives to save, can in turn 'contribute' towards prohibiting capital accumulation (Arndt and Lewis, 2000) and diminishing incentives for individuals to invest in

education since the payoff to human capital investments decreases with falling life-expectancy (Ferreira and Pessoa 2003, both as in Werker, Ahuja and Wendell 2007, 18).

That HIV/AIDS HHs are to a disadvantage over their relatively matched non-HIV/AIDS counterparts with regards to savings/investments is evident in the present study as well. While only 50 [25 percent] of the former HHs saved/invested during the last one year, the corresponding figure was as high as 156 [78 percent] in case of the latter. Details of savings/investments and the various ways how it is being done by the sample HHs' have been provided in **Table 5.1.1Ci**. Figures show that whether it is the mean amount of savings per concerned HHs or for *all* sample HHs, or even maximum and mean amounts saved in different modes, barring the odd case of mean amount spent on the purchase of jewelry, the figures for non-HIV/AIDS HHs are superior to those of HIV/AIDS HHs. Incidentally, even in case of jewelry though mean is less for non-HIV/AIDS HHs, the number of HHs involved in purchases are higher than HIV/AIDS HHs – the figures being 35 versus 4. While there were comparatively more non-HIV/AIDS HHs at 32 having more than one mode of saving during the year, the comparative figure was only two in case of HIV/AIDS HHs. It is pertinent to add that although during the last one year both sample HHs' did not save/invest in the form of purchase of land or house, nevertheless the position of non-HIV/AIDS HHs was superior than HIV/AIDS HHs as shown in **Table 3.10vi/Chp. 3**, wherein 27 and 71.5 percent of the former owned land/plot and house respectively, with the corresponding figures being only 18.5 and 51 percent for HIV/AIDS HHs - with 2.99 and 2.40 percent of the latter HHs even selling earlier house property and agricultural land respectively on account of HIV/AIDS.

Table 5.1.1Ci Comparative savings/investments [including modes of savings] during the last one year

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min [₹]	Max [₹]	Mean [₹]	SD	N	Min [₹]	Max [₹]	Mean [₹]	SD
Cash/bank deposits	48	600	200000	25863	38983	153	400	205000	27266	38951
Purchase of jewelry	4	4500	49000	25375	18309	35	2000	200000	20623	34113
Purchase of agri. land	0	---	---	---	---	0	---	---	---	---
Purchase of house/flat	0	---	---	---	---	0	---	---	---	---
Purchase of shares...	1	4000	4000	4000	---	1	30000	30000	30000	---
Total Savings [concerned HHs only]	50	600	200000	26614	41156	156	400	250000	31561	44009
Total Savings [all HHs]	200	.00	200000	6654	23464	200	.00	250000	24617	40992

With regards to the issue of HH savings and whether it is gender related, chi-square tests have shown that while there was *no significant association at even the 0.1 level between the two in HIV/AIDS HHs* [$\chi^2 = 1.545$, $df = 1$, $p = .214$], *there was though a significant association at the 0.01 level in case of non-HIV/AIDS HHs* [$\chi^2 = 20.906$, $df = 1$, $p = .000$] to the disadvantage of female-headed HHs. This shows that while savings are adversely affected in female-headed non-HIV/AIDS HHs apparently due to the death of the male-head; in HIV/AIDS HHs though, savings are independent of gender of the HH head. The same has also been confirmed by MW-U results: while *there was no significant difference in savings at the 0.1 level with regards to HIV/AIDS HHs* [$U = 4423.5$; $Z = -1.409$; $p = .159$], in case of non-HIV/AIDS HHs *there was significant difference at the 0.01 level* [$U = 2366$; $Z = -3.688$; $p = .000$].

Savings/investments as a proportion of ‘total annual HH income’, presuming there were no other claim on the latter from other heads, would be 10.56 percent in case of HIV/AIDS and 22.88 percent in case of non-HIV/AIDS HHs. However, while in the latter, matching of savings as a proportion to annual HH income does happen to a great extent; in case of the former it does not, since, besides savings not being the only head, there is much borrowing and UUI present. Considering this reality in HIV/AIDS HHs the actual proportion of savings to ‘total HH income’ will be lower than mentioned [see **Figure 5.1.2** below]. Savings/investments of the total non-HIV/AIDS HHs sample is almost 3.70 times that of HIV/AIDS HHs’ sample, or in other words

saving in the latter is only 0.27 times that in the former. MW-U results show *a significant difference in savings/investments of the two independent samples at the 0.01 level* [$U = 9113$; $Z = -10.015$; $p = .000$]. Comparing the mean values of savings with dissavings for *all* HHs, while savings were only 0.76 times the size of dissavings in case of HIV/AIDS HHs thus indicative of net negative savings, the corresponding figure was a much higher and superior figure of 5.14 in case of non-HIV/AIDS HHs – an indicator of net positive savings. That unlike the presence of comparatively high savings/investments in non-HIV/AIDS HHs there was instead large negative savings in HIV/AIDS HHs [taking place via sale of jewelry amongst others], and outlined further in **Sec. 5.2.1Ba** (see also Pradhan, Sundar and Singh 2006, 81).

To look at the savings/investment of HHs from another viewpoint, interestingly or paradoxically if one may say, of those who claimed that they saved during the course of the last one year, while a few ‘saved’ not because of employment related earnings, but because of selling HH items during the year, 14 HIV/AIDS HHs which saved [28 percent of those saving], alongside also *dissaved* during the same time. Incidentally, in the case of eight of these 14 HHs, dissavings were greater than savings - and hence in reality the HHs had net negative savings. Similarly, if one considers all HHs which had both savings and dissavings, the average savings are less than the average dissavings [in both categories of HHs - see **Table 5.1.1Cii**]. Unlike HIV/AIDS HHs, in the case of non-HIV/AIDS HHs a relatively small figure of only four of the 156 HHs had dissavings along with savings. Amongst those HHs which saved and dissaved during the year, as **Table 5.1.1Cii** shows, while the minimum and maximum figures pertaining to dissavings are higher in case of HIV/AIDS HHs, it is the non-HIV/AIDS HHs which have the better figures in terms of savings. Despite this though, the mean dissavings are much higher in non-HIV/AIDS HHs as compared to in HIV/AIDS HHs. However, if alongside we consider the

fact that the mean savings in non-HIV/AIDS HHs are comparatively greater, we obtain the fact that the ratio between savings and dissavings is relatively superior for non-HIV/AIDS HHs where savings are 0.74 the size of dissavings, whereas it is only 0.56 in HIV/AIDS HHs.

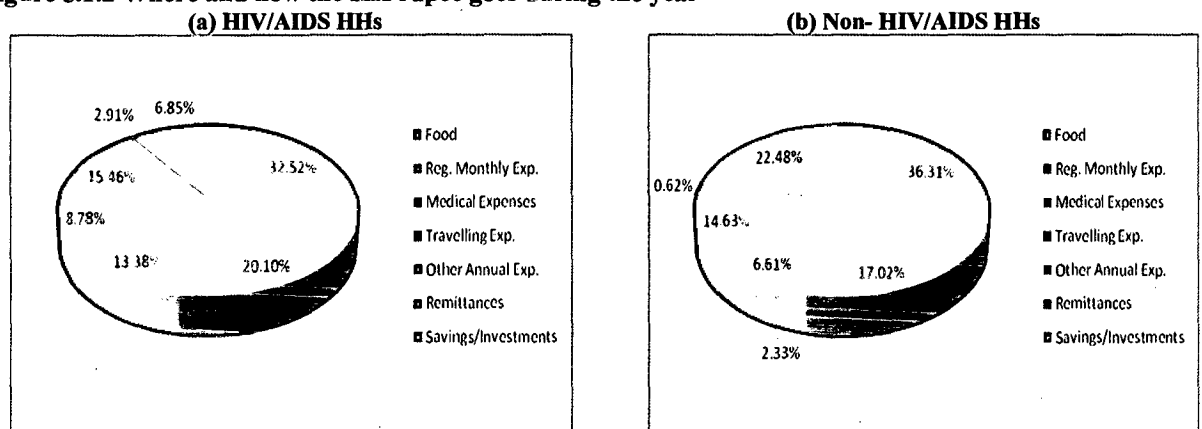
Table 5.1.1Cii Comparative details of HHs which saved and dissaved at the same time

	HIV/AIDS HHs [N = 14]				Non-HIV/AIDS HHs [N = 4]			
	Min [₹]	Max [₹]	Mean [₹]	SD	Min [₹]	Max [₹]	Mean [₹]	SD
Total dissavings	2,500	3,00,000	34,964	77689	2,000	2,75,000	86,000	129453
Total savings	600	1,00,000	19,693	28539	2,000	2,00,000	63,500	93771

5.1.2 Total outflow

Figure 5.1.2(a)/(b) shows the total outflow of income - i.e. how the HH rupee is spent / used annually. The figure is obtained through consolidation of earlier mentioned figures. For the purpose of getting a proper perspective a few heads have been redone herein. While regular monthly non-food consumption expenditure excludes travelling expenses, 'other annual HH consumption expenditure' excludes medical and travelling expenses since the same have been highlighted separately on account of their major role in the total annual outflow.

Figure 5.1.2 Where and how the HH rupee goes during the year



As can be seen from the figures the primary differences in the way the HH rupee is made use of in the two samples' are: a) medical expenses are higher at 13.38 percent for HIV/AIDS HHs as compared to only 2.33 percent for non-HIV/AIDS HHs,³⁶ b) savings/investments are only 6.85

percent in HIV/AIDS HHs as compared to 22.48 percent for non-HIV/AIDS HHs; c] although remittances form a very small component of outflow, they are nevertheless comparatively lower for non-HIV/AIDS HHs at 0.62 percent as compared to 2.91 percent for HIV/AIDS HHs.

The average annual total outflow is a minimum of ₹ 97,123 per HIV/AIDS HH; with the corresponding figure being higher at ₹ 1,09,514 in case of the ‘control group’ [see *End Note* no. 44 of **Chapter 3**]. Incidentally, average [wage-/non-wage] income per HIV/AIDS HH was only ₹ 63,126; with the average being higher at ₹ 1,07,280 for non-HIV/AIDS HHs. This is an indicator that while in case of non-HIV/AIDS HHs average annual HH income is relatively close to the average annual outflows [inclusive of savings/investments], in case of HIV/AIDS HHs the outflows exceed the ‘total annual HH income’ substantially – it is just about 0.65 times the size of average annual HH income – and as will be shown in the next section this gets covered through dependence on dissavings, borrowings and/or UUI. It is pertinent to mention here that 84.5 percent of the HIV/AIDS sample HHs had ‘total annual HH income’ less than the average total annual HH outflows as referred to above.

To conclude, HIV infection results in significant additional expenses which poor HHs in particular are least capable of bearing. In urban areas in Côte d’Ivoire, the outlay on school education was halved; food consumption went down by 41 percent per capita and expenditure on health more than quadrupled (UNAIDS 2000b, as in Adeyi *et al* 2001, 10). Even where HIV treatment services are ostensibly free, PLWHA often remain liable for considerable out-of-pocket costs in the form of co-payments, user fees, transport costs, and uncovered items, for example medications for OIs (International Treatment Preparedness Coalition 2007, as in UNAIDS 2008, 162). In line with findings of the present study, other studies too, at the national and international level recorded the adverse effects that HIV had on HHs vis-à-vis expenditures.

Research in New Delhi for instance found that average monthly expenditures exceeded income among families of PLWH, partly because of a doubling in purchases of medicines. While these families spent less on entertainment and on children's education to cope with rising care, support and treatment costs due to HIV with 17 percent of those who withdrew children from school putting them to remunerative activity to contribute towards families financial stability, most were also forced to sell assets and borrow from friends and relatives (ILO 2003, as in UNAIDS 2006, 85 & 100).³⁷ Likewise, a study in South Africa found that already poor HHs coping with members who are sick from HIV/AIDS were reducing spending on necessities even further – with the most likely expenses to be cut being clothing, electricity and other services. Falling incomes forced about 6 percent HHs to reduce amounts spent on food with almost half the HHs reporting having insufficient food at times (KFF 2002; Avert 2008). In South Africa, to cover even funeral costs which can cost up to seven months of income, with most HHs lacking funeral insurance (Collins and Leibbrandt 2007, as in UNAIDS 2008, 162), affected HHs often reduced spending on items such as food and education. In Goa, as field interactions revealed, dwindling incomes and rising expenditures have made families to even occasionally disown/abandon expired HIV+ members lying in hospitals/morgues [to be taken care by State agencies and/or NGOs] on account of inability to bear expenses on funeral rites.

5.2 HOW AND FROM WHERE THE HOUSEHOLD RUPEE COMES

5.2.1 Household income inflows

To systematically explain how and from where the HH rupee comes from, this section is divided into two broad heads, namely: total annual HH income and 'others' – the latter being made up of dissavings, borrowings and UUI.

5.2.1A Household income

One primary source from where the HH rupee comes from is wage and non-wage income – the latter including amongst others, pension. With regards to the HIV/AIDS HHs sample, irrespective of their own HIV status there were 80 widows, 28 [35 percent] of who were receiving pension.³⁸ In continuation to what has already been shown in Chapter 4 [Sec. 4.1 and Table 4.1ii] while the average annual total HH income [excluding interest] was ₹ 63,126 and ₹ 1,07,280 for HIV/AIDS and non-HIV/AIDS HHs respectively, the annual per capita income was ₹ 16,750 for HIV/AIDS HHs' and ₹ 23,800 for non-HIV/AIDS HHs' members. While wage income per HH was about ₹ 58,025 and ₹ 1,04,990 in HIV/AIDS and non-HIV/AIDS HHs respectively, the non-wage component was about ₹ 5,111 and ₹ 2,294 respectively.³⁹

Table 5.2.1A shows distribution of the sample HHs' based on annual HH income slabs. While majority of HIV/AIDS HHs at 64 percent are clustered in the bottom two slabs of 'up to ₹ 50,000', the corresponding figure was only 20.5 percent in case of non-HIV/AIDS HHs - with the majority of the same at 71.5 percent being in the relatively better income slabs ranging from '₹ 50,001-2,00,000'. That majority of the HIV+ individuals are from lower economic backgrounds corresponds to the significant correlation that appears to exist in several parts of the world between HIV prevalence rates and poverty levels/income inequalities (UNESC/ESCAP 2004, 3). The impact of the epidemic has been documented to be most significant at the family and community level, especially in poor and marginalized groups (Narain 2004, 29; Drummond and Kelly 2006, 4) – with the poorest people of the poor countries in Latin America, Africa and Asia being the most hard hit (Singhal and Rogers 2006, 42). Incidentally, not only is the HIV concentrated amongst the poor as vast literature and findings of the present study confirm, but the poor having less access to information and health care services, are more likely to be forced

by hardship and marginalization into making sub-optimal choices (World Bank 1997a), with the disease therefore proving harder to tackle among poor people (Farmer 1999) (as in Bloom *et al* 2001a, 8; see also Bloom and Mahal 1996; Bloom *et al* 1997; Bloom *et al* 2001c, as in Mahal and Rao 2005, 592). While poverty contributes to HIV, the latter in turn contributes towards further poverty (Adeyi *et al* 2001, 8 & 20; Reid 2000c, 779).

Table 5.2.1A Comparative distribution of sample HHs based on annual HH income slabs

Income slabs	HIV/AIDS HHs				Non-HIV/AIDS HHs			
	Male-headed	Female-headed	Total HHs	% of HHs	Male-headed	Female-headed	Total HHs	% of HHs
Up to ₹ 25,000	25	32	57	28.5	1	2	3	1.5
₹ 25,001-50,000	35	36	71	35.5	18	20	38	19
₹ 50,001-1,00,000	33	9	42	21	60	12	72	36
₹ 1,00,001-1,50,000	11	3	14	7	35	8	43	21.5
₹ 1,50,001-2,00,000	6	1	7	3.5	26	2	28	14
₹ 2,00,001-2,50,000	1	1	2	1	5	2	7	3.5
₹ 2,50,001-3,00,000	0	0	0	0	2	0	2	1
₹ 3,00,001-5,00,000	5	1	6	3	5	2	7	3.5
Above ₹ 5,00,000	1	0	1	.5	0	0	0	0
Total	117	83	200	100	152	48	200	100

Chi-square test done on redone income slabs⁴⁰ revealed that there was a significant association at the 0.01 level between gender of the HH-head and total annual HH income slabs [$\chi^2 = 20.192$; $df = 3$; $p = .000$], wherein it was primarily the female-headed HHs which constituted the lower income slabs. The association was also significant at the 0.01 level for the non-HIV/AIDS HHs.⁴¹ MW-U had also highlighted earlier [see Section 4.1] the significant difference at the 0.01 level in the total annual HH income with regards to gender of the HH-head in HIV/AIDS HHs [$U = 3223$; $Z = -4.048$; $p = .000$] and non-HIV/AIDS HHs [$U = 2139$; $Z = -4.318$; $p = .000$].

5.2.1B Others

As mentioned earlier, this section broadly covers three modes - dissavings, borrowings and UUI - which provide resources to HHs, over and above the total annual HH income. Although the focus of the present study is on the last one year, nevertheless an overview of resources raised by HIV/AIDS HHs ever since detection of HIV has been outlined.

Studies like Bloom *et al* (2001b) and Pitayanon, Kongsin and Janjaeron (1997) have shown that the socio-economic impact of an HIV/AIDS related death particularly with reference to rural HHs is often greater than costs of diseases and death from other causes (as in Nielsen and Melgaard 2004, 43), with the cost of treatment and care over several years after HIV detection draining the HHs of savings and assets to a larger degree with a shorter span of time than in case of accidental deaths or deaths from diseases. In Thailand, a study found amongst other things that once a family member developed AIDS, 60 percent HHs used all savings for medical costs, 19 percent sold property, 15 percent withdrew children from schools, and 11 percent borrowed to pay for medical costs and help maintain HH needs/consumption (Pitayanon, Kongsin and Janjaeron 1997, as in Narain 2004, 29; and Nielsen and Melgaard 2004, 44). In Yunnan some families even sold land illegally or leased it at reduced rent to sustain themselves (China HIV/AIDS socio-economic Impact Study Team 2002, as in Nielsen and Melgaard 2004, 44).

Like the international studies, in India as well studies like those of Pradhan, Sundar and Singh (2006); Duraisamy *et al* (2003) and Verma *et al* (2002) record how HHs resort to borrowings and/or liquidation of assets due to HIV/AIDS. While Duraisamy *et al* highlighted how HHs in South India experienced steep rise in medical expenditures, with roughly 40-70 percent of the AIDS-related expenditures being financed by borrowing (as in Mahal and Rao 2005, 585), Verma *et al* showed how HIV/AIDS HHs in Sangli, resorted to borrowings and forced sale of assets to cope with high treatment and other costs of HIV/AIDS, with fewer

HIV/AIDS caused death HHs owning means of production, land and animals (as in Nielsen and Melgaard 2004, 44; Mahal and Rao 2005, 585). As appropriately mentioned by Elizabeth Reid (2000b, 41) poverty caused by HIV-related illness and death deepens existing poverty, creates new poverty and increases indebtedness.

The present study showed that the overwhelming majority of 167 [83.5 percent] HIV/AIDS sample HHs resorted to liquidation/sale of assets and/or borrowings [excluding UUI], at one point or the other ever since HIV detection, and exclusively because of HIV/AIDS contributed needs.⁴² Of the remaining 33 [16.5 percent] HHs which stated of neither sale/liquidation nor borrowings, 10 HHs actually made use of past savings [e.g. liquidating bank deposits], with two even resorting to UUI. Considering the above, in all reality therefore only 21 [10.5 percent] HIV/AIDS HHs did not resort to sale/liquidation or borrowings in the true sense ever since HIV detection, and managed all HH requirements with wage and non-wage income itself. As was found by the present study [see **Table 5.2.1B**], Pradhan, Sundar and Singh (2006, 94) also found that the borrowings and liquidation was primarily resorted to by those from the lower income brackets, with the majority of these incidentally raising funds on the lower side primarily due to poor asset position of the HHs.

Of those HHs which went for sale/liquidation of assets and/or borrowings since HIV detection, 97.60 percent resorted to borrowings, 40.72 percent to sale/liquidation of jewellery,⁴³ 24.55 percent to sale/liquidation of bonds/FDRs/past savings, 10.18 percent each to sale/liquidation of HH goods/vehicles, with 2.99 and 2.40 percent selling/liquidating house property and agricultural land respectively. Of the 167 HHs which resorted to sale/liquidation of assets and/or borrowings, 81 [48.50 percent] resorted to two or more of the mentioned modes.

While 63 [77.78 percent] of these resorted to two modes, 15 [18.52 percent] resorted to three, 2 [2.47 percent] to four, and 1 [1.23 percent] even to as high as five modes.

The mean amount raised by HHs since HIV was first detected, excluding amounts raised through UUI and liquidation of bank deposits/past savings, is ₹ 52,354 [SD: 143291] with the maximum amount raised being ₹ 15 lakhs.⁴⁴ As **Table 5.2.1B** shows, 86.98 percent of the HHs which actually raised resources [or 89 percent of the total sample HHs including those that did not] resorted to sale/liquidation/borrowings [excluding UUI and liquidation of bank deposits] of amounts up to ₹ 1 lakh each. It needs to be noted that the figures of amounts raised as shown slab-wise in the table reflects values on the lower side since a large number of HHs as shown in a later section have resorted to UUI in the last one year itself, with a number also resorting to liquidation of bank deposits [both not considered in **Table 5.2.1B**], besides 132 HHs which resorted to borrowings and sale/liquidation unable to recollect accurately the actual amounts raised in earlier years. Seeing the large number of HHs depending on UUI during the last one year itself, one cannot ignore its role in earlier years as well – though with no way of calculating the same on account of its very nature: hidden and unrevealed. Thus while figures provided in **Table 5.2.1B** are confirmed ones – the real figures could only be higher than shown.

Related to amounts generated since HIV detection being higher than shown herein is the noting pertaining to the 24 HHs belonging to the raised ‘up to ₹ 5000’ slab [**Table 5.2.2B**]. These are HHs whose details are not available – they have entirely/exclusively depended on UUI. They have been placed in the bottom slab under the assumption that they have raised at least ₹ 1 each. In reality though, they could actually be in higher slabs. Incidentally, if these HHs are dropped [with all other HHs retained even if amounts generated were nil] then mean amounts raised since HIV detection would be higher at ₹ 59,492 [SD: 151397].⁴⁵

Table 5.2.1B Distribution of HHs for total amount raised[@] since HIV detection and annual HH income slabs

	Figures in ₹	Total amount raised since HIV detection excluding UUI and liquidation of bank deposits										
		Nil [^]	Up to 5000 [#]	5001-10000	10,001-25,000	25,001-50,000	50,001-1 lakh	1-2 lakhs	2-5 lakhs	5-7.5 lakhs	Above 10lakh [*]	Total
Annual HH income slabs	Up to 25,000	0	22	9	11	5	2	6	1	1	0	57 28.5%
	25,001-50,000	6	14	8	15	11	11	1	5	0	0	71 35.5%
	50,001-1lakh	10	7	4	8	4	7	0	1	1	0	42 21%
	1-1.5 lakhs	6	1	0	1	0	3	1	1	0	1	14 7%
	1.5-2 lakhs	3	0	1	0	1	1	0	0	1	0	7 3.5%
	2-2.5 lakhs	1	1	0	0	0	0	0	0	0	0	2 1%
	2.5-3 lakhs	0	0	0	0	0	0	0	0	0	0	0
	3-5 lakhs	4	0	0	0	0	0	1	1	0	0	6 3%
	Above 5lakhs	1	0	0	0	0	0	0	0	0	0	1 0.5%
	Total	31 15.5%	45 22.5%	22 11%	35 17.5%	21 10.5%	24 12%	9 4.5%	9 4.5%	3 1.5%	1 0.5%	200 100%

[@]Excluding raising through UUI and liquidation of bank deposits

^{*}There was no case between ₹7.5–10 lakhs and hence the corresponding column has not been kept in the table.

[^]Includes 10 which actually liquidated bank deposits - the same have not been considered herein.

[#]Includes 24 HHs whose amounts have been shown herein as ₹1 each...these have resorted to UUI in the last one year itself. These have not been considered for analyses in this sub-section since it deals only with amounts raised through borrowings and sale/liquidation of assets [excl. bank deposits].

Chi-square tests conducted on redone slabs⁴⁶ did not find any significant association even at the 0.1 level between gender of the HH-head and amounts of resources raised since HIV detection, excluding UUI and liquidation of bank deposits [$\chi^2 = 5.079$; $df = 6$; $p = .534$]. Likewise, MW-U found no significant difference in amounts raised based on gender at the 0.1 level [$U = 4805$; $Z = -.126$; $p = .900$]. The findings are indicators that irrespective of the gender of the HH head, HIV/AIDS HHs have had to raise funds since HIV detection obviously for the purpose of coping with HIV/AIDS contributed requirements.

5.2.1Ba Dissavings

All of the above was with reference to sale/liquidation of assets and borrowings ever since detection of HIV in the HH. Focusing on only the last one year since it is the primary concern of the present study, it was found that 72 [36 percent] HIV/AIDS HHs [47 male- and 25 female-

headed] had resorted to dissavings involving sale/liquidation of HH assets/property/bank deposits etc. in order to generate resources to meet HH expenses and overcome deficits – contributed directly or indirectly by HIV/AIDS [see **Table 5.2.1Ba**]. Incidentally, the corresponding figure was only 25 [12.5 percent] for non-HIV/AIDS HHs [18 male- and 7 female-headed] despite HHs having assets for liquidation/sale unlike many HIV/AIDS HHs where there were hardly any since they were already liquidated/sold earlier due to HIV/AIDS related reasons. Similar tendencies, though with different figures, for different times and place, can also be found in Canning *et al* (2006, 14).⁴⁷ In terms of mean values, dissavings for *all* HIV/AIDS sample HHs taken together [standing at ₹ 8,771 per HH] were 1.83 times that for non-HIV/AIDS HHs' sample [₹ 4,790 per HH].

For the present study chi-square analysis *does not show any significant association even at the 0.1 level between gender of the HH-head and dissavings during the year for HIV/AIDS HHs* [$\chi^2 = 2.129$; $df = 1$; $p = .145$] *as well as for non-HIV/AIDS HHs* [$\chi^2 = .251$; $df = 1$; $p = .617$]. MW-U also *does not show any significant difference in total dissavings based on gender at the 0.1 level for HIV/AIDS HHs* [$U = 4805$; $Z = -.126$; $p = .900$] *and for non-HIV/AIDS HHs* [$U = 3533$; $Z = -.573$; $p = .567$]. Dissavings are thus gender independent.

Interestingly, in the case of HIV/AIDS HHs sample, of the 128 [64 percent] HHs which did not dissave, only 31 [24.22 percent] had no borrowings nor UUI as well during the last one year. Of the rest, 97 [75.78 percent] had borrowings, UUI, or both - despite absence of dissavings. This situation arises because in many cases as already mentioned HHs had already exhausted through earlier liquidation/sale most of their savings/assets with hardly any remaining for further dissaving. Of the 97 HHs mentioned, while 22 had only borrowings, 36 had only UUI, and 39 had both. The corresponding figure of those who resorted to borrowings, UUI or both

despite there being no dissavings during the year was only 19 in the case of non-HIV/AIDS HHs, of which three had only UII, 14 had only borrowings and two had both [for more details see Table 5.2.1Bc^{†ii} in Sec. 5.2.1Bc[†]]. Incidentally, relating dissavings to savings for all sample HHs taken together, while in case of HIV/AIDS HHs dissavings were greater than savings by 1.32 times, on the contrary not only were dissavings lower than savings in non-HIV/AIDS HHs, but they formed a very small portion of the size of savings at 0.19.

Table 5.2.1Ba Comparative dissavings [including its forms] during the last one year

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min [₹]	Max [₹]	Mean [₹]	SD	N	Min [₹]	Max [₹]	Mean [₹]	SD
Amnt. dissaved in cash	41	2000	124000	23537	28785	22	1000	275000	40273	70163
Sale of jewelry	22	200	60000	11614	15347	4	2000	50000	18000	22045
Sale of agricultural land	1	36000	36000	36000	---	0	---	---	---	---
Sale of house/flat/plot	2	4000	300000	152000	209304	0	---	---	---	---
Sale other thing	18	220	50000	10762	15400	0	---	---	---	---
Total dissavings [concerned HHs only]*	72	200	300000	24364	41635	25	1000	275000	38320	72199
TOTAL [all HHs]	200	.00	300000	8771	27494	200	.00	275000	4790	28108

*Total number of HHs with dissavings does not correspond with figures given for the various heads of dissavings since some HHs have opted for more than two modes of dissavings.

The significant difference in total dissavings in the two samples has been brought to light by MW-U at the 0.01 level [$U = 15217$; $Z = -5.502$; $p = .000$].

5.2.1Bb Borrowings

The adverse financial implication of HIV/AIDS on HHs, especially on account of high medical expenses, can cause increased indebtedness of these HHs (Pradhan, Sundar and Singh 2006, 59; ILO 2003, 32). Pertaining to borrowings, the study revealed that 163 [81.5 percent] HIV/AIDS HHs had resorted to the same in one form or the other ever since HIV detection. Of these, while 101 [61.96 percent] had borrowings during the last one year as well, 62 [38.04 percent] did not, though they had done so earlier. Incidentally, 33 [32.67 percent] HHs which borrowed during the year were alongside making loan repayments. In contrast to the HIV/AIDS HHs, only 28 [14 percent] non-HIV/AIDS HHs resorted to borrowings during the year of which 22 [78.57 percent]

started loan repayments, with 3 [13.64 percent of those making loan repayments] even clearing the loan amounts taken. The above shows that when it comes to numbers of HHs and borrowings, non-HIV/AIDS HHs are relatively better placed than their counterparts. To a related issue on borrowings, while almost three-thirds of the HIV/AIDS HHs borrowed from relatives and/or friends, 3 percent borrowed from the employer, with 13.5 percent borrowing from financial institutions and money-lenders. The vulnerability of HIV/AIDS HHs to falling into the grip of money-lenders who lend at exorbitant rates of interest arises: a) since banks are unlikely to lend for meeting HIV/AIDS associated expenses; b) because of ignorance of many HIV+ members due to the overall background of HHs; and c) absence of HH assets to provide as security/collateral for availing institutional finance. The present study revealed that borrowings from money-lenders in Goa were usually done at an interest rate of 10 percent per month.⁴⁸

Of the 101 HIV/AIDS HHs that resorted to borrowings over the course of last one year, while 33 [32.67 percent] had only borrowings, the remaining 68 [67.33 percent] had alongside resorted to UUI as well for raising funds. Unlike these relatively higher numbers, with regards to non-HIV/AIDS HHs, of the 28 HHs borrowing during the year, while there were 23 [82.14 percent] with borrowings and nil UUI, the number resorting to both was 5 [17.86 percent]. Incidentally, while the number of HIV/AIDS HHs with nil borrowings and nil UUI during the year were 50 [25 percent] from the total sample, in case of non-HIV/AIDS HHs the corresponding figure was an overwhelming majority of 166 [83 percent].

Table 5.2.1Bb Comparative borrowings during the last one year

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min [₹]	Max [₹]	Mean [₹]	SD	N	Min [₹]	Max [₹]	Mean [₹]	SD
Concerned HHs	101	401	2,70,000	26,647	39879	28	2500	1,00,000	18,554	20505
Total HHs	200	.00	2,70,000	13,457	31266	200	.00	1,00,000	2,598	9935

Table 5.2.1Bb shows that mean amount of borrowings, whether for concerned HHs resorting to borrowings or for all sample HHs taken together, are higher in case of HIV/AIDS than non-HIV/AIDS HHs. The mean borrowing of *all* HIV/AIDS HHs taken together is 5.18 times that of non-HIV/AIDS HHs.⁴⁹ MW-U results show *significant difference in borrowings of the two samples' at the 0.01 level* [$U = 8704.5$; $Z = -10.661$; $p = .000$].

It needs to be noted that leaving aside five HHs whose borrowings were largely for reasons like education and marriage of children; borrowings in the majority of HIV/AIDS HHs were primarily or even exclusively illness driven - directly or indirectly attributable to HIV/AIDS, specifically due to the high medical expenses. In some HHs while borrowings were used partly for medical expenses and partly for others, some HHs were borrowing just to alongside pay-off earlier HIV contributed borrowings, with a number of other HHs borrowing for business or purchase of assets purposes, but diverting the same later towards meeting medical expenses. The diversion of amount borrowed as mentioned happens usually in two ways: *firstly*, amount is originally borrowed pre-HIV detection for business – however, on account of subsequent detection of HIV the amount is used for taking care of illness related expenses; *secondly*, since institutional borrowings are not easily available for HIV/AIDS individuals in need, including for their medical requirements, some HIV+ persons in desperation occasionally borrow citing business as the reason - and later, on getting the amount sanctioned, get the same diverted towards meeting illness related expenses. Unlike HIV/AIDS HHs, in case of non-HIV/AIDS HHs borrowings of the 28 HHs were in\directly, exclusively or primarily not for medical reasons. Borrowings for medical reasons was resorted to by only 2 [7.1 percent] HHs; with the remaining 7 [25 percent] borrowing for the purpose of marriage; one each [3.6 percent

each] borrowing for purchase of durable goods, business and study; and the remaining 16 [57.1 percent] borrowing for 'Other' reasons, including combination of reasons.

Chi-square analysis *does not show any significant association at even the 0.1 level between gender of the HIV/AIDS HH-head and whether the HH resorted to borrowing during the year* [$\chi^2 = .358$; $df = 1$; $p = .550$]. MW-U also *does not show any significant difference in amounts borrowed based on gender at the 0.1 level* [$U = 4391.5$; $Z = -1.168$; $p = .243$]. However, unlike HIV/AIDS HHs in case of non-HIV/AIDS HHs, chi-square shows *a significant association at the 0.01 level* [$\chi^2 = 15.609$; $df = 1$; $p = .000$], with MW-U also showing *a significant difference at the 0.01 level* [$U = 2624$; $Z = -4.477$; $p = .000$]. These results are indicators that while in case of HIV/AIDS HHs the need for borrowings takes place irrespective of the gender of the HH head; in case of non-HIV/AIDS HHs borrowings are gender dependent, with female-headed HHs being primarily those resorting to borrowings.

5.2.1Bc Unrequited and/or Unrevealed Income [UUI]

One important way - quite unknown and less documented in literature⁵⁰ - how many [lower economic] HHs, especially HIV/AIDS, cope with deficits and high expenditures as was revealed by the present study, is through the 'assistance' of UUIs - which amongst others includes unrequited receipts and getting income through dubious and illegal sources like gambling, prostitution⁵¹ and even petty crime in some cases. Out of the total sample HIV/AIDS HHs, 117 [58.5 percent] depended on UUI during the last one year – of which details of nine are unknown since all their expenses were fully sponsored by externals like NGOs and relatives. Incidentally, of those who depended on UUI, while 49 [41.88 percent] HHs had UUI but no borrowings, the remaining 68 [58.12 percent] had both. In contrast, there were only 11 [5.5 percent] non-

HIV/AIDS HHs depending on UUI during the year, of which, while 6 [54.55 percent] had only UUI, 5 [45.45 percent] had both.

Table 5.2.1Bc Comparative UUIs during last one year

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min [₹]	Max [₹]	Mean [₹]	SD	N	Min [₹]	Max [₹]	Mean [₹]	SD
Concerned HHs	108*	1,000	1,30,000	25,148	22118	11	3,000	15,500	7,591	4277
Total HHs	200	.00	1,30,000	13,580	20516	200	.00	15,500	418	1982

**Besides the 108 HHs there were another nine which depended on UUI. They have not been included herein since their details are unknown - all their expenses were fully sponsored by others. Incidentally, amongst the 108 HHs there were three which besides having UUI included herein had additional UUI, details of which are unknown. In reality therefore the mean amount generated through UUI would have been higher than shown herein.*

Table 5.2.1Bc shows not only that the number of HIV/AIDS HHs depending on UUI are much higher than the non-HIV/AIDS HHs, but so also are the mean amounts raised whether by the concerned or *all* HHs taken together. The mean amount raised via UUI by the entire HIV/AIDS sample is 32.49 times the figure of the non-HIV/AIDS HHs sample.⁵² It needs to be further remembered that dependence on UUI is far greater than that shown herein since 9 HHs got their needs fully sponsored, besides three others getting additional support over and above their own UUI. MW-U shows *the amounts raised via UUI by the two samples' in the last one year to be significantly different at the 0.01 level [U = 9038; Z = -11.452; p = .000].*

Chi-square analysis has shown *there is significant association at the 0.01 level between gender of the HH-head and resorting to UUI during the year in case of the HIV/AIDS HHs sample [$\chi^2 = 9.255$; $df = 1$; $p = .002$].* Figures show that it is the female-headed HHs which are more dependent on UUI than male-headed ones. MW-U has also shown *significant difference in mean values of UUI based on gender of the HIV/AIDS HH-head at the 0.01 level [U = 3852; Z = -2.583; $p = .010$].* The significant association as obtained for HIV/AIDS HHs is also true at the 0.01 level for non-HIV/AIDS HHs [$\chi^2 = 10.026$; $df = 1$; $p = .002$; FET: $p = .005$]. Likewise, MW-U also shows *significant difference in means at the 0.01 level for non-HIV/AIDS HHs [U = 3213; Z = -3.150; $p = .002$].*

5.2.1Bc[†] Borrowings v/s UUI

On account of much dependence of HIV/AIDS HHs on borrowings as well as UUIs and the important role that the two play, it is but apt to show a comparative picture of the two together.

Table 5.2.1Bc[†]: Summarised details related to HH borrowings and UUI

	HIV/AIDS HHs		Non-HIV/AIDS HHs	
	No. of HHs	% of total sample HHs	No. of HHs	% of total sample HHs
HHs with borrowings last year	101	50.5	28	14
HHs with borrowings as well as UUI alongside last year	68	34	5	2.5
HHs with only borrowings last year and nil UUI	33	16.5	23	11.5
HHs with UUI during last year	117	58.5	11	5.5
HHs with only UUI last year and nil borrowings	49	24.5	6	3
HHs exclusively dependent only on UUI last year	9 [^]	4.5	nil	nil
HHs with nil borrowings and nil UUI last year	50	25	166	83
HHs that resorted to borrowings since HIV detection	163	81.5	---	---
HHs which resorted to borrowings earlier but not last year	62	31	---	---
HHs with nil borrowings & nil UUIs since HIV detection	30	15	---	---

[^]Their details are unknown since all their needs were fully sponsored – they have not been considered for the purpose of obtaining the mean for concerned HHs.

Leaving aside borrowings, the fact that UUI plays a major role in the ‘lives’ of HIV/AIDS HHs cannot be trivialised in any way. Unlike in case of non-HIV/AIDS HHs, it is UUI that enables numerous HIV/AIDS HHs, to literally, survive. It needs to be remembered that HIV/AIDS HHs in general have low standards of living - lower than their relatively matched non-HIV/AIDS counterparts - on account of various HIV/AIDS contributed compromises. If one excludes the 50 HIV/AIDS HHs having nil borrowings and nil UUI during the last one year; irrespective of whether they had borrowings, UUI or both, the majority at 92 [61.33 percent] HHs had UUI greater than the value of borrowings, with 54 [36 percent] having UUI less than borrowings, and the remaining 4 [2.67 percent] having both equal.

In contrast to the HIV/AIDS HHs sample wherein there were 150 [75 percent] HHs having either borrowings, UUI or both during the year, the corresponding figure of non-HIV/AIDS HHs was only 34 [17 percent]. Of these, while 7 [20.59 percent] had UUI greater

than borrowings, the remaining 27 [79.41 percent] had UUI less than borrowings. We can thus see that not only the number of HIV/AIDS HHs depending on UUI is higher than non-HIV/AIDS HHs, the percentage of those relying more on UUI as compared to borrowings is also higher in the former. One reason for the extra dependence on UUI in case of HIV/AIDS HHs is that many do not have any collateral/security to offer to be able to borrow – assets which could have been offered have already been sold/liquidated earlier. Also, a comparatively large number of HIV/AIDS HHs are already in debt, with some yet to even begin loan repayment. Under these circumstances, generally absent in non-HIV/AIDS HHs, it is UUI that take primary role [even over borrowings] to cover deficits and meet HH expenses.

Notwithstanding the fact as mentioned in the previous section that there is a significant association between gender of the HH head and dependence on UUI, with the dependence being more on the part of women, there is *no significant association even at the 0.1 level between gender and size of UUI vis-à-vis borrowings*⁵³ for HIV/AIDS HHs [$\chi^2 = .749$; $df = 1$; $p = .387$], as well as for *non-HIV/AIDS HHs* [$\chi^2 = .864$; $df = 1$; $p = .353$; FET: $p = .426$].

That borrowings and UUI are important modes of generating resources for HIV/AIDS HHs can be additionally seen from the fact that even those HHs which did not dissave [see Sec. 5.2.1Ba], did actually opt for borrowings, UUI or both during the year. As the said section revealed while 97 [75.78 percent] of the non-dissaving HIV/AIDS HHs resorted to borrowings, UUI or both, the corresponding figure for non-HIV/AIDS HHs was only 19, although in percentage terms the figure is 76 percent considering the small number of HHs involved. Details on this class of HHs has been provided in Table 5.2.1Bc†ii. *There was no significant association at the 0.1 level between both, gender of the HH-head and whether borrowed during last year*

despite no dissavings [$\chi^2 = .582$; $df = 1$; $p = .446$]; and between gender and whether resorted to UUI despite no dissavings [$\chi^2 = 1.050$; $df = 1$; $p = .305$] in case of HIV/AIDS HHs.⁵⁴

Table 5.2.1Bc[†]ii HHs opting for borrowings, UUI or both during the year despite no dissavings

	HIV/AIDS HHs [N = 90*]				Non-HIV/AIDS HHs [N = 19]			
	Min [₹]	Max [₹]	Mean [₹]	SD	Min [₹]	Max [₹]	Mean [₹]	SD
Borrowings	.00	1,48,000	17,220	27342	1.00	20,000	8,816	6834
UUI	.00	90,000	17,584	19215	.00	15,500	2,158	4243
Total: Borrowings & UUI	1401	1,48,000	34,804	28016	2,500	35,500	10,974	7929

*Besides these HHs, there are additional seven fully dependent on others. Since their actual UUI are unknown [their borrowings are nil] they are excluded with regards to obtaining the above details.

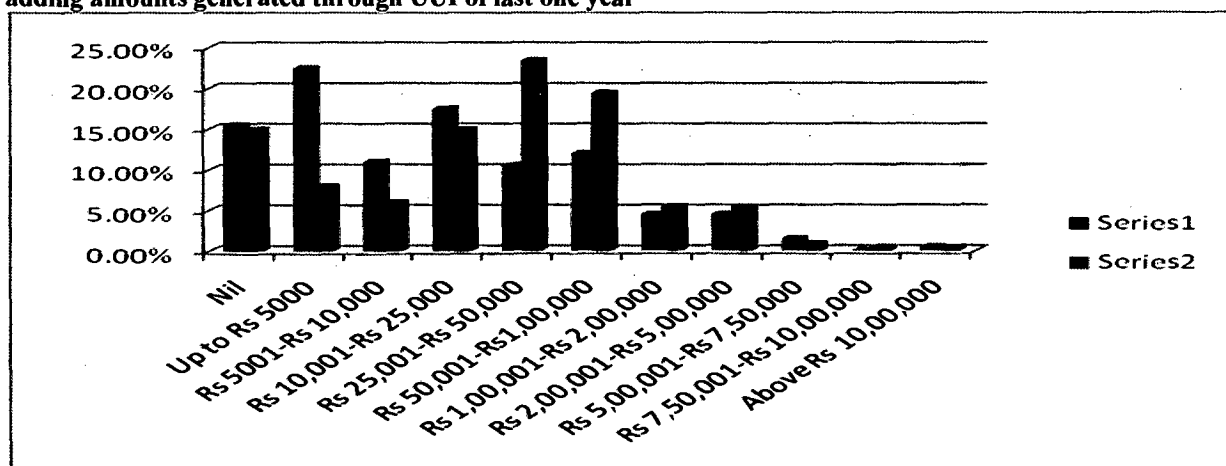
Further chi-square tests done to find whether there was association between UUI being greater than borrowings and the 'total annual HH income' of the concerned HHs⁵⁵ found that *there was a significant association at the 0.01 level in case of HIV/AIDS HHs* [$\chi^2 = 8.522$; $df = 1$; $p = .004$; *FET: p = .006*]. The significant association found after redoing the total HH income slabs to only two, namely, 'Up to ₹ 1 lakh per annum' and 'Above ₹ 1 lakh per annum', showed that it was primarily the lower income HHs which had 'UUI > Borrowings'.⁵⁶

That UUI plays a major role in HIV/AIDS HHs can be seen from yet another perspective. If one compares the various amounts raised by HHs through dissavings⁵⁷ and borrowings ever since detection of HIV, without UUI of last one year [as shown in **Table 5.2.1B** earlier] and with UUI of last one year, the difference is as shown in **Figure 5.2.1Bc[†]**. As can be seen there are relatively a larger percentage of HHs generating smaller amounts if one excludes amounts generated through UUI. However, if one includes UUI there is a shift in the percentage number of HHs with there being a greater percentage generating higher amounts. To rephrase the same, before UUIs were added while 49 percent sample HHs generated resources amounting to 'Up to ₹ 10,000' or none at all, if one adds UUIs, the corresponding figure falls to 29 percent - an indicator of the shift of HHs to higher amounts raised. **Table 5.2.1Bc[†]iii** also shows changes that take place to amounts raised since HIV detection when figures of UUI for one year only are

added. As the table highlights amounts raised by including UUI of one year itself [average ₹ 65,969 per HH] is 1.26 times the figure as that without UUI [₹ 52,354 per HH].

From all of the above it can be safely said that UUI cannot be wished away especially for HIV/AIDS HHs. Considering their predicaments in not being able to raise funds through gainful employment and/or even borrowings, and with HHs becoming impoverished through HIV contributed ways, with HHs having very few assets remaining for sale\liquidation, it is UUI that are and will play a major role - unless alternative arrangements vis-à-vis support are made by the government and/or NGOs amongst others. The unfortunate aspect of dependence on UUI is that besides being concealed, hidden and not always verifiable, while their future availability is most uncertain and hence cannot be reliably depended upon, some modes are unlawful, dubious, and occasionally even dangerous [both to self and/or others].

Figure 5.2.1Bc[†] Distribution of HIV/AIDS HHs for amounts raised[^] since detection of HIV before and after adding amounts generated through UUI of last one year



Series 1: Percentage of HIV/AIDS HHs before adding UUI of last one year

Series 2: Percentage of HIV/AIDS HHs after adding UUI of last one year

[^]Through borrowings and dissavings but excluding liquidation of bank deposits

Table 5.2.1Bc^{†iii} Amounts raised through dissavings and borrowings[^] since HIV detection, with and without amounts generated through UUI of last one year

	N	Min [₹]	Max [₹]	Mean [₹]	SD
Total amount raised excluding UUI	200	.00	15,00,000	52,354	143291
Total amount raised including UUI	200	.00	15,00,000	65,969	146553

[^]Excluding amounts raised through liquidation of bank deposits

5.2.2 Total inflow

Having seen separately the various ways how and from where the HH rupee comes from, let us now see the sum total of the same. It is this aggregate that will help in understanding how HHs meet their annual requirements.

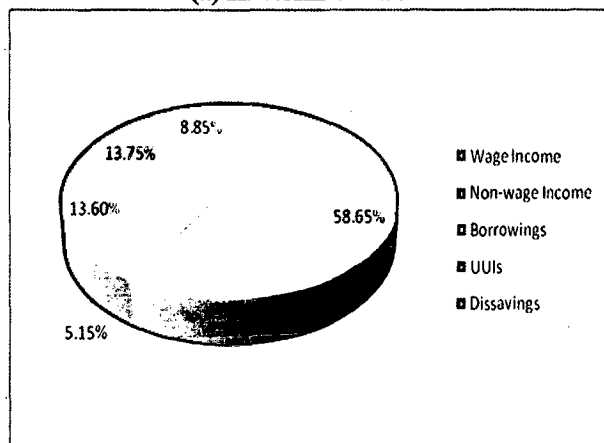
Table 5.2.2 shows total amounts raised through dissavings, borrowings and UUI during the year. The mean amount raised per HIV/AIDS HH is 4.59 times the amount raised by non-HIV/AIDS HHs. Needless to say MW-U results show *the difference in the amounts raised by the two samples' to be significant at the 0.01 level* [$U = 6303.5$; $Z = -12.503$; $p = .000$]. As mentioned earlier amounts raised by HIV/AIDS HHs are primarily or even exclusively on account of reasons contributed by HIV/AIDS, unlike in non-HIV/AIDS HHs where amounts raised are generally for other purposes.

Table 5.2.2 Comparative total amounts raised through dissavings, borrowings and UUI during last year

HIV/AIDS HHs [N = 200]				Non-HIV/AIDS HHs [N = 200]			
Min [₹]	Max [₹]	Mean [₹]	SD	Min [₹]	Max [₹]	Mean [₹]	SD
.00	5,00,000	35,803	52538	.00	3,75,000	7,805	35006

Figure 5.2.2 How and from where the HH rupee comes from

(a) HIV/AIDS HHs



(b) Non-HIV/AIDS HHs

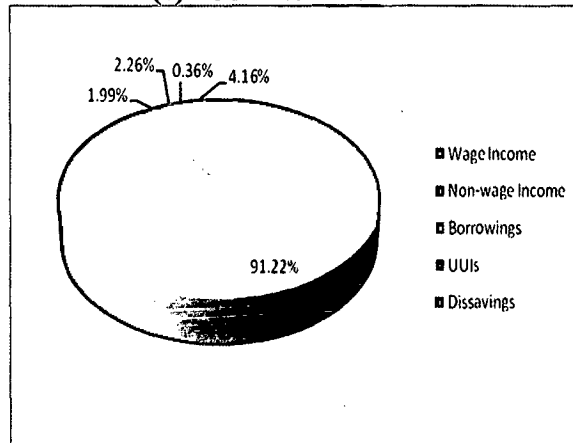


Figure 5.2.2(a)/(b) highlights how in case of non-HIV/AIDS HHs much of the HH income [91.22 percent] comes from wage income itself unlike in case of HIV/AIDS HHs [only 58.68 percent]. This is an indicator that while in the former the ‘total annual HH income’ [93.21 percent] would be more or less close to meeting annual HH needs, in case of the latter it would not, thus making HHs depend much on borrowings and/or UUI. Incidentally as can be seen, while contribution of borrowings and UUI is as high as 13.60 and 13.75 percent respectively in HIV/AIDS HHs, their contribution is only 2.26 and 0.36 percent respectively in the ‘control group’.

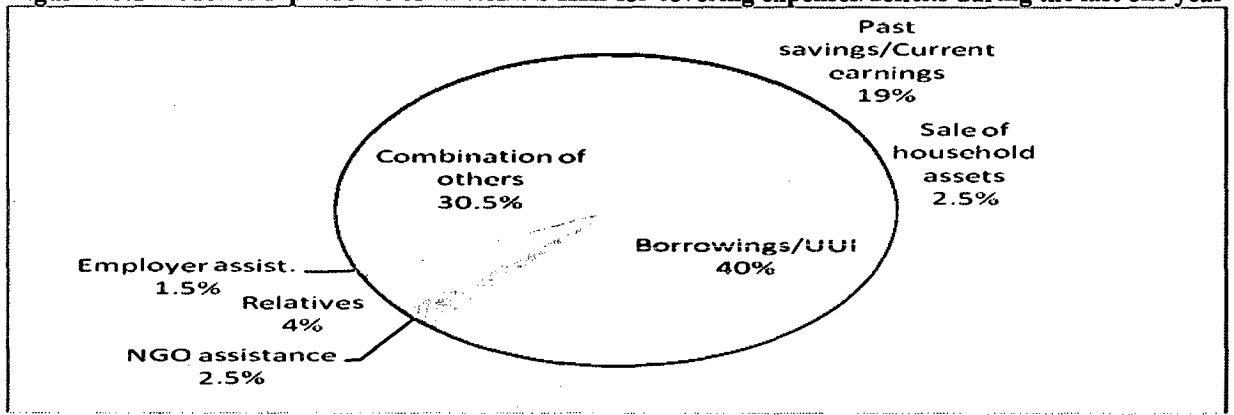
5.3 MISCELLANEOUS

5.3.1 Modes of dependence for assistance

Unlike the approach and content of the earlier two sections, from a different perspective, though related to the issues being discussed, the present study revealed that during the course of last one year HIV/AIDS HHs met their expenses and plugged deficits, if any, *primarily* by depending on modes as provided in **Figure 5.3**. As can be seen majority of the HHs [81 percent] had to depend on *external* assistance to cover annual expenses/deficits, with 40 percent of the total sample depending highly on ‘borrowings/UUI’ itself. That the role played by borrowings/UUI and even ‘combination of mentioned modes’ of covering expense\deficits [30.5 percent HHs] is extremely high can be gauged from the fact that while in case of majority of the HHs at 80 percent, NGOs did contribute in providing assistance, the dependence *primarily* on NGOs to cover the years deficits/expenses gets reflected as being done by only 2.5 percent HHs. This is a reflection that HHs depended much more on other modes than NGOs. Thus with reference to **Figure 5.3**, finding an HIV/AIDS HH placed in one mode does not mean that it does not get assistance from other modes – it only means that the said mode was the *primary* one on which the HH depended

upon. Related to the issue of NGOs, it needs to be mentioned that NGOs provide much of the assistance not in direct financial terms but in terms of provisions like food items/supplements, besides assistance in the form of medical and educational support. If this assistance was absent the HH expenses and deficits would have been higher than shown since HHs would have had to use own resources to avail the benefit of the same – or stay without, and worsen the living conditions even further than what it already was.

Figure 5.3.1 Modes of dependence of HIV/AIDS HHs for covering expenses/deficits during the last one year



5.3.2 Provision for children's future

From another viewpoint, the dire straits that HIV/AIDS HHs are in can also be seen by the fact that of the HHs having children, over three-fourths [76.5 percent] had made no provision – financial or otherwise - for the children's future. Incidentally, some of these had made some provision prior to HIV-detection, but rising expenditures and dwindling incomes made them use the same subsequently, for e.g. by liquidating term/recurring deposits and/or selling gold/silver items. Interestingly, of the remaining 23.5 percent HIV/AIDS HHs which claimed to have made provision for the children's future, while a few made only for one child and not for the other(s), in case of some others the provisions were more in kind [in case of 4 HHs, small plots of land which belonged to the HHs even prior to HIV-detection were considered as provisions], with

some making provisions which were as paltry as ₹ 2,000. It needs to be noted that even the so-called provisions are no way a guarantee that they will ultimately benefit the children, for as seen earlier, HHs gradually on account of dire necessity ultimately make use of the same.

As opposed to the less than a quarter of HIV/AIDS HHs, the overwhelming majority of 95.2 percent non-HIV/AIDS HHs made provision for their children's future. Chi-square analysis showed that while there was *no significant association even at the 0.1 level between gender of the HH-head and whether made provisions for children's future in the case of HIV/AIDS HHs* [$\chi^2 = 1.763$; $df = 1$; $p = .184$]; *there was a significant association at the 0.01 level in case of non-HIV/AIDS HHs* [$\chi^2 = 16.153$; $df = 1$; $p = .000$; *FET*: $p = .001$] to the disadvantage of female-headed HHs. These findings are a reflection that while in case of non-HIV/AIDS HHs it is the male-headed HHs which usually make provisions for children, with female-headed HHs having a problem on account of financial difficulties being experienced after the death of the male-head; in case of HIV/AIDS HHs however, difficulties in making provisions are gender independent - they are experienced by both male- and female-headed HHs.

5.3.3 Institutional assistance

Considering the type and nature of HHs involved, that the sample HHs' in general have practically no scope for availing formal assistance from statutory institutions⁵⁸ during the time of need like death or medical procedures can be seen by the fact that only five [2.5 percent] HIV+ respondents had the benefit of medical insurance, with one discontinuing due to financial difficulties. Incidentally, two of those with medical insurance cover had major problems in getting their expenses reimbursed on account of HIV/AIDS. From among the sample respondents, only 28 [14 percent] had Life Insurance policy currently in force with seven others discontinuing theirs on account of poor finances. Incidentally, while none of those who

discontinued got back the premium amounts paid even after due deduction of penal charges,⁵⁹ of those who currently had a policy in force, some were paying the premium despite immense hardships through borrowed amounts. Only two respondents from the study sample had the benefit of Employee State Insurance Scheme [ESIS] facility. With majority of HIV/AIDS HHs not covered by social security or health / life insurance there is bound to be an adverse long-term effect on savings and asset holdings of HHs [see also Ojha and Pradhan (2006, 3)]. An observation, or a paradox, that came to fore pertaining to Life / Medical Insurance was that while the same do not contribute much in providing relief to the overwhelming majority of HIV/AIDS HHs, especially since HHs generally do not opt for the same on account of financial difficulties and their overall 'poor' background, there were a few HHs, particularly amongst the relatively better ones, which though desirous of making Life / Medical Insurance policies were denied of the same due to HIV/AIDS.

5.3.4 Disproportionate burden on female members

That female-headed HIV/AIDS HHs in particular have greater and disproportionate hardships, at least on certain parameters has already been seen in earlier sections, and also shown by others like Beni (2008); Dixit (2005, 90-91); ILO (2003, 26); Kabir (2008); Pradhan and Sundar (2006); Pradhan, Sundar and Singh (2006); Prasad (2008); Prasad and Somayajulu (2008); UNAIDS (2008, 168); and Xiaoge (2008) who revealed that gender inequality gets further accentuated by AIDS. Women are not only more susceptible to HIV, but are also more vulnerable to the impact than men. Young married women in India, who are at high risk of being infected by their husbands, are also at high economic risk upon the identification of HIV status of their husbands, or upon the death of the latter. There is evidence, as provided by studies like that of Bharat (1996) of young married women being blamed for their husband's infection and ostracized as a

result. In India, when families do economically support members with HIV, such support tends to be discriminatory and usually in favour of male HIV+ members (Mahal and Rao 2005, 586). Though not necessarily arising directly on account of HIV/AIDS but due to other factors as well, widows [especially younger widows] and their children face greater burden with ownership of lesser assets and distress sales, as well as loss of or threat to tenure status (Aliber *et al* 2004, ix-x; also in UNAIDS 2006, 86).

That the situation for females can get only worse than what has already been shown can be fathomed through a quick overview of the situation facing the 110 female HIV+ respondents involved in the present study,⁶⁰ of which 107 [97.3 percent] were married. Of these while the majority [56.9 percent] were not staying with their husbands or husbands family,^{61, 62, 63} only about 13 percent got financial support from husband [if separated] and/or his family [whether husband was alive or dead], with the majority [72 percent] being denied right to husbands property by the husbands' family [whether husband was dead or alive]. The situation for women can only get worse on account of the blame game that they face (Laver 1993, Mogensen 1995, Schoepf 1995, all as in Mawar *et al* 2005, 475). Whether it is their spouse or child who is detected HIV+, it is the woman who is usually blamed even if they led a monogamous life and were infected by their promiscuous partners (Singhal and Rogers 2006, 44). Reference to adverse position of women vis-à-vis discrimination and property rights can also be found in Prasad (2008, 48), Reddy (2006, 85) and Roy (2001, 6: 16-17). Under such trying circumstances women often refuse HIV testing because of the difficulties they would face if detected positive - this in turn denies them timely and early treatment and presumably a better quality of life⁶⁴ (Jain 2008, 21-22).

5.4 SUMMARY

HIV/AIDS HHs face significantly adverse hardships as compared to non-HIV/AIDS HHs, both in terms of number of HHs involved, as well as with respect to mean values of figures. Some of the broad/important findings from the chapter are as follows: a] expenses on consumption in general are substantially lower in HIV/AIDS HHs, except for the significantly high medical expenses; b] unlike their counterparts, HIV/AIDS depended greatly on 'partly/fully sponsored' food; c] instead of HH asset creation/addition there was asset depletion in HIV/AIDS HHs; d] there was huge dependence on the part of HIV/AIDS HHs on borrowings and on the less known UUI; e] total annual HH income of HIV/AIDS HHs does not come even close to meeting total annual HH expenses - with the huge deficit getting covered by dissavings, borrowings and UUI; f] many of the hardships faced by HIV/AIDS HHs are independent of the gender of the HH-head [unlike female-headed HHs from the 'control group' which have the relatively poorer position] - an indicator of both, the seriousness of the matter permeating across HHs, and coping mechanisms adopted by female-headed HHs inclusive of significant dependence on 'partly/fully sponsored' food and UUI; f] notwithstanding the gender-neutrality of certain hardships in HIV/AIDS HHs, pertaining to certain issues though there is gender bias against female-headed HHs and female HIV+ respondents.

* * * * *

Notes

1. It is a different matter that notwithstanding the medical recommendations numerous HHs do make serious compromises vis-à-vis food on account of financial difficulties despite the externally appearing high percentage share of food expenses in the total HH income and despite majority of the HHs getting benefit of 'partly or fully sponsored' food.
2. SD: 1838 and 1412 respectively.
3. As income goes up HHs tend to spend lower percentage of this on food; and 'substituting' the same with higher spending on non-food items.
4. Minimum amount spent by non-HIV/AIDS HHs on food was ₹ 1000.

5. Interestingly, while in the HIV/AIDS HHs sample the minimum amount spent per month on food was nil, the maximum amount was ₹ 14,000, with the latter figure being lower at ₹ 10,500 in case of non-HIV/AIDS HHs.
6. A number of NGOs provide as per their institutional norms a bag of essentials, valued between ₹ 300-350 every month, comprising of items like rice, wheat, *dal*, sugar/jaggery, flour, small *Horlicks* bottle, *Dettol* bottle etc. Some HIV/AIDS HHs having two or more HIV+ members are entitled to at times to more than one bag. In order to alleviate hardships on the food front many HIV+ members go to more than one NGO for the free 'bags' every month.
7. After redoing, slabs were reduced to four: 'up to ₹ 1000', '₹ 1001-2500', '₹ 2501-3500' and '₹ 3501 and above'.
8. The association mentioned in case of non-HIV/AIDS HHs is not entirely unreliable despite 25 percent cells having expected count '<5', since even by redoing the slabs further a similar significant association was found to exist [$\chi^2 = 11.465$, $df = 2$, $p = .003$].
9. Though there was significant association between gender of the non-HIV/AIDS HH head and 'nature' of food and UIIs, the same do not have any substantial bearing overall since very few HHs are involved vis-à-vis the same unlike much bigger numbers of HIV/AIDS HHs.
10. Whether the relationship differs in the two samples', and if so why the differences possibly exist.
11. Sig. (2-tailed) = .000
12. Even if the *parametric* Pearson corr. is used there is no difference in findings. While Pearson corr. coeff. = .716 in case of HIV/AIDS HHs, it is higher at .836 in case of non-HIV/AIDS HHs.
13. Under the broad dual assumptions, confirmed by *field*-observations, that male-heads were generally employed and that usually it is the spouse/woman who heads the HH in the eventuality of death of the male-head/husband.
14. Drop in food consumption due to *other* reasons like lack/fall in appetite due to illness\ongoing medical treatment or bouts of diarrhea etc. are not considered.
15. As a precaution against MTCT of HIV *post*-delivery, HIV+ mothers are medically recommended not to *nurse* new born babies.
16. Some NGOs provide nutritional support to only those whose *CD-4* count is below a particular minimum.
17. This would result in weakening the immunity system further, endangering lives and putting individuals to greater vulnerability of OIs.
18. The hardships cited in the study vis-à-vis food are those that were experienced by the respondents even prior to the steep double digit food-inflation which engulfed the entire nation (Shrinivasan 2010, 13). Food inflation can only contribute in fueling hardships further.
19. Extra/additional, means, over and above regular 'no HIV' scenario nutrition.
20. SD: 344 and 289 for concerned and aggregate HHs' samples respectively.
21. In the context of the present study this can happen when women from HIV/AIDS HHs, whether themselves HIV+ or not, may be forced to take up transactional sex to feed their families. If the said women were HIV+ the virus can be transmitted to others; and if the women were HIV-negative they could get the virus themselves from others.
22. Can take place due to the lowering of immunity, compromising of gut and genital mucosal integrity besides contributing to increasing vertical transmission rates among pregnant and lactating women.
23. Rental amount usually is inclusive of electricity charges.
24. For the purpose of obtaining elementary statistics HHs which spent nil amounts of their own [even if enjoying through sponsorship by others the benefit of the concerned item] were excluded. However, HHs which spent own resources, but later got the same partly/fully reimbursed are included.
25. Some HHs depended entirely on earnings of the spouse of the male HH head – with the latter, usually HIV+, squandering his paltry earnings only on alcohol. Also, in some HHs the sole earning female member had to compulsorily give part of her earnings to the male non-earning HH-head for alcohol!
26. There are more non-HIV/AIDS HHs with self-owned houses than HIV/AIDS HHs.
27. In one HH, with mother and two minor children, the amount spent on toiletries was only ₹ 20 p.m.!

28. Due to more self-owned houses and electrical appliances [like PCs, audio-sets, fans etc.
29. Though indicating significant association in case of non-HIV/AIDS HHs', chi-square results may not be fully reliable due to the presence of unduly high percentage of cells with expected count '<5'.
30. The same holds good not only for education but for some other heads of expense as well. We need to note that though mean is higher at times, it is only when we consider the *concerned* HHs spending money – it generally does not happen if we consider *all* sample HHs taken together. Thus on the whole, considering alongside the numbers of HIV/AIDS HHs involved being fewer than non-HIV/AIDS HHs, having higher mean values, as was mentioned at the beginning, need not be a reflection of well-being at all.
31. True even if we *trim* a couple of extreme higher-end elements from each sample: Mean = ₹ 3,843 and ₹ 3,732; SD = 4311 and 4956; for HIV/AIDS and non-HIV/AIDS HHs respectively.
32. This was even if couple of extreme higher-end cases in either samples' were *trimmed*: Mean = ₹ 2,766 and ₹ 2,518, SD = 2566 and 2045; for HIV/AIDS and non-HIV/AIDS HHs respectively.
33. Though the higher mean is due to the role played by extreme sample elements, even if 1 percent of the same are *trimmed* from both samples', the medical expenses are still comparatively higher in HIV/AIDS HHs: Mean = ₹ 9,814 and ₹ 2,323, SD = 13073 and 4393; for HIV/AIDS and non-HIV/AIDS HHs respectively.
34. The corresponding figure, in terms of per capita per month medical expenses, was nearly four times in the NCAER/NACO/UNDP study (Pradhan, Sundar and Singh 2006, 61).
35. Besides the bottom five lower-end slabs there is the sixth comprising of '₹ 50,001 and above'.
36. Pradhan, Sundar and Singh (2006, 60) found medical expenses constituted nearly 11 percent and 3 percent of the total HIV/AIDS s and non-HIV/AIDS HHs' consumption expenditure respectively.
37. The latter part has been discussed separately in **Sec. 5.2.1Ba / Bb** with regards to the present study.
38. 2/3^{rds} approximately did not get pension due to reasons like not possessing death certificates/ration-cards/other documents, non-cooperation of late husbands' families, lack of awareness, illiteracy etc.
39. It is important to mention here that the total annual HH income of HIV/AIDS HHs which is lower than that of the control group is despite resources of unmarried joint family members contributing to the same in certain HHs. In the highly possible eventuality that the same may stay separate after their own marriage because of HIV in the HH, the situation for HHs can only worsen since HIV+ members themselves are unable to contribute much always through productive work.
40. Besides the lower-end three, the fourth slab consists of all HHs having total annual HH income 'above ₹ 1 lakh'.
41. This was so by keeping the same slabs as was done for HIV/AIDS HHs despite the high percentage of cells with expected count of '<5'; and also after further redoing to take care of the above, wherein the 'up to ₹ 25,000' slab was merged to the '₹ 25,001-50,000' slab [$\chi^2 = 24.878$; $df = 2$; $p = .000$].
42. About 43 percent HHs as per NCAER/NACO/UNDP study (Pradhan, Sundar and Singh 2006, 94).
43. Married women were even compelled on account of HIV to sell their 'precious' *mangalsutras*.
44. If this extreme case is excluded: Mean = ₹ 45,079; SD = 99994.
45. If the single extreme value mentioned earlier is also ignored: Mean = ₹ 51,261; SD = 105162.
46. Besides the bottom six in terms of amount generated, the remaining slabs were combined to form one single slab for 'above ₹ 1lakh'.
47. In this study 9.9 percent of the treatment group had HH members selling assets to finance ill health in the preceding year, compared to only 1.5 percent in the matched control group.
48. Studies pertaining to sex workers in Sangli (Mahal and Seshu 2000, as in Misra, Mahal and Shah 2008, 224) or farmers in Cambodia (Singhal and Rogers 2006, 43) showed that interest charged could even exceed a whopping 100 percent per month.
49. The figure is 1.44 if one considers only the concerned HHs resorting to borrowings.
50. Resources generated via this source, if at all considered by other studies, possibly get covered in annual HH income or borrowings. UUI, a term coined for the present study, have been excluded from 'total annual HH income' [i.e. wage-non-wage income] and borrowings in order to get a proper perspective of the role it plays. In the absence of the separation, the *role* would have been lost despite

its critical/peculiar nature. Needless to say while wage-\non-wage income is open, certain and formal in nature; UUIs are concealed, uncertain and 'informal' in character. Likewise, while borrowings are amounts that have to be repaid with\without interest, UUIs are never repaid.

51. The fact that female members, including those HIV+, from some HIV/AIDS HHs resort to commercial sex to raise resources to meet fast depleting HH income was gathered through *field-interactions* (see also Pradhan and Sundar 2006, 106). Incidentally, as volumes of literature available points out, it is CSWs – of different hues like fliers, brothel- and non-brothel based, street- and non-street-based, full-time, part-time, call-girls etc [amongst others see Sahni, Shankar and Apte (2008); and Verma *et al* (2008)] – who are amongst those most vulnerable to HIV-infection in the first place. Though there could be cases to the contrary, resorting to commercial sex on account of financial necessity by those who had an *ante*-HIV detection background of the same, may not be something totally unexpected. With regards to Goa, studies have shown that 0.7 percent of female urban population was engaged in commercial sex activities (Nair 2009a, 4).
 52. If we consider only the HHs which resorted to UUI, the HIV/AIDS HHs' UUI is 3.3 times the size as that of non-HIV/AIDS HHs.
 53. Leaving aside those HHs not having UUI and borrowings, and also those where both are equal.
 54. In case of the 'control group' also *there was no significant association at the 0.1 level vis-à-vis gender & borrowings [FET: p = .517]; and vis-à-vis gender & UUI [FET: p = 1.00]*.
 55. Excluding the 50 HHs which neither borrowed nor resorted to UUI during the year; and also the four HHs where 'Borrowings = UUI'.
 56. Incidentally, *there was no significant association in case of non-HIV/AIDS HHs at even the 0.1 level [$\chi^2 = 1.520$; $df = 1$; $p = .218$; FET: $p = .559$]*.
 57. Excluding amounts raised through liquidation of past savings like bank deposits.
 58. Though prior periodic contributions towards the same is mandatory.
 59. While three did not do the needful for getting the reimbursement citing *shame* of showing themselves as the reason, the remaining did not on account of ignorance.
 60. 64.5 percent of these belonged to female-headed HHs; majority were HH-heads themselves.
 61. Majority stopped after the death of the husband, with the remaining stopping ever since husband or self was detected HIV+, with some stopping even *ante*-HIV detection for reasons like harassment, divorce, separation etc.
 62. Break-up of figures of those not staying with husband or his family is as follows:- those staying alone or with children if any: 35.5 percent; with own parents: 16.8 percent; with other relatives/friends: 3.7 percent; at 'Care and Support Homes' arranged places: 0.9 percent.
 63. Of the remaining, while about 31 percent stayed with husband alone, 12 percent approximately stayed with husband and/or his family [husbands' family in case husband was dead].
 64. And additionally not contributing to proper surveillance of the pandemic itself.
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CHAPTER 6: IMPACT OF HIV/AIDS ON HEALTH AND MEDICAL EXPENDITURE

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CHAPTER 6: IMPACT OF HIV/AIDS ON HEALTH AND MEDICAL EXPENDITURE

Health is a priority goal in its own right, as well as a central input to economic development and poverty reduction (Ramani, Mavalankar and Govil 2008, xiii). There is a virtuous circle that invariably exists between health and socio-economic development.

One area pertaining to HIV/AIDS which has attracted much attention worldwide on account of its serious nature is the impact of HIV/AIDS on health and medical expenditures of individuals and HHs. The primary objective of this chapter is to study and highlight the ground realities facing the sample HHs with regards to health and medical expenditures, with the same being analyzed in terms of four broad areas: total annual HH medical expenditure; non-hospitalised illness episodes\|treatment [NHIE\|T]; hospitalised illness episodes\|treatment [HIE\|T]; and regular monthly medical treatment [RMMT]. The other objectives of this chapter are to make a comparative analysis between HIV/AIDS and non-HIV/AIDS HHs, and to find in relevant places if any significant association exists between the concerned issue and gender of the HH head, gender of HIV+ respondent, and/or number of years since HIV was detected.¹ Pertaining to the comparative analysis between the two samples', the primary aim was to see if significant differences exist despite taking details of *all* members in the 18-60 years age group² from the non-HIV/AIDS HHs sample, as opposed to that of *only* the HIV+ respondents in case of the HIV/AIDS HHs' sample.

6.1 TOTAL ANNUAL HOUSEHOLD MEDICAL EXPENDITURE

Total annual HH medical expenditure represents sum total of all medical expenditures inclusive of treatment expenses of any/all HH members, be it the HIV+ respondent or others, HIV+ or not; RMMT; NHIT and HIT; consultation fees; medical test fees; purchases from pharmacies; etc.

Pertaining to the present study, as was shown in **Table 5.1.1Acii**; **Chapter 5**, while mean total annual HH medical expenses for HIV/AIDS HHs were ₹ 12,991, *the same were significantly lower at the 0.01 level* at only ₹ 2,555 for the ‘control group’.

Total annual HH medical expense as percentage of total ‘*other* annual HH consumption expenditure’ [i.e. excluding food and regular monthly expenses] was 35.57 percent for HIV/AIDS HHs, and only 9.36 percent for the ‘matched’ sample of non-HIV/AIDS HHs [see **Table 5.1.1Acii**; **Chp. 5**]. Also, while total annual HH medical expenditure as proportion of ‘*total* annual HH consumption expenditure’ was 13.38 for HIV/AIDS HHs, it was only 2.33 percent for the ‘control group’ [see **Figure 5.1.2**; **Chp. 5**]. To highlight the adverse implications of HIV/AIDS on health and medical expenditure from a different perspective as shown in **Table 6.1i**, mean ‘other annual HH consumption expenses’ *inclusive* of medical expenses which were ₹ 36,535 per HIV/AIDS HH, become lower at ₹ 23,544 if medical expenses are *ignored*. Similar patterns are observed even if extreme sample elements from the higher end are trimmed.³

Besides the presence of the high medical expenditures in HIV/AIDS HHs as seen above by comparing the total ‘other annual HH consumption expenditures’ *with* and *without* medical expenditures, **Table 6.1i** also shows the adverse position of HIV/AIDS HHs with regards to medical expenditures by providing comparative figures of the ‘control group’. The mean ‘other annual HH consumption expenditure’ of non-HIV/AIDS HHs’ are significantly lower than that of HIV/AIDS HHs if medical expenses are *included*. MW-U results provided in **Table 5.1.1Acii**, **Chapter 5** showed *significant difference in total annual HH medical expenditures* as well as *total ‘other annual HH consumption expenditures’* in the two samples’ *at the 0.01 level*. Interestingly though, the differences with regards to the mean values pertaining to the two samples’ as cited in **Table 6.1i**, are at best only marginal and insignificant if annual HH medical expenses are

ignored. MW-U shows no significant difference in 'other annual HH consumption expenditures' without medical expenses pertaining to the two samples' at even the 0.1 level [$U = 18424$; $Z = -1.363$; $p = .173$]. This is indicative of the fact that it is the significant total annual HH medical expense differences that makes the two samples' to differ from one another. If not for the same, based on MW-U results, we could say that the two came from the same population.

Table 6.1i Comparative profile of HHs vis-à-vis total 'other annual HH consumption expenditures'^ with and without total annual HH medical expenditures

	With total annual HH medical expenditures			Without total annual HH medical expenditures		
	Mean [₹]	Max. amt. [₹]	SD	Mean [₹]	Max. amt. [₹]	SD
HIV/AIDS HHs	36,535	5,47,000	63491	23,544	4,93,000	47789
Non-HIV/AIDS HHs	27,311	4,55,000	45038	23,254	3,34,000	33729

^Excluding food and regular monthly HH consumption expenditures

Table 6.1ii which provides sample HHs' distribution based on 'annual other HH consumption expenditure' slabs, highlights three major points with regards to the total annual HH medical expenditures: a] Medical expenditures push up 'other annual HH consumption expenditures' in both categories of sample HHs' - if not for the same there would be more HHs in lower expenditure brackets; b] If one *includes* the total annual HH medical expenses there are relatively more non-HIV/AIDS HHs in lower 'other annual HH consumption expenditure' brackets than HIV/AIDS HHs – a reflection of lower medical expenses in general in the former; c] Distribution of sample HHs' *excluding* the total annual medical HH expenses shows that there are generally more non-HIV/AIDS HHs spending higher amounts as compared to HIV/AIDS HHs – an indicator as confirmed by *field*-interactions, of higher spending of the former on non-medical HH consumption items, which usually HIV/AIDS HHs are not in a position to do on account of trying circumstances and financial difficulties caused by HIV/AIDS.

Table 6.1ii Sample HH distribution in terms of 'other annual HH consumption expenditure'^ slabs: *with* and *without* total annual HH medical expenses

Other annual HH consumption expenditure slabs	HIV/AIDS HHs [% figures in brackets]		Non-HIV/AIDS HHs [% figures in brackets]	
	Inclusive of annual medical expenses	Without annual medical expenses	Inclusive of annual medical expenses	Without annual medical expenses
Up to ₹ 5000	14 [7]	38 [19]	19 [9.5]	24 [12]
₹ 5001-10,000	28 [14]	44 [22]	46 [23]	55 [27.5]
₹ 10,001-20,000	53 [26.5]	59 [29.5]	54 [27]	51 [25.5]
₹ 20,001-30,000	43 [21.5]	28 [14]	40 [20]	32 [16]
₹ 30,001-50,000	30 [15]	16 [8]	17 [8.5]	18 [9]
₹ 50,001-75,000	14 [7]	7 [3.5]	13 [6.5]	9 [4.5]
₹ 75,001-1,00,000	9 [4.5]	1 [.5]	5 [2.5]	5 [2.5]
₹ 1,00,001-2,00,000	3 [1.5]	3 [1.5]	4 [2]	5 [2.5]
Above ₹ 2,00,000	6 [3]	4 [2]	2 [1]	1 [.5]
Total	200 [100]	200 [100]	200 [100]	200 [100]

^Excluding food and regular monthly consumption expenditure

Table 6.1iii highlights distribution of sample HHs on the basis of total annual HH medical expense slabs. As per the same, the immense burden that medical expenses bear on HIV/AIDS HHs can be appreciated by seeing that while only a few HIV/AIDS HHs lie in the lower expenses slabs, with just 4 percent HHs having nil expenses on account of being illness-free throughout the year [compared to 30.5 percent in case of non-HIV/AIDS HHs]; a relatively large number fall in higher expense slabs unlike their counterparts. While 21 percent HIV/AIDS HHs spent upwards of ₹ 15,000 on medical expenses, the figure for the 'control group' was only 4 percent.

Table 6.1iii Distribution of sample HHs on the basis of total annual HH medical expense slabs

Total annual HH medical expense slabs	HIV/AIDS HHs				Non-HIV/AIDS HHs			
	Male-headed	Female-headed	Total	% of total	Male-headed	Female-headed	Total	% of total
Nil	3	5	8	4	44	17	61	30.5
Up to ₹ 1000	19	18	37*	18.5	57	21	78	39
₹ 1001-2500	14	10	24	12	13	3	16	8
₹ 2501-5000	18	12	30	15	10	3	13	6.5
₹ 5001-7500	17	9	26	13	12	3	15	7.5
₹ 7501-10,000	8	7	15	7.5	3	0	3	1.5
₹ 10,001-15,000	10	8	18	9	6	0	6	3
₹ 15,001-25,000	11	10	21	10.5	5	1	6	3
₹ 25,001-50,000	9	3	12	6	2	0	2	1
₹ 50,001-1,00,000	6	1	7	3.5	0	0	0	0
Above ₹ 1,00,000	2	0	2	1	0	0	0	0
Total	117	83	200	100	152	48	200	100

*Includes 9 HHs whose total annual medical expenses were fully sponsored/reimbursed by others [their expenses are reflected herein as ₹1 only since they incurred medical expenses, though not personal; and since they were not free from illnesses during the year].

Chi-square tests of independence reveal that there is *no significant association between gender of the HH-head and total annual HH medical expenditure slabs in case of HIV/AIDS HHs*⁴ at even the 0.1 level [$\chi^2 = 7.162$; $df = 7$; $p = .412$].^{5, 6} Likewise, there was *no significant association at the 0.1 level between total annual HH medical expenditure slabs and number of years [back] since HIV was detected* [$\chi^2 = 5.199$; $df = 10$; $p = .878$].⁷ One important implication of the latter is that there are high medical expenses even in HHs where the HIV+ status of respondents was detected ‘ ≤ 1 year’ back. This is so primarily on account of two reasons: a] although the status was detected recently, the infection could nevertheless have been contracted much earlier and remained unknown [as mentioned in the next section these members need not be in the *asymptomatic Stage I* of HIV infection]; and b] there are other HIV+ members in the HHs whose positive status was detected earlier than that of the respondent.

6.2 NON-HOSPITALISED ILLNESS EPISODES / TREATMENT [NHIEs/NHIT]

There are significant differences in the NHIEs in the two study samples. While falling immunity levels and being prone to various OIs on account of the HIV infection itself is the primary cause for being subjected to more illness episodes [both number of HHs/respondents and number of episodes per year point of view] with regards to the HIV/AIDS HHs sample; insufficient access to safe drinking water, sanitation/toilets, literacy, education, electricity, transport etc., besides gender inequity⁸ have additionally contributed to making the sample respondents of HIV/AIDS HHs more vulnerable to infections (see also Sachs 2008, 3; Panda *et al* 2007, 73). Much of the NHIEs faced are in HHs belonging to lower income brackets.

For the purpose of this study NHIEs include those which did not necessitate an overnight stay, or stay of 24 hours in a hospital/Care and Support Home [C&S Home], but which required medical attention, irrespective of whether available/provided/taken or not. As mentioned earlier,

while in case of HIV/AIDS HHs' sample these illness episodes relate to *only* those involving the HIV+ respondents, in case of non-HIV/AIDS HHs they pertain to *all* member(s) in the economically productive age group of 18-60 years. Despite the same, as can be seen in Table 6.2i while 140 [70 percent] of the non-HIV/AIDS HHs had no member with NHIEs worth any mention during the course of last one year, the corresponding figure was only 25 [12.5 percent] with reference to the HIV+ respondents. Similarly, while 58 [29 percent] HIV+ respondents were either frequently or continuously ill with NHIEs during the last one year, the figure was nil in case of non-HIV/AIDS HHs. During the last one month as well, while 78 [39 percent] of the total HIV+ respondents were frequently or continuously ill, the corresponding figure was nil in case of non-HIV/AIDS HHs. Though 175 [87.5 percent] HIV+ respondents were ill with NHIEs during the last one year, only 121 [60.5 percent of the total sample or 69.14 percent of those sick during the year] were sick during the last one month. In contrast, in case of the non-HIV/AIDS HHs' sample, while 60 [30 percent] HHs had members who were sick during the year, only 26 [13 percent of the total sample] HHs had members who were sick during the last one month. Leaving aside those who were frequently/continuously ill during the last one month, the mean number of days of illness was 6.58 for HIV+ respondents and a lower figure of 5.54 days for members of non-HIV/AIDS HHs [see Table 6.2ii].

Table 6.2i Comparative profile of sample HHs' vis-à-vis NHIE/T

	HIV/AIDS HHs		Non-HIV/AIDS HHs	
	Frequency	% of total sample HHs^	Frequency	% of total sample HHs^
Number of times of NHIEs during last one year				
0	25	12.5	140	70
1	16	8	35	17.5
2	26	13	17	8.5
3	18	9	3	1.5
4	19	9.5	2	1
5 to 10	21	10.5	3	1.5
11 to 20	12	6	0	0
21 and above	5	2.5	0	0
Frequently	37	18.5	0	0
Continuously	21	10.5	0	0
Total	200	100	200	100

Contd...

Table 6.2i (Contd...)

Number of times of NHIEs during last one month				
0	79	39.5	174	87
1	31	15.5	25	12.5
2	11	5.5	1	.5
3	1	.5	0	0
Frequently	37	18.5	0	0
Continuously	41	20.5	0	0
Total	200	100	200	100
Nature of illness				
Cold	18	9 [14.9]	4	2 [15.4]
Fever	7	3.5 [5.8]	9	4.5 [34.6]
Head/body ache	12	6 [9.9]	0	0
Weakness/ dizziness	23	11.5 [19]	1	.5 [3.8]
Loose motions/ vomiting	19	9.5 [15.7]	2	1 [7.7]
Stomach	3	1.5 [2.5]	3	1.5 [11.5]
Aches/bones	14	7 [11.6]	3	1.5 [11.5]
TB	3	1.5 [2.5]	0	0
Skin/boils	7	3.5 [5.8]	0	0
Kidney	3	1.5 [2.5]	0	0
Others	12	6 [9.8]	4	2 [15.4]
Sub-total	121	60.5 [100]	26	13 [100]
Those not sick	79	39.5	174	87
Total	200	100	200	100
Number of days ill last month				
2	3	1.5 [2.5]	2	1 [7.7]
3	7	3.5 [5.8]	7	3.5 [26.9]
4	6	3 [5]	4	2 [15.4]
5	6	3 [5]	5	2.5 [19.2]
6-7	4	2 [3.3]	2	1 [7.7]
8-10	11	5.5 [9.1]	4	2 [15.4]
Above 11	6	3 [5]	2	1 [7.7]
Frequently	37	18.5 [30.6]	0	0
Continuously	41	20.5 [33.9]	0	0
Sub-total	121	60.5 [100]	26	13 [100]
Those not sick	79	39.5	174	87
Total	200	100	200	100

^Figures in brackets are approximate percentage figures in terms of said categories only.

Table 6.2ii Comparative number of days sick last month excluding those frequently or continuously sick

HIV/AIDS HHs [N = 43]				Non-HIV/AIDS HHs [N = 26]			
Minimum	Maximum	Mean	SD	Minimum	Maximum	Mean	SD
2	15	6.58	3.95	2	15	5.54	3.48

Of those who were subject to NHIEs during the course of last one month, while almost a quarter of the HIV+ respondents did not seek treatment; the corresponding figure for non-HIV/AIDS HHs was about 19 percent [Table 6.2iii]. Though the latter appears to be a substantial figure, it is not so considering that it referred to only 5 HHs, that too by taking details of *all* HH members [18-60 years], and also by noting that these did not take treatment not because of financial reasons, but on account of the illness not being considered as serious. In case of the HIV/AIDS

HHs though not seeking treatment is on account of other reasons, the primary being financial inadequacies – and this despite treatment [i.e. consultation, medicines and clinical tests] being provided ‘free’ by the government; with those ill primarily having to incur treatment associated out-of-pocket-expenses only, like those related to transport and clinical tests/medicines not provided by the government.

Pertaining to the present study, majority of those who were subject to NHIEs during last month and did not seek treatment did not do so despite being frequently or continuously ill. Incidentally, all those not opting for treatment in HIV/AIDS HHs belonged to the poorer [bottom four categories] HHs vis-à-vis ‘total annual HH income’. While 10 [33.3 percent] of these belonged to the ‘Up to ₹ 25,000’ per annum category, 13 [43.3 percent] belonged to the ‘₹ 25,001-50,000’ bracket, with the remaining 6 [20 percent] and 1 [3.3 percent] belonging to the ‘₹ 50,001-1,00,000’ and ‘₹ 1,00,001-1,50,000’ brackets respectively.

With regards to the 121 HIV+ respondents sick with NHIEs during the last one month as mentioned in **Table 6.2iii**, 26 [21.5 percent] were salary earners, 23 [19 percent] wage earners and 12 [9.9 percent] self employed, with the remaining 60 [49.6 percent] currently not employed. If instead of all those sick during last month if we consider only the 78 [64.46 percent] respondents who were continuously/frequently ill, [they constitute 39 percent of the total sample HHs], 11 [14.1 percent] were salary earners, 14 [17.9 percent] were wage earners and 4 [5.1 percent] were self employed. The remaining majority of 49 [62.8 percent] respondents were currently not employed.

As shown in **Table 6.2iii** of those seeking treatment the majority of over 60 percent of the HIV+ respondents went to government hospitals. The figure becomes 72.5 percent if we add alongside those going to NGOs and Primary/Community Health Centres [PHC/CHC]; with the

figure becoming almost 77 percent if all non-private treatment seekers are clubbed together. Unlike HIV/AIDS HHs, in case of the non-HIV/AIDS HHs, majority of the members at over 71 percent opted for private treatment. Pertaining to HIV/AIDS HHs, while 12 male and 9 female HIV+ respondents opted for private treatment, 24 male and 46 female respondents went for non-private treatment which as was mentioned earlier was primarily sourced/provided by the government and NGOs. Chi-square showed a *significant association at the 0.1 level between source of treatment and gender of the HIV+ respondent* [$\chi^2 = 3.530$; $df = 1$; $p = .060$], wherein as data shows, while the female HIV+ respondents primarily availed of the government/NGO provided 'free' treatment, male respondents opted relatively more for private 'paid' treatment.

Table 6.2iii Comparative profile of sample HHs vis-à-vis treatment to those sick during last month

	HIV/AIDS HHs		Non-HIV/AIDS HHs	
	Frequency	Percentage [concerned HHs only]	Frequency	Percentage [concerned HHs only]
Did you seek treatment last month				
Yes	91	75.2	21	80.8
No	30	24.8	5	19.2
Total	121	100	26	100
If no treatment, reason why				
Illness not considered serious	0	0	5	100
No doctor willing to treat	1	3.3	0	0
Financial constraints	8	26.7	0	0
Lack of time/long waiting	2	6.7	0	0
Ignorance	1	3.3	0	0
Doctor not prescribing any treatment	1	3.3	0	0
Others*	17	56.7	0	0
Total	30	100	5	100
Those who took treatment last month, source of treatment				
PHC/CHC	4	4.4	1	4.8
Govt . [e.g. GMC, Hospicio, TB Hosp.]	55	60.4	5	23.8
Private doctor/clinic	21	23.1	15	71.4
NGO	7	7.7	0	0
Others	4	4.4	0	0
Total	91	100	21	100

*Includes combination of above mentioned reasons besides being 'fed-up' of the situation. These at best take only home remedy.

Pertaining to those who were sick with NHIEs last month, chi-square tests *have not found any significant association even at the 0.1 level between whether took treatment and gender of the HH-head in case of HIV/AIDS HHs* [$\chi^2 = 2.415$; $df = 1$; $p = .120$] as well as for non-HIV/AIDS

HHs [FET: $p = 1$]. Likewise pertaining to the *gender of the HIV+ respondent and whether those who were sick went for treatment*, chi-square showed no significant association at the 0.1 level [$\chi^2 = 1.008$; $df = 1$; $p = .315$]. Unlike the above where significant association was absent; *pertaining to the number of years since HIV was detected and whether the sick HIV+ respondent opted for treatment for NHIEs last month*, chi-square found significant association at the 0.1 level [$\chi^2 = 5.523$; $df = 2$; $p = .063$]. As can be seen in **Table 6.2iv** the ratio of those seeking treatment is higher as the number of years since HIV was detected goes on increasing. While 66.66 percent of those whose HIV+ status was detected ‘1 year or less’ opted for treatment, the corresponding figures were higher at 73.24 percent and 95 percent for those whose status was found between ‘1-5 years’, and ‘over 5 years’ respectively. As *field*-observations indicated, one primary reason why there were relatively more HIV+ respondents without treatment whose HIV status was detected ‘ ≤ 1 year’ was not because of financial inadequacies [which was a primary reason amongst those with detected HIV for a relatively longer period], but because these were often unwilling to seek treatment to keep their HIV+ status under total wraps due to the stigma and discrimination still associated with the same.⁹ Many of these were in the state of *denial* (WHO “undated”, 20). As the number of years since detection goes up relatively more opt for treatment – the primary reasons for the same being: i] respondents gradually crossing the state of denial and moving into the state of *acceptance* and even *hope* (*ibid*, 24-25); ii] need for proper/timely treatment being rightly appreciated, acknowledged and understood; and iii] to ease the relatively more frequent/serious discomfort/fallouts caused by illnesses/OIs – which in general happens on account of gradual progression in the four stages of HIV leading to AIDS.¹⁰ Leaving aside the issue whether treatment was opted or not, pertaining to the issue of OIs¹¹ and illness episodes which only keep on increasing as stage of infection increases [and which will be

so as years since HIV detection keeps on increasing], it nevertheless needs to be noted that even with regards to those detected positive '< 1 year' there are still relatively large number of cases of illness episodes. This is because though their status was detected only recently they could nevertheless have been infected many years earlier and hence not be at present in the *asymptomatic Stage I* of infection (also Pradhan, Sundar and Singh 2006, 118).

Table 6.2iv NHIT and number of years since detection of HIV

	Number of years back since HIV was first detected			Total
	1 year or less	1 year to 5 years	Over 5 years	
Yes, took treatment	20	52	19	91
No, did not seek treatment	10	19	1	30
Total	30	71	20	121

If instead of considering all those who were sick with NHIEs last month we take only the 78 HIV+ respondents who were frequently or continuously ill as shown in Table 6.2i, about 28 percent did not go for any treatment [Table 6.2v]. The mean age of those continuously/frequently sick was 36.09 years [SD: 9.31] with the youngest being only 20 years and the oldest 60 years.¹²

Table 6.2v NHIT of those frequently or continuously sick during last month

	Male-headed HHs	Female-headed HHs	Total no. of HHs	% of concerned HHs
Yes, went for treatment	26	30	56	71.8
No, did not seek treatment	15	7	22	28.2
Total	41	37	78	100

Chi-square tests showed *no significant association at even the 0.1 level between gender of the continuously/frequently sick HIV+ respondents and whether took treatment for NHIEs last month* [$\chi^2 = .633$; $df = 1$; $p = .426$]. However, unlike the same, *there was significant association at the 0.1 level between whether those continuously/frequently sick last month took treatment and gender of the respondents' HH head* [$\chi^2 = 2.998$; $df = 1$; $p = .083$], *as well as with the number of years since HIV was detected* [$\chi^2 = 5.449$; $df = 2$; $p = .066$]. Interestingly, unlike most cases inclusive of those seen in earlier chapters where there was either absence of gender of the HH

head related association, or if present it was to the disadvantage of female-headed HHs, the present findings show that it is the female-headed HHs which opted more for treatment for continuously/frequently experienced NHIEs [see **Table 6.2v**]. Notwithstanding the fact that further in-depth analysis will have to be done to confirm the said association in favour of female-headed HHs especially since the significance is only at the 0.1 level, *field*-observations nevertheless revealed that female-headed HHs more often than not seek treatment since it is the female-head in such HHs who is usually HIV+, and it is these who have to take care of the entire HH inclusive of minor dependent children. With regards to the significant association found vis-à-vis treatment of those continuously/frequently sick and number of years since HIV was detected, the association takes place for reasons similar to those mentioned earlier vis-à-vis those who were sick with NHIEs during the last one month. As was the case earlier, as number of years increase, the number of those seeking treatment also keeps on increasing [**Table 6.2vi**].

Table 6.2vi Treatment of those frequently/continuously ill with NHIE & number of years since HIV detection

	Number of years since HIV was first detected			Total
	1 year or less	1 year to 5 years	Over 5 years	
Yes, took treatment	13	32	11	56
No, did not seek treatment	8	14	0	22
Total	21	46	11	78

Notwithstanding the earlier examples highlighting the adverse position of HIV/AIDS HHs vis-à-vis NHIE/T as compared to non-HIV/AIDS HHs, **Table 6.2vii** and **Table 6.2viii** provide additional insight into the hardship facing the former. As can be seen HIV/AIDS HHs face a substantial disadvantage in comparison to non-HIV/AIDS HHs both in terms of numbers of HHs involved, as well with regards to the mean values - and this despite details of only one respondent being considered in the former sample as opposed to *all* in the 18-60 years age group in the latter; and despite majority of the former opting for the 'free' treatment provided by government/NGOs, with the latter opting more for private treatment. With regards to the duration of treatment,

number of day's bed ridden, and number of days not gone for work, the figures for HIV/AIDS HHs are more than twice the size of that of non-HIV/AIDS HHs [Table 6.2vii]. With regards to expenses incurred, leaving aside transport costs where figures for both samples' HHs are close to each other, while in case of fees/medicines the amounts spent by HIV/AIDS HHs were about 3.23 times the size of expenses of non-HIV/AIDS HHs, total mean expenditures on NHIT of only the concerned HIV/AIDS HHs [i.e. those which experienced NHIEs during the last month, opted for treatment, and incurred some personal/HH expenses on the same] was 2.6 times the size of that of non-HIV/AIDS HHs, with the mean total expenditures on NHIT for the entire sample being a whopping 9.8 times higher in the former. Things could only get worse than shown herein if those who presently got their expenses fully reimbursed by others [and not part of Table 6.2viii] did not get the benefit and instead had to incur personal expenses.

Table 6.2vii Comparative figures on duration of NHIT and number of days bedridden and not gone for work

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Duration of treatment [days]*	91	2	30	18.31	10.87	21	3	30	8.29	6.51
No. of days bedridden	28	2	30	13	9.82	2	4	7	5.5	2.12
No. of days not gone for work	28	1	30	17.21	11.86	14	1	30	8.5	7.65

*Excluding those who took only home remedy and including those whose expenses were fully reimbursed by others.

Table 6.2viii Comparative figures of sample HHs' NHIT expenses of last one month

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Amt. spent on fees/medicines [₹]*	75	30	100000	2682	11589	23	10	5000	830	1037
Amt. spent on clinical tests [₹]	13	50	10000	1064	2696	5	100	2000	650	773
Transport costs [₹]	75^	30	2000	264	331	8	25	1000	216	328
Total exp. for concerned HHs [₹]	87^^	30	112000	2699	12059	23**	10	8000	1046	1627
Total expenditure of all HHs [₹]	200	.00	112000	1174	8040	200	.00	8000	120	636

*Includes those not seeking treatment but who nevertheless made use of home remedy/self prescribed treatment and who therefore had to spend some nominal amount to get the medicines. The figures do not include those whose expenses were fully reimbursed by others.

^Excluding 5 HHs whose travel expenses were fully reimbursed by others.

^^Excluding 4 HHs whose expenses were fully reimbursed by others.

**Includes two on home remedy/self-prescribed treatment who had to spend some amount on the same.

Distribution of the total sample HHs based on total expenses incurred on the NHIT during the last one month has been shown in Table 6.2ix. Redoing of the slabs¹³ showed *no significant association even at the 0.1 level between the same and gender of the HIV/AIDS HHs' heads* [$\chi^2 = 6.573$; $df = 6$; $p = .362$]. MW-U also shows *no significant difference at the 0.1 level in total NHIT expenses based on the gender of the HIV/AIDS HHs heads* [$U = 4497.5$; $Z = -.975$; $p = .330$]. With regards to non-HIV/AIDS HHs as well MW-U shows *no significant difference between the two* [$U = 3584$; $Z = -.331$; $p = .741$]. Incidentally, as was the case with reference to the gender of the HH-head, *there was no significant association between total NHIT expense slabs of last month and gender of the HIV+ respondent at the 0.1 level* [$\chi^2 = 10.225$; $df = 6$; $p = .116$]. In line with the same MW-U also shows *no significant difference in NHIT expenses of last month at the 0.1 level based on gender of the HIV+ respondents* [$U = 4591$; $Z = -.968$; $p = .333$]. A common implication of the above is that HIV/AIDS has adverse bearing on HHs on the medical expenditure front irrespective of the gender of the HH head and gender of the HIV+ respondent.

Table 6.2ix Distribution of sample HHs in terms of total expenses incurred on NHIT during last one month

Expense slabs	HIV/AIDS HHs				Non-HIV/AIDS HHs			
	Male-headed	Female-headed	Total HHs	% of total HHs	Male-headed	Female-headed	Total HHs	% of total HHs
Nil	68	41	109	54.5	134	43	177	88.5
Up to ₹ 100	4	4	8	4	3	1	4	2
₹ 101-250	5	8	13	6.5	3	1	4	2
₹ 251-500	11	7	18	9	2	0	2	1
₹ 501-750	7	8	15	7.5	1	2	3	1.5
₹ 751-1,000	4	2	6	3	3	1	4	2
₹ 1,001-1,500	8	2	10	5	2	0	2	1
₹ 1,501-2,500	5	6	11	5.5	3	0	3	1.5
Above ₹ 2,500	5	5	10	5	1	0	1	.5
Total	117	83	200	100	152	48	200	100

As with total annual HH medical expenditure, HIV/AIDS has significant adverse bearing with regards to NHIT itself. MW-U shows *significant difference in total NHIT expenses of last month in the two categories of sample HHs at the 0.01 level* [$U = 13305.5$; $Z = -7.314$; $p = .000$]; and

this is despite NHIT details of only the HIV+ respondents being considered, as opposed to details of *all* [18-60 years] in case of the non-HIV/AIDS HHs. That NHIT expenses have a far greater economic impact on HIV/AIDS HHs can be additionally appreciated by seeing that even if expenses of those below 18 and above 60 years are also considered for non-HIV/AIDS HHs, the same are still significantly higher for HIV/AIDS HHs. MW-U once again shows *significant difference in total NHIT expenses at the 0.01 level* [$U = 14934.5$; $Z = -5.265$; $p = .000$]. To portray the gravity of the situation facing HIV/AIDS HHs with regards to NHIT it needs to be remembered that the significant hardships shown are despite over two-thirds of the sample HHs opting for treatment [see Table 6.2iii] going for the relatively cheaper government/PHC/NGO treatment [occasionally even free or fully sponsored]; unlike non-HIV/AIDS HHs majority of which at over 71 percent on experiencing illness episodes opted for the relatively costlier private treatment.

Table 6.2x Distribution of sample HIV/AIDS HHs based on total NHIT expense and annual HH income slabs

Total annual HH income slabs	Figures in ₹	Total NHIT expenditure slabs								Total
		Nil	Up to ₹ 100	₹ 101-250	₹251-500	₹501-1000	₹1001-1500	₹1501-2500	Above ₹2500	
Up to ₹ 25,000	24*	4	6	5	9	2	4	3	57 [28.5%]	
₹ 25,001 - 50,000	38**	2	6	7	7	5	3	3	71 [35.5%]	
₹ 50,001 - 1 lakh	26***	1	0	5	4	3	2	1	42 [21%]	
₹ 1 - 1.5 lakhs	10****	0	1	1	1	0	1	0	14 [7%]	
₹ 1.5 - 2 lakhs	6	0	0	0	0	0	0	1	7 [3.5%]	
₹ 2 - 2.5 lakhs	1	0	0	0	0	0	0	1	2 [1%]	
₹ 2.5 - 3 lakhs	0	0	0	0	0	0	0	0	0	
₹ 3 - 5 lakhs	4	0	0	0	0	0	1	1	6 [3%]	
Above ₹ 5 lakhs	0	1	0	0	0	0	0	0	1 [0.5%]	
Total	109	8	13	18	21	10	11	10	200	
	[54.5%]	[4%]	[6.5%]	[9%]	[10.5%]	[5%]	[5.5%]	[5%]	[100%]	

*Includes 10 who did not opt for treatment despite presence of NHIEs lat month.

** Includes 13 who did not opt for treatment despite presence of NHIEs lat month.

*** Includes six who did not opt for treatment despite presence of NHIEs lat month.

**** Includes one who did not opt for treatment despite presence of NHIEs lat month.

Considering the composition of sample HIV/AIDS HHs in the study, most of those who were subject to NHIT during last month came from HHs belonging to the lower total annual income

slabs [see **Table 6.2x**]. About 51.6 percent of the HHs from the bottom two HH income slabs [i.e. up to ₹ 50,000] had to bear NHIT expenses - with the figures only capable of going up if those not seeking treatment due to reasons like financial inadequacies are added to the numbers. Incidentally, those who spent 'nil' amounts and who happened to be from the lower annual HH income slabs, a total of 30 HIV+ respondents were indeed subject to NHIEs but did not opt for treatment due to reasons including financial problems. Majority of those not seeking treatment at 22 [73.33 percent] were sick frequently or continuously.¹⁴ Situation of HIV/AIDS HHs vis-à-vis total NHIT expenses can get worse than that portrayed if those sick who have not availed of treatment take recourse to the same; and if expenses details of other HH members, HIV+ or not, are alongside also considered. Additionally, economic implications vis-à-vis NHIEs can worsen even further if besides the direct adverse implications on medical expenditures, thought is also given to the indirect ones – an example being loss of income due to wage-cuts or loss of employment due to illness and/or care-giving.¹⁵

6.3 HOSPITALISED ILLNESS EPISODES / TREATMENT [HIEs/HIT]

As with NHIEs, in the case of HIEs as well, while for HIV/AIDS HHs the sum total episodes for the entire period of last one year of *only* the HIV+ respondents have been considered, in case of non-HIV/AIDS HHs it is details of *all* members in the 18-60 years age group. For the purpose of the present study HIE/HIT means illness episodes/treatment that required an overnight or 24 hours stay in a public/private hospital or C&S Home.

Table 6.3i highlights that majority of the HIV+ respondents at 78 percent were hospitalised some time or the other ever since detection of HIV [and this despite instances recorded in numerous HHs where even urgent medical surgeries have been indefinitely kept on

hold for even three years on account of lack of finances]. While about 39 percent of these were hospitalised only once since HIV detection, an exceptional case was hospitalised as many as 30 times! Chi-square has *not shown any significant association at even the 0.1 level between whether ever hospitalised after HIV detection and:* a) *gender of the HH heads* [$\chi^2 = .363$; $df = 1$; $p = .547$]; b) *gender of the HIV+ respondents* [$\chi^2 = .005$; $df = 1$; $p = .945$]; and c) *number of years since detection of HIV* [$\chi^2 = .607$; $df = 2$; $p = .738$]. The mean number of times hospitalised for the concerned respondents was 3.29 [SD: 4.10].

Table 6.3i Hospitalisation details of HIV+ respondents including number of times hospitalised

	No. of HIV+ respondents	Percentage figures
Whether hospitalised ever since detection of HIV		
Yes	156	78
No	44	22
Total	200	100
Number of times hospitalised since detection of HIV		
1	61	39.1
2	34	21.8
3	19	12.2
4	15	9.6
5	7	4.5
6-7	7	4.5
8-10	5	3.2
11-15	4	2.6
16-20	3	1.9
Above 20	1	.6
Total	156	100

Of the 156 HIV+ sample respondents who were hospitalised ever since HIV detection, 125 [80.1 percent] were hospitalised during the course of last one year. From the point of view of the entire HIV/AIDS study sample the said figures represent 62.5 percent of the respondents. In case of the total non-HIV/AIDS HHs' sample the corresponding figure was as low as 18 [9 percent]. While 63 [50.4 percent] of the HIV+ respondents who were hospitalised, were admitted two or more times last year, the corresponding figure was only 2 [11.1 percent] in case of non-HIV/AIDS HHs [see **Table 6.3ii**]. Like in case of NHIT where majority of the HIV+ respondents opted for

non-private treatment, with regards to HIT as well the overwhelming majority at 92.8 percent opted for non-private hospitalisation treatment which amongst others included treatment in government hospitals, C&S Homes, as well as both. It needs to be noted that, while relatively more opted for private treatment vis-à-vis NHIEs, the number goes down in case of HIEs, where, on account of prohibitive expenses in private hospitals and lack of access to health insurance [as seen in **Chapter 5**], government hospitals are more preferred (see also Pradhan, Sundar and Singh 2006, 125-126). Unlike the small figure of 7.2 percent of the HIV+ respondents who took private HIT, the corresponding figure was much higher at 38.9 percent in case of the 'control group'. While majority of the non-HIV/AIDS HHs subject to HIEs last year at 66.7 percent bore the HIT expenses with their own resources [i.e. present income and/or past savings], the corresponding figure for HIV/AIDS HHs was only 36.8 percent.¹⁶ Leaving aside the small number resorting to liquidation of assets [i.e. dissavings], there were substantially a large number of HIV/AIDS HHs depending on other sources for meeting HIT expenses, with a big number of 43.2 percent depending on borrowings, both, from relatives/friends as well as financial institutions/money-lenders [see **Table 6.3ii**]. Liquidation of assets and/or resorting to borrowings have also been reported by other studies like Pradhan, Sundar and Singh (2006) and Patra (2007, 203).¹⁷

Table 6.3ii Comparative profile of sample HHs vis-à-vis HIE/T

	HIV/AIDS HHs		Non-HIV/AIDS HHs	
	Frequency	Percentage of total sample HHs [^]	Frequency	Percentage of total sample HHs [^]
Number of times of hospitalised during the last one year				
1	62	31 [49.6]	16	8 [88.9]
2	31	15.5 [24.8]	2	1 [11.1]
3	14	7 [11.2]	---	---
4	8	4 [6.4]	---	---
5	4	2 [3.2]	---	---
6-7	3	1.5 [2.4]	---	---
8-10	3	1.5 [2.4]	---	---
<i>Sub-total</i>	<i>125</i>	<i>62.5 [100]</i>	<i>18</i>	<i>9 [100]</i>
Those not hospitalised last year	75	37.5	182	91
Total	200	100	200	100

Contd...

Table 6.3ii (Contd...)

Nature of hospitalised illness during last one year				
Cold	9	4.5 [7.2]	1	.5 [5.6]
Fever	20	10 [16]	1	.5 [5.6]
Weakness / dizziness	17	8.5 [13.6]	1	.5 [5.6]
Loose motion / vomiting	26	13 [20.8]	2	1 [11.1]
Aches / bones	8	4 [6.4]	---	---
TB	13	6.5 [10.4]	---	---
Skin / boils	6	3 [4.8]	---	---
Heart	---	---	3	1.5 [16.7]
Accident	1	.5 [8]	2	1 [11.1]
ART related	8	4 [6.4]	---	---
Others	17	8.5 [13.6]	8	4 [44.3]
Sub-total	125	62.5 [100]	18	9 [100]
Those not hospitalised last year	75	37.5	182	91
Total	200	100	200	100
Source of hospitalised treatment last year				
Govt. hospital	37	18.5 [29.6]	11	5.5 [61.1]
Private	9	4.5 [7.2]	7	3.5 [38.9]
NGO / C&S Home	51	25.5 [40.8]	---	---
Combination of C&S Home and govt. hospitals	28	14 [22.4]	---	---
Sub-total	125	62.5 [100]	18	9 [100]
Those not hospitalised last year	75	37.5	182	91
Total	200	100	200	100
Primary source of financing hospitalisation expenses last year				
Past savings / present money	46	23 [36.8]	12	6 [66.7]
Employer reimburses	5	2.5 [4]	---	---
Liquidation of assets	3	1.5 [2.4]	1	.5 [5.6]
Borrow from friends / relatives	47	23.5 [37.6]	4	2 [22.2]
Borrow from money lenders / financial institutions	7	3.5 [5.6]	---	---
NGO support	2	1 [1.6]	---	---
Others #	15	7.5 [12]	1	.5 [5.6]
Sub-total	125	62.5 [100]	18	9 [100]
Those not hospitalised last year	75	37.5	182	91
Total	200	100	200	100

^Figures in brackets are percentage figures of concerned respondents/HHs subject to HIEs only.

#Including combination of earlier cited ways.

Table 6.3iii and Table 6.3iv provide a comparative description pertaining to those who were hospitalised during the course of last one year with the former revealing the differences in the number of times and days hospitalised, and the latter the differences in hospitalisation expenses. Needless to say the HIV+ respondents are at an obvious disadvantage in all respects. For instance, with regards to the total number of days hospitalised during the last one year while the mean was close to a month at 27.08 days in case of the HIV+ respondents, it was only 6.72 days in case of the respondents from non-HIV/AIDS HHs. The former thus had hospitalisation days over four times that of the latter – with presently working members thus tending to lose much

more in terms of earnings lost in HIV/AIDS HHs than non-HIV/AIDS HHs.¹⁸ In case of number of times hospitalised during the last one year while the mean was 2.11 times in case of the HIV+ respondents, it was almost half at 1.11 for the 'control group'. Even here that the adversity faced by HIV+ respondents is greater than what the figures appear to show can be judged in a more appropriate manner by realizing that there were more hospitalised HIV+ respondents at 125, as opposed to only 18 in case of the non-HIV/AIDS HHs.

Pertaining to HIT expenses [Table 6.3iv] whether it is with regards to numbers of respondents/HHs' involved or actual expenses itself, the figures pertaining to HIV+ respondents are substantially higher. For example, if we consider the entire sample, the mean total HIT expenses per HIV/AIDS HH per annum standing at ₹ 4,162 is over eight times larger than that of non-HIV/AIDS HHs where the corresponding figure is only ₹ 517. This difference in figures is despite a relatively larger number of the former opting for non-private treatment and despite considering HIT details of only the HIV+ respondents [unlike details of *all* within 18-60 years in case of the other sample]. On the expense front things could have got worse for HIV/AIDS HHs had some respondents not availed the benefit of full/part reimbursement of HIT expenses.¹⁹

Table 6.3iii Comparative figures of number of times and days hospitalised during last one year

	HIV/AIDS HHs [N = 125]				Non-HIV/AIDS HHs [N = 18]			
	Min	Max	Mean	SD	Min	Max	Mean	SD
Total no. of times hospitalised last year	1	10	2.11	1.69	1	2	1.11	0.32
Total no. of days hospitalised last year	1	180	27.08	29.91	2	16	6.72	3.91

Table 6.3iv Comparative figures of sample HHs' hospitalisation expenses of last one year ^

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
Room-rent/tests/surgery [₹]	69*	200	143000	10069	22640	18	200	15000	5339	4863
Transport costs [₹]	117**	50	10000	562	1000	14	50	1000	382	276
Diet/lodging of caregivers [₹]	46	100	9000	1564	1558	7	200	400	264	75
Total hospitalisation expenses [₹]	117**	50	162000	7115	19494	18	350	15500	5739	4813
Total expenses of all sample HHs ₹	200	.00	162000	4162	15293	200	.00	15500	517	2166

[^]First four rows provide figures of only the concerned respondents/HHs incurring hospitalisation related expenses.

*Excluding one respondent whose expenses were totally sponsored by others.

**Excluding eight respondents' expense details since the same were fully sponsored by others.

The comparative distribution of sample HHs based on the total HIT expense slabs for last one year has been provided in Table 6.3v. Chi-square tests performed on redone slabs²⁰ have not shown any significant association even at the 0.1 level between total HIT expenses of all sample HIV/AIDS HHs and gender of the HH-head [$\chi^2 = 1.700$; $df = 5$; $p = .889$]. MW-U tests also confirmed absence of significant difference in total HIT expenses at the 0.1 level vis-à-vis gender of the HIV/AIDS HHs heads [$U = 4532.5$; $Z = -.823$; $p = .410$].²¹ Similar to the results obtained vis-à-vis gender of the HH head in case of HIV/AIDS HHs, chi-square did not show any significant association between gender of the HIV+ respondent and total HIT expenses at the 0.1 level [$\chi^2 = 3.545$; $df = 5$; $p = .617$]. MW-U results in line with the same also do not show any significant difference in total HIT expenses at the 0.1 level based on the gender of the HIV+ respondent [$U = 4567$; $Z = -.967$; $p = .334$].

Table 6.3v Comparative total HIT expense slabs of sample HHs during last one year

Expense slabs	HIV/AIDS HHs				Non-HIV/AIDS HHs			
	Male - headed HHs	Female - headed HHs	Total HHs	% of total HHs	Male - headed HHs	Female - headed HHs	Total HHs	% of total HHs
Nil	43	32	75	37.5	135	47	182	91
Up to ₹ 500	28	21	49	24.5	1	0	1	.5
₹ 501-2,500	14	13	27	13.5	4	1	5	2.5
₹ 2,501-5,000	10	5	15	7.5	4	0	4	2
₹ 5,001-7,500	5	4	9	4.5	2	0	2	1
₹ 7,501-10,000	4	0	4	2	2	0	2	1
₹ 10,001-15,000	3	6	9	4.5	3	0	3	1.5
₹ 15,001-25,000	4	2	6	3	1	0	1	.5
₹ 25,001-50,000	4	0	4	2	0	0	0	0
₹ 50,001-1,00,000	0	0	0	0	0	0	0	0
Above ₹ 1,00,000	2	0	2	1	0	0	0	0
Total	117	83	200	100	152	48	200	100

Table 6.3vi Distribution of HIV/AIDS HHs' sample based on total annual HIT expense and HH income slabs

Total annual HH income slabs	Figures in ₹	Total HIT expenditure slabs							Total
		Nil	Up to 500	501-2500	2501-5000	5001-10,000	10,001-50,000	Above 50,000	
Up to 25,000		15	16	10	4	4	7	1	57 [28.5%]
25,001-50,000		24	16	12	6	6	7	0	71 [35.5%]
50,001-1 lakh		22	10	5	3	1	1	0	42 [21%]
1 - 1.5 lakhs		9	3	0	0	0	2	0	14 [7%]
1.5 - 2 lakhs		2	3	0	0	1	1	0	7 [3.5%]
2 - 2.5 lakhs		0	0	0	1	1	0	0	2 [1%]
2.5 - 3 lakhs		0	0	0	0	0	0	0	0
3 - 5 lakhs		2	1	0	1	0	1	1	6 [3%]
Above 5 lakhs		1	0	0	0	0	0	0	1 [0.5%]
Total		75	49	27	15	13	19	2	200
		[37.5%]	[24.5%]	[13.5%]	[7.5%]	[6.5%]	[9.5%]	[1%]	[100%]

Table 6.3vi, which highlights the distribution of sample HIV/AIDS HHs vis-à-vis total annual HIT expenses and total annual HH income, as well as Table 6.3v reveal that the biggest chunk of 24.5 percent of the total sample HHs had to bear 'Up to ₹ 500' as total HIT expenses during the course of last one year [the figure will be higher at 39.2 percent if we ignore those not subjected to HIEs]. Close to 74 percent of the HIV+ respondents belonging to the 'Up to ₹ 25,000' per annum total HH income bracket were subject to HIT last year, with the figure becoming about 69.5 percent if we include the next slab of '₹ 25,001-50,000' [see Table 6.3vi]. Needless to say that a high percentage of those from the lower HH income brackets are subject to HIEs, partly contributed by factors as outlined earlier for NHIEs, is a serious cause for concern.

That HIV/AIDS has serious consequences vis-à-vis medical expenses on the concerned HHs can be seen via MW-U results which *show significant difference in total HIT expenses of last year pertaining to the two study samples' at the 0.01 level* [$U = 9665.5$; $Z = -10.429$; $p = .000$]. And this is so *despite*: a) considering expense details of *all* members in the working age group of 18-60 years with regards to the non-HIV/AIDS HHs as opposed to details of *only* the HIV+ respondent in case of HIV/AIDS HHs; b) total annual HIT expenses of almost a quarter of the HIV/AIDS sample elements appearing to be a low and insignificant sum of 'Up to ₹ 500'

only; c] a relatively large number of HIV+ respondents seeking ‘non-private’ treatment from government hospitals and C&S Homes; and d] a few getting all expenses fully/partly reimbursed by others unlike none in case of the non-HIV/AIDS HHs’ sample. That HIV/AIDS has a far adverse bearing vis-à-vis HIEs can be additionally seen with the fact that *even if total HIT expenses of one year of all members of the non-HIV/AIDS HHs including those below 18 and above 60 years are included, there is still a significant difference in total HIT expenses in the two study samples at the 0.01 level as shown by MW-U [U = 11151.5; Z = -8.705; p = .000]*.

6.4 REGULAR MONTHLY MEDICAL TREATMENT [RMMT]

RMMT is that treatment which has to be taken on a regular basis. In case of HIV/AIDS HHs, it includes anti-retroviral therapy [ART/ARV] besides other treatment. In this section also like the earlier ones, while in case of HIV/AIDS HHs details of *only* the HIV+ respondents have been considered, in case of non-HIV/AIDS HHs it is details of *all* members [between 18-60 years].

6.4.1a ART treatment

A person living with HIV/AIDS who receives ART, i.e. the combination of testing, treatment and medical care, can live a significantly longer and healthier life than one who does not; treatment can even restore patients in the terminal stages of AIDS to good health – an achievement nicknamed the ‘*Lazarus Effect*’ (Medhini, Jain and Gonsalves 2007a, 106). ART along with other medication renders AIDS a chronic and treatable disease (Narain and Gilks 2004, 107). Though not a cure for AIDS, ART helps drastically reduce the *viral load*²² and delay indefinitely the onset of OIs and AIDS (Singhal and Rogers 2006, 127).

At the outset itself it can be stated that RMMT expenses of HIV/AIDS HHs can and will be higher than that of the non-HIV/AIDS HHs on account of the ART component which is absent in case of the latter. Needless to say, even if ART is free as is the case at the government-run ART centres, it does not mean that availing the same is 100 percent expense free. This is because even though ART is free, getting the same from the centres involves expenses – or ‘out-of-pocket expenses’ [reference to which has been made earlier under NHIT]. Often on account of distance, time, age and/or weak nature of the HIV+ respondent, expenses of another accompanying member cannot be discounted. Out-of-pocket expenditures²³ are found to be alarmingly high in India with more than a third of the population living below the poverty line (Mehdi 2008, 8), with infected individuals being challenged by the cost of travel besides other associated expenses, which can also include loss of wage as an opportunity cost for the HIV+ person as well as for the accompanying member, if any, on account of traveling to the ART centre’s for getting the *CD-4* and/or *vial load* count done and receiving the ‘free’ ART (A. Malavia in HRLN 2008, 152). For someone who has full blown AIDS, the out-of-pocket expenses amount to almost ₹ 2,000 per month, this being over and above the free treatment and medicines provided by the government, with a large number of infected people incidentally not receiving the same (*ibid*, 151).²⁴ Though not with particular reference to HIV/AIDS, but with reference to burden of diseases in general, high out-of-pocket expenditures, besides draining earnings and savings and forcing HHs into borrowings to meet the health expenditures, push HHs into debt and poverty trap – according to an estimate, 2-3 percent people are pushed into the poverty trap every year as a result of such expenditure (Mehdi 2008, 8).

Table 6.4.1ai highlights that majority of the HIV+ respondents at almost two-thirds the sample size were on ART with the figures for male respondents being higher at 71.11 percent as

compared to 60.91 percent for female respondents.²⁵ Chi-square test has shown *no significant association between the taking of ART and gender of the HIV+ respondent at even the 0.1 level* [$\chi^2 = 2.280$; $df = 1$; $p = .131$]. Of those on ART while the majority of 127 [96.9 percent] respondents availed of the free ART as provided at the State ART centre, only 4 [3.1 percent] took privately purchased ART from private doctors/clinics/pharmacies. A total of 115 respondents on ART had to incur personal/HH expenses - be it the 'out-of-pocket' type [111 members on free ART had to incur such expenses] or those pertaining to the actual treatment itself [the four on private treatment come in this category]. In case of the remaining 16 members on ART, all of who were on State provided free treatment, personal out-of-pocket expenses were nil since the same were fully reimbursed/sponsored by others.

Table 6.4.1ai Whether HIV+ respondents take ART

	No. of male resp.	% of male resp.	No. of female resp.	% of female resp.	Total	% of total
Yes	64	71.11	67	60.91	131	65.5
No	26	28.89	43	39.09	69	34.5
Total	90	100	110	100	200	100

The mean expenditure incurred on ART by all sample HHs [whether themselves on ART or not] was about ₹ 97 per month per HH/HIV+ respondent. The figure becomes around ₹ 95 if we consider only those on government ART excluding those whose out-of-pocket expenses were sponsored by others. The mean expenses on ART are much higher at ₹ 2,215 in case of members opting for privately purchased ART treatment [see Table 6.4.1aⁱⁱⁱ].

Table 6.4.1aii Summarised details pertaining to ART related monthly expenses

	N	Min [₹]	Max [₹]	Mean [₹]	SD
Total amt. spent on ART by ALL sample respondents/HHs*	200	0	6,000	97.21	437.37
Total amt. spent on ART by those on ART only**	131	1	6,000	148	534
Total amt. spent on ART by those on govt. ART only***	127	1	201	83.32	52.18
Total amt. spent on ART by those on ART incl. pvt. ART but excl. those whose associated expenses are fully sponsored by others	115	20	6,000	169	567.20
Total amt. spent by those on free govt. ART only [excl. those whose related expenses are fully sponsored]	111	20	201	95.19	44.63
Total amt. spent by those on govt. ART but excl. those whose ART associated costs were fully sponsored; those on pvt. ART; and those whose other regular monthly expenses were fully sponsored^	23	20	200	104	45.29
Total amt. spent by those on privately purchased ART only	4	900	6,000	2,215	2524

*Including those whose expenses are fully sponsored, those without ART and those on private ART.

**Including the four on private ART and the 16 whose ART associated expenses like transport were fully sponsored.

***Including the 16 whose related expenses were fully sponsored.

^This category represents those who are on both ART and regular monthly medicines, and who spend some money on getting both. These do not include those whose personal/HH regular monthly medical expenses are nil.

Unlike absence of significant association between whether on ART and gender of the HIV+ respondent as mentioned earlier, there was a significant association between the taking of ART and gender of the HH-head at the 0.05 level [$\chi^2 = 6.377$; $df = 1$; $p = .012$], with the same being to the disadvantage of female-headed HHs. That female-headed HHs are to a disadvantage vis-à-vis ART, and that as referred to at the beginning that almost one-third of the sample HHs are not on ART, is a matter of concern. As field-interactions revealed it was not that the health parameters in terms of CD-4 and/or viral load count were always good for ART not to be taken – it was instead because the respondents either did not take initiative to start/continue with the treatment on account of reasons like high out-of-pocket expenses, long distances from the ART centre, or maintaining ‘anonymity’. In India/Goa [even among sample respondents themselves] as of the year 2009, the year the present study was conducted, many did not take ART because their CD-4 count was just above the cut-off/threshold level of 200 fixed by NACO for initiation into ART (Gautham 2008, 1; GSACS 2008, 37; Jain and Stephens 2008, 8). Under circumstances prevailing abroad or even locally in case of private treatment, these would in high probability be on ART - for in such places those with ‘CD-4 < 350’ are put on ART (Jain and Stephens 2008,

8-9).²⁶ While treatment of OIs can only alleviate suffering and extend life by few months, improved access to ART, besides helping add years to life expectancy (Over 2004, 311), also offers the prospect of significantly reducing the number of children who will be orphaned as a result of HIV in the future (UNAIDS 2008, 168). Incidentally, chi-square tests showed *no significant association at even the 0.1 level between whether taking ART and number of years since HIV was detected* [$\chi^2 = 2.798$; $df = 2$; $p = .247$].²⁷

6.4.1b Other RMMT expenses [excluding ART]

Unlike the earlier sub-section which concerned only the HIV/AIDS HHs, the present concerns both, including the non-HIV/AIDS HHs. Excluding ART related expenses, 85 HIV+ respondents representing 42.5 percent of the total sample HHs incurred ‘other RMMT’ expenses. The corresponding figure for non-HIV/AIDS HHs was less than half at 41 [20.5 percent], that too by considering details of *all* HH members *irrespective* of age [the figures become further less by one-third the figure at 27 if details of only those in the 18-60 years age group are considered].²⁸

The mean expenses incurred by the total sample HIV/AIDS HHs on ‘other RMMT’ [excluding ART] are more than twice the figure of the sample non-HIV/AIDS HHs. While the figure was ₹ 227 per month per HIV+ respondent, it was lower at ₹ 100 for non-HIV/AIDS HHs, despite the latter including expense details of *all* HH members [Table 6.4.1b]. Incidentally, in case of non-HIV/AIDS HHs if details of those above 60 years are dropped, mean RMMT expenses fall even further to ₹ 55.60. If one considers only those HIV+ respondents who had to incur expenses [excluding those whose expenses were reimbursed/sponsored by others] the mean expenses were as high as ₹ 908 per month, as opposed to only ₹ 490 in case of non-HIV/AIDS HHs by *including* details of *all* members and ₹ 412 by *excluding* details of those over 60 years.

Table 6.4.1b Comparative RMMT expenditures *excluding* ART expenses

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min [₹]	Max [₹]	Mean [₹]	SD	N	Min [₹]	Max [₹]	Mean [₹]	SD
Total amt. spent by concerned HHs only	85*	.00	9000	534	1184	27^	60	1500	412	378
Total amt. spent by only those spending personal/HH money	50**	50	9000	908	1434	---	---	---	---	---
Total amt. spent by those on govt. ART	53#	.00	4000	363	663	---	---	---	---	---
Total amt. spent by those on govt. ART incl. fully sponsored but excl. those who got their regular monthly medicines fully sponsored##	27	50	4000	712	788	---	---	---	---	---
Total amt. spent by those on govt. ART but excl. the four whose ART expenses were fully sponsored and those whose RMMT expenses were also fully sponsored###	23	50	4000	782	833	---	---	---	---	---
Total amt. spent by those on private ART	3	250	9000	3483	4801	---	---	---	---	---
Total amt. in terms of ALL sample HHs	200	.00	9000	227	813	200 ^	.00	1500	55.60	196

*Of these 35 get their medical requirements free/fully sponsored. Their personal expenditures are nil.

**These exclude the 35 who were on regular monthly treatment but whose personal expenses were nil.

^These figures pertain to all HH members in the working age group of 18-60 years. If the details of those above 60 years are added, the figures will be still lower than those of HIV/AIDS HHs. Including the details of the 14 [above 60 years] will provide figures as follows:- N = 41; Min. amt. = ₹ 60; Max. amt. = ₹ 2000; Mean = ₹ 490; SD = 478

^^These figures are based as per details of all members in the 18-60 years age group only. If the RMMT expenses of those above 60 years are alongside also considered the corresponding figures, once again lower than the ones of HIV/AIDS HHs, will be as follows:- Min. amt. = .00; Max. amt. = ₹ 2000; Mean = ₹ 100; and SD = 292.

#These figures represent those who take ART as well as other RMMT. It includes 16 members who got their ART expenses fully sponsored. Incidentally 26 of these 53 members got their RMMT expenses fully sponsored as well.

##This figure excludes the 26 members whose regular monthly expenses were nil being fully sponsored by others.

###These are those who are on govt. ART [and who had to spend own/HH money for getting the same] as well as other RMMT.

It needs to be noted that ‘other RMMT’ expenses [excluding ART] of HIV+ respondents’/HHs’ as shown in Table 6.4.1b are comparatively higher despite respondents often obtaining their treatment/medicines entirely free [with nil out-of-pocket expenses] on account of the same being obtained from government hospitals/C&S Homes/NGOs, and since they are availed at the time of their regular check-up/visit – for many this being at the time of collecting the ART doses. To put this in perspective with an example, of the 44 HIV+ respondents on free government ART [who nevertheless had to bear out-of-pocket expenses] and who are also on ‘other RMMT’, 21 get their ‘other RMMT’ needs at nil costs on account of afore cited reasons. However, not to diminish the impact that ‘other RMMT’ expenses have on HIV/AIDS HHs, it needs to be additionally reiterated that though many HIV+ respondents get them free, others do not. To cite

the earlier example itself, though 21 got their 'other RMMT' free, 23 actually had to pay some amounts on the same. Incidentally, many who need to be on other RMMT either do not take the same at all; or take the same either on an irregular basis [time perspective] or in an improper way [dosage perspective] due to financial inadequacies.

Chi-square test of independence showed *no significant association at even the 0.1 level between 'whether taking other RMMT' [excluding ART] and:* a) *gender of the HIV+ respondent* [$\chi^2 = .253$; $df = 1$; $p = .615$]; b) *gender of the HH-head* [$\chi^2 = .006$; $df = 1$; $p = .936$]; and c) *number of years since HIV was detected* [$\chi^2 = .335$; $df = 2$; $p = .846$]. There was *no significant association as well at the 0.1 level between whether taking other RMMT and gender of the HIV+ respondents on free government ART* [$\chi^2 = .201$; $df = 1$; $p = .654$].

6.4.2 Total RMMT expenses

Total RMMT expenses for the HIV/AIDS respondents/HHs will be the sum total of expenses incurred on ART [if any] and 'other RMMT'. For non-HIV/AIDS HHs total RMMT expenses will be the same as outlined in the earlier sub-section on account of absence of ART.

Including ART related expenses to RMMT expenditures makes matters only worse than what it already is for HIV/AIDS HHs, despite an overwhelming number opting for the 'free' ART, on account of the other associated expenses involved. It needs to be noted that the 'other RMMT' mean expenses [that too involving a larger number of HIV/AIDS HHs as opposed to non-HIV/AIDS HHs as shown in **Table 6.4.1b**] were high in case of HIV/AIDS HHs *despite:* i) higher number of HHs/HIV+ respondents getting the benefit of free treatment/medicines at government hospitals/C&S Homes/NGOs; ii) significant number having nil out-of-pocket expenses either on account of getting the same sponsored or on account of getting their other

RMMT at the time of ART related visits to the hospitals/centres; and iii] not considering the expenses associated with ART. As mentioned at the beginning, things can only get worse if ART associated expenses are alongside also added to the total RMMT expenses. Of the 131 sample respondents on ART, 56 [42.7 percent] were on other RMMT as well.²⁹ Incidentally, of those on ART, ‘other RMMT’, or both, 19 [9.5 percent] respondents spent nil amounts of their own – their expenses were fully sponsored/reimbursed by others [see Table 6.4.2i for the same, and other details on RMMT].

Table 6.4.2i Summarised figures of HIV+ respondent’s and their RMMT including ART

	No. of respondents	% of total sample
Those taking ART	131	65.5
Those taking <i>other</i> RMMT	85	42.5
Those taking only ART but no other RMMT	75	37.5
Those taking only <i>other</i> RMMT but no ART	29	14.5
Those taking ART plus other RMMT	56	28
Those who took neither ART nor <i>other</i> RMMT	40	20
Those who had ART, RMMT, or both but spent nil amts of personal/HH money	19	9.5

Table 6.4.2ii highlights the adverse position of HIV/AIDS HHs vis-à-vis total RMMT expenses. The mean total RMMT expenses of HIV/AIDS HHs [represented by only the HIV+ respondents] is 3.25 times the size of non-HIV/AIDS HHs comprising of *all* members. The figure becomes even worse at 5.9 times if we consider details of only those in the 18-60 years age group. Similarly, pertaining to those on government/free ART only, excluding those whose out-of-pocket expenses were fully sponsored [whether for ART or ‘other RMMT’], while the mean total RMMT expenses were ₹ 885 per HIV+ respondent, it was lower at ₹ 490 in case of the ‘control group’ despite taking details of *all* members [figures will be even lower at ₹ 412 if details of only those in the 18-60 years age group are considered]. Opting for private RMMT [including ART] can make matters far worse on the expense front with mean total RMMT expenses being a whopping ₹ 4,828 per HIV+ respondent.

Table 6.4.2ii Comparative total RMMT expenditures of sample HHs

	HIV/AIDS HHs					Non-HIV/AIDS HHs				
	N	Min ₹]	Max ₹]	Mean ₹]	SD	N	Min ₹]	Max ₹]	Mean ₹]	SD
Total amt. spent by those on govt. ART	127*	1	4200	235	477	---	---	---	---	---
Total amt. spent by those on RMMT	85**	.00	15000	682	1746	27^	60	1500	412	378
Total amt. spent by only those spending personal/HH money	50#	60	15000	1112	2182	---	---	---	---	---
Total amt. spent by those on govt. ART but excl. those whose ART & other RMMT associated exp. were fully sponsored	23	150	4200	885	856	---	---	---	---	---
Total amt. spent by those on private ART	4	1000	15000	4828	6801	---	---	---	---	---
Total amt. spent by ALL sample HHs	200	.00	15000	325	1178	200 ^^	.00	1500	55.60	196

*Including the 16 and 26 who are on fully sponsored ART and RMMT respectively.

**Including those whose actual RMMT expenses are nil.

^As was mentioned in the previous sub-section, these are figures pertaining to all HH members in the working age group of 18-60 years. If the details of those above 60 years are added as well the figures will still be lower than those of HIV/AIDS HHs. Including the details of the 14 who were above 60 years will provide figures as follows:- N = 41; Min. amt. = ₹60; Max. amt. = ₹2000; Mean = ₹490; and SD = 478.

^^These figures are based as per details of all members in the 18-60 years age group only. If the RMMT expenses of those above 60 years are alongside also considered the corresponding figures, once again lower than the ones of HIV/AIDS HHs, will be as follows:- Min. amt. = .00; Max. amt. = ₹2000; Mean = ₹100; and SD = 292.

#These exclude the 35 who were on regular monthly treatment but whose personal expenses were nil.

That HIV/AIDS has a strong adverse bearing on individuals and HHs through high RMMT expenses can be seen with the help of MW-U results which show *significant difference in total RMMT expenses [inclusive of ART] at the 0.01 level in the two study samples' [U = 10193; Z = -9.123; p = .000]*. This is despite the fact that in case of non-HIV/AIDS HHs details of RMMT of *all* HH members were considered, including those above 60 years of age. Incidentally, even if the huge costs associated with ART purchased privately are ignored and instead it is assumed that the costs incurred by those on private ART was only a nominal sum of ₹ 95, i.e. the approximate mean amount spent as out-of-pocket expenses by those incurring personal expenses on government/free ART,³⁰ the total RMMT expenses are still higher in HIV/AIDS HHs, with MW-U once again showing *significant difference in total RMMT expenses at the 0.01 level [U = 10246; Z = -9.074; p = .000]*.

If however in case of HIV/AIDS HHs we *exclude* monthly expenses associated with ART, *MW-U does not show any significant difference in RMMT expenditures at even the 0.1 level* [$U = 18827$; $Z = -1.376$; $p = .169$]. The absence of significant association as mentioned may not be of much bearing in totality though, for unlike in case of HIV/AIDS HHs where details of RMMT of only the HIV+ respondents were considered, in case of non-HIV/AIDS HHs it was details of *all* members irrespective of age. That there is not much bearing in reality can be realised with an example wherein if instead of considering the details of *all* members, details of RMMT of only those in the age group of 18-60 years are taken into account in case of non-HIV/AIDS HHs, *MW-U shows a significant difference in mean RMMT expenses [excluding ART] and that too at the 0.01 level* [$U = 17604.5$; $Z = -2.966$; $p = .003$].

The importance of what has been mentioned vis-à-vis total RMMT expenditures which are significantly high in case of HIV/AIDS HHs can be appreciated in the proper perspective if the following, mentioned earlier as well, are alongside also noted: a) unlike HIV/AIDS HHs where details of only the HIV+ respondents were considered, in case of non-HIV/AIDS HHs it was details of *all* members [inclusive and exclusive of those '<18' and '>60' years];³¹ and b) unlike non-HIV/AIDS HHs where all members under RMMT had to spend own/HH money be it for private or even government/free treatment [as out-of-pocket expenses] with none getting the same entirely free of cost, in case of HIV/AIDS HHs a number of respondents got their requirements free [from government hospitals/C&S Homes/NGOs] or sponsored, with even transport costs being taken care of in the case of some.

6.5 CONSOLIDATED PERSPECTIVE

At the HH level, one obvious implication of HIV/ AIDS is the increased spending on treatment and care of individuals that are borne by HHs to whom the individuals belong. Way back, Bloom

and Mahal (1996) and Bloom and Glied (1993a) portrayed the ratio of treatment costs to be more than twice the country's per capita income, with the estimate being 2.2 in case of India, with the treatment costs not including the cost of ARV drugs (in Ojha and Pradhan 2006, 2; ADB 2004, 58; Mahal and Rao 2005, 583). As UNESC/ESCAP (2004, 4) brings out, the socio-economic impact of HIV/AIDS affects poor HHs disproportionately, with poor people living with HIV/AIDS and who have no access to drug therapy soon becoming susceptible to OIs and losing their ability to engage in remunerative work. Additionally, while in case of those who could afford treatment, the high costs involved could divert expenditure away from other essential areas including education, thereby enforcing a cycle of impoverishment; poor diagnosis and prognosis combined with a lack of correct information on the available treatment of AIDS and OIs, often results in ruinous expenditure on ineffective health care. In this way the disease has the potential to condemn even moderate-income HHs to abject poverty (*ibid*).

Related to the issue of poverty [leaving aside the various poverty causing dubious multi-dimensional roles of HIV/AIDS as seen earlier] pertaining directly to the present chapter, HIV/AIDS is a contributor of *iatrogenic* poverty, i.e. poverty induced by medicine, which occurs when in order to access medicine, the entire family becomes impoverished (A. Malavia, in HRLN 2008, 152). This is of particular concern in India where medical treatment is supposedly provided 'free' by the government in public hospitals. Poverty can be a direct fallout despite the same since it is the district hospitals that are often the point of delivery for all treatment services [including ARV], with infected individuals being 'challenged' by the cost of travel and other associated out-of-pocket expenses (A. Malavia, in HRLN 2008, 152). According to F. Khan (as in HRLN 2008, 156), although ART is free, 30-40 percent of the money which a HIV+ person has is spent on making hospital trips and for buying medicines, with not much remaining for

other things including food. To make matters worse, an HIV+ person, on account of taking leave for testing or treatment, gets reduced salary – with occasions being there where only half month salary is earned (*ibid*).

Unlike earlier sections which dealt exclusively with particular medical aspects like NHIEs, HIEs, RMMT and their expenses, the present section deals with all to understand medical implications of HIV/AIDS in a consolidated perspective.³² Considering the mean total annual HH medical expenses of HIV/AIDS HHs which was equal to ₹ 12,991 per HH [see **Chp. 5**], and also the figures obtained in earlier sections for individual HIV+ respondents [for RMMT, NHIT and HIT], it can be said that while mean RMMT expenses of the HIV+ respondents alone for the year constitutes about 30 percent of the total annual HH medical expenditure, the share of annual HIT expenses constitutes another 32 percent approximately. Pertaining to the NHIEs, assuming that there were no other illness episodes during the year other than those taking place in the last one month,³³ the share of expenses on the same is about 9 percent of the total annual HH medical expenses. From the above it can thus be seen that the total annual medical expenses of the HIV+ respondents itself is a *minimum* of ₹ 9,235 approximately per person, constituting about 71 percent of the total annual HH medical expenses. The balance 29 percent approximately [about ₹ 3,756] of the total annual HH medical expenditure goes to cover: a) NHIT expenses, if any, of the earlier 11 months of the HIV+ respondents; b) NHIT, HIT and RMMT expenditures of other HIV+ members, if any; and/or c) medical expenses of HIV-negative HH members.

The grave situation faced by HIV+ respondents can be understood better by seeing the corresponding figure for non-HIV/AIDS HHs [mean total HH annual medical expenses: ₹ 2,555], wherein despite taking into account details of *all* members [18-60 years], the figure of total medical expenses was only ₹ 1,309 per HH. Unlike the high percentage share of total

annual medical expenses of HIV+ respondents to the total annual HH medical expenses standing at a *minimum* of about 71 percent, the figure was only about 51 percent for the 'control group'.³⁴

Needless to say, on account of non consideration of NHIT details of earlier months, the cited figures pertaining to total annual medical expenses of the HIV+ respondents are only approximate in nature, that too at the minimum level. If the sum of ₹ 9,235 is considered as approximate *minimum* average total annual medical expenses per HIV+ respondent, the per capita *maximum* annual total medical expenses for *other* HIV/AIDS HH members will be ₹ 1,356 approximately per annum.³⁵ If we assume that the figures pertaining to total annual medical expenses of the HIV+ respondents and other HH members as cited are a true approximation, medical expenses of the former will be a *minimum* of 6.8 times the figure of *other* members. Interestingly, though the figure for *other* HIV/AIDS HH members is far less than the figure for HIV+ respondents, yet it is relatively higher than the per capita figures for non-HIV/AIDS HHs which was ₹ 570 approximately per HH member per annum – and this despite more members going for private treatment and with none getting their treatment related expenses, including travel, reimbursed/sponsored by others. The higher figures for *other* HH members' medical expenses in HIV/AIDS HHs is partly on account of the fact that in HIV/AIDS HHs there are other HIV/AIDS members living alongside [in the present study excluding the sample respondents there were an additional 104 PLWHA in the sample HHs]. Incidentally, a substantial part of the said expenses of HIV/AIDS HHs will be part of the unknown earlier NHIT expenses of the sample HIV+ respondents themselves.

The total medical expenses of the HIV+ respondents taken under the bold assumption at just the *minimum* figure of about ₹ 9,235 per person is a figure equal to at least 14.63 percent in terms of 'total annual HH income' [only 1.22 percent in case of 'control group' comprising *all*

members within 18-60 years], with the figure being 15.91 percent in terms of total annual wage income [1.26 percent for 'control group']. Temporarily, to do away with the afore mentioned bold assumption to get a different perspective of ground reality, instead of considering total medical expenses of the HIV+ respondents on a per annum basis, if we take expenses on '*per last month*' basis only and relate to the average total HH income per month, the percentage of the former to the latter becomes more than one-third at 35 percent in case of HIV+ respondents [only 2.45 percent in case of 'control group']. According to Ramamurthy (2004, 234) HIV+ individuals on an average spent between 10-30 percent of their annual incomes on HIV-related health expenditures, with most of the expenses being on medicines; with the impact being more on lower income groups [as was the case with the present study as well] besides those who had dependants. Canning *et al* (2006a, 13) in their findings showed that out-of-pocket expenses on health care of HIV+ individuals was nearly 32 percent the size of per capita incomes of affected HHs. Incidentally, total annual HH medical expenses as a percentage of 'total annual HH income' and total annual HH wage income is 20.58 percent and 22.39 percent respectively [corresponding figures for non-HIV/AIDS HHs were as low as 2.38 and 2.45 percent respectively]. If not for the HIV+ respondents' total annual medical expenses that too considered at the bare *minimum* level, the medical expenses of HIV/AIDS HHs would have been less by about 71 percent. Likewise, if not for the mean total annual medical expenses of the HIV+ respondents themselves standing at a *minimum* of ₹ 9,235 approximately per person, the average total 'other annual HH consumption expenditure' would have been reduced by 25.27 percent enabling HHs to save and/or spend on other HH requirements [including food] which are otherwise sacrificed. In contrast to the high figure for the HIV/AIDS HHs' sample, the corresponding figure for non-HIV/AIDS HHs sample despite taking *all* members [18-60 years] is

only 4.79 percent. The total annual medical expenditure of the HIV+ respondents forms a *minimum* of almost 10.54 percent of the 'total annual HH consumption expenditure' [inclusive of food, regular monthly HH expenditures and 'other annual HH consumption expenditures'; and excluding remittances and savings/investments]. The corresponding figure for non-HIV/AIDS HHs despite details of *all* [18-60 years] is only 1.53 percent. The average total annual medical expenses of the HIV+ respondents themselves would have sufficed to take care of entire food expenses of at least 3.5 months of the total sample HIV/AIDS HHs. Incidentally, while size of total annual HH medical expenditures to 'total annual HH consumption expenditures' [as per the above mentioned definition] was equal to about 14.82 percent, the size of total annual HH medical expenditure to 'other annual HH consumption expenditure' was equal to 35.57 percent. The corresponding figures for non-HIV/AIDS HHs were only 2.98 and 9.36 percent respectively.

In fine, to portray the gravity of HIV/AIDS on health, if not for the total annual medical expenses incurred on the HIV+ respondents, HIV/AIDS HHs would have been able to: i] reduce 'total annual HH consumption expenditure'; ii] increase consumption of non-medical items including food, clothing/footwear, durable goods and even entertainment; iii] increase savings/investment; iv] reduce borrowings and associated remittances; and/or v] decrease dissavings and dependence on UUI. Incidentally, the total annual medical expenses of just one individual [i.e. the HIV+ respondent] per HH that too who **often**: a] avails 'free' government/NGO/C&S Homes provided treatment; b] benefits from partly/fully sponsored treatment; and/or c] does not take treatment due to financial problems; are greater than mean dissavings of ₹ 8,771 of HIV/AIDS HHs of last one year as shown in **Chp. 5**. From the point of view of loss incurred by HHs, things on the financial front can only get worse than shown herein especially to those HHs from the poor and low income brackets (see also Pradhan, Sundar and

Singh 2006, 115) if alongside loss of income on account of absenteeism from work of self, accompanying member [at the time of seeking treatment] or care-giver are additionally also considered. Additionally, it needs to be remembered that losses arising to HIV/AIDS HHs will be extremely high not just because of high medical expenditures but also because of loss of earning capacities/employment, especially if we consider the 'young' mean average age [mid-thirties], and age groups that the majority of the HIV+ respondents belonged to [see Sec. 6.2 & Table 3.10ix/Chp. 3]. In reality, other than those that formed part of the present study, the vast majority of PLWHA are those in the economically productive age groups – with 30 percent of those infected in India being in the 15-29 age group itself (TOI 02/06/2008, 7); with 40 percent of all new HIV infections being amongst those in the 15-24 years age group (TOI 25/06/2008, 3). Losses can only compound if there are multiple HH members with HIV/AIDS, and if those getting support from external agencies stop getting the same in the future.

Giving proper and timely treatment though entails huge expenses - even leading to *iatrogenic* poverty - nevertheless is of utmost necessity. Not only does it provide relief, prolong life, improve well being, delay onset of OIs and AIDS, increase life-expectancy and decrease number of orphans, but it also provides scope of more productive years of living, thereby prolonging earning capacities and sustaining precious sources of HH income. Studies like Bloom, Canning and Sevilla (2004) and Bloom, Canning and Malaney (2000) show rise in output, labour productivity, and/or per capita income through improved life-expectancy (as in ADB 2004, 45). It is claimed that with medical care and nutritional management, an HIV+ person can live a reasonably long and health life: while two square meals and proper treatment can delay the initiation of ART itself, having ART and proper medical care and nutrition can prolong lifespan by 20 years or more (Gautham 2008, 1).

6.6 MISCELLANEOUS

Though made up of three sub-sections, this section broadly outlines two issues pertaining to health and medical treatment where there are potential present and future economic fallouts.

6.6.1 Private treatment

The treatment for HIV infection with allopathic medicines is said to run to even over ₹ 2 lakhs per annum, a sum which only a few in India can afford, with the treatment to be taken till death (Ramaiah 2008, 65). Around a decade back it was found that depending on the combination of drugs, a year's supply could range from ₹ 42,000-1.2 lakhs with only about 1-2 percent of the infected people in the country being able to afford drugs at such prices (Sengupta 2000, 124). As highlighted earlier for any medical necessity there are relatively more non-HIV/AIDS HHs than HIV/AIDS HHs which depend on 'paid' private treatment than 'free' government treatment. Study findings revealed that this is so on the part of non-HIV/AIDS HHs on account of their relative affordability, less frequency of illness episodes, convenience, and/or supposedly prompt and good quality of treatment. If one takes a wholesome view of overall annual medical treatment of HIV+ respondents instead of viewing the same separately as was done in earlier sections, *primary* dependence for medical treatment from source/type point of view during the last one year was as follows:- i] government treatment: 54 [27 percent] respondents; ii] private treatment: 13 [6.5 percent] respondents; iii] both government and private treatment: 36 [18 percent] respondents; and iv] government and NGOs/C&S Homes treatment: 97 [48.5 percent] respondents. Of the 54 HIV+ respondents availing primarily the government provided treatment, nine [4.5 percent of the total sample] used to take *only* private treatment earlier but had to switch over totally due to financial difficulties.

Related to the issue of private HIV/AIDS treatment, it is the treatment that is often preferred at least in the beginning on account of keeping ones identity and HIV+ status under total wraps; and/or possibly as the Commission on Macroeconomics and Health [CMH] found in 2000-01, due to the deficiency of the public sector itself in India towards health care, as 5/6th of all health related spending which occurs in the private sector is a possible indicator of (Sachs 2008, 4).³⁶ Though only a few sample respondents were currently on it, nevertheless there were others who were partly or exclusively on the same earlier before switching over to government/NGO provided treatment (see also Pandey 2006, 12). As *field*-interactions have revealed [true for others not part of the study as well], at least in the context of the socio-economic categories of HHs under study, over dependence on private treatment for regular ART or 'other RMMT' itself, has often led to two adverse outcomes both of which having serious economic dimensions: A] HHs gradually wipe-out their savings/investments/assets on expensive treatment with hardly any assets worth the mention remaining for future. Matters get compounded because along with high medical expenses, earning capacities too decrease gradually, especially considering the background of HHs that formed part of the study sample. Present consumption of non-medical goods including food is often compromised upon. The prohibitive private medical costs that cannot be sustained always by all for a long and indefinite period of time can be put in perspective with an example. Leaving aside major surgical procedures, ART treatment itself, taken privately, can cost between ₹ 1,300-3,900 per month for *first-line* treatment; about ₹ 8,300 per month for *second-line* treatment; and a whopping ₹ 80,000-1 lakh per month for a more superior, oft called *third-line* treatment;³⁷ B] ART is a life long commitment (Jain and Stephens 2008, 9). Adherence - taking the drugs exactly as prescribed: on time and in accordance with any diet/lifestyle restrictions, and for the person's

lifetime – is a must in case of HIV/AIDS (*ibid*). Failure to take doses properly can be very harmful and can have the following fallouts: i] failure of drug to suppress HIV; ii] development of drug resistance; iii] drugs not being absorbed properly by the body and hence getting wasted; iv] virus not getting suppressed and hence there being no benefit to the individual; and v] person taking the drugs still having to bear the severe negative side effects (*ibid*). At least over 90-95 percent adherence levels are required - missing on the drug cannot be more than one dose a month (Medhini, Jain and Gonsalves 2007a, 108; Jain and Stephens 2008, 9). Dependence on private treatment, especially considering the socio-economic background of the sample HHs, has often contributed to respondents being unable to spend on a regular basis and on the right dosages of medicines. Often medicines are skipped or dosages reduced without, and contrary to, medical advice. This can cause / has caused irreversible damage to the health status of the HIV+ respondents, with not only health deteriorating, but also a need arising to put them on stronger and higher dosages of drugs or changing the line of treatment itself [all entailing higher expenses]. It needs to be noted that with the best combination of drugs itself, infections keep spreading with HIV developing multi-drug resistance³⁸ thereby making treatment harder (Israni 2001, 191-192).³⁹ Not taking proper treatment only makes matters worse. This is not to say that it is only privately purchased treatment likely to cause drop in adherence levels. Even with government/NACO provided ART there is often poor adherence due to factors like time involved at the ART centres, breakdown of *CD-4* (GSACS 2008, vii) and *viral-load* count machines, long distances to ART centres, conflicting/competing priorities, lack of total privacy etc. (see also Colin Gonsalves, in HRLN 2008, 41-48). Studies have indicated that more than half of those who were fortunate to start with the treatment⁴⁰ were not adhering to their treatment regimen by the end of the first year itself due to the high costs of drugs and tests (Stephens and

Jain 2008, 19). However, leaving aside the limitations of free treatment, adherence can get worse with private treatment due to prohibitive costs itself. As *field*-observations revealed many HIV+ people on private treatment, on knowing of their incapacity to sustain treatment, either die due to discontinuation, or switch over to treatment provided by government hospitals/NGOs/C&S Homes⁴¹ – which quite often is a little too late (see also Pandey 2006, 12).

6.6.2 Discrimination

Discrimination, which amongst other types includes health/medical care related discrimination, only fuels the fires of economic disasters faced by HIV/AIDS individuals/HHs. Discrimination can be both, ‘financial incapacity to pay’ related [on account of poor background of HHs in general] and/or sickness/stigma related. While private health care service providers being ‘for profit’ enterprises cannot guarantee equity of care especially to those ‘bad clients’ with chronic diseases, pre-existing medical conditions and those who cannot make payments on a regular basis (Krishnamoorthy 2009, 9); government health facilities too are often culprits at the time of dispensing the treatment especially so for PLWHA (see also Nagarajan 2007, 7). Let alone HIV/AIDS, state-run health care services and schemes that are meant for all rarely reach those in need and often require influence to be accessible – patients have inevitably to purchase medicines from the market though they are supposedly available free in government hospitals (Nair 2009b, 2). All the above in\directly contributes towards additional economic burden.

Examples of some fallouts actually faced by sample HIV+ respondents on account of medical discrimination faced in Goa⁴² – all of which having serious economic ramifications - are as follows: i] due to discrimination infected individuals stop seeking further treatment; ii] PLWHA resort to improper, medically unsound and dangerous ‘home remedy’;⁴³ iii] discrimination contributed delay in treatment worsens the ailment and raises the cost of treatment

[even if it is State borne] on account of further deterioration. All the above, leaving aside the numerous non-economic fallouts, besides contributing towards future rise in medical costs, also contribute to fall in earning capacities on account of poor employability, and at times even to making a person permanently unemployable due to irreversible damage to health.⁴⁴

6.6.3 Others

The situation on the medical expense front for HIV/AIDS HHs can be worse than what it already is and shown herein, if they have other members who are sick, and especially if they have more HIV+ members. The medical expenses of these latter members even if not presently high can/will go up in subsequent years due to gradual forward progression through the four stages of HIV infection. *Field*-interactions revealed that in HIV/AIDS HHs on account of financial difficulties caused by HIV/AIDS even HIV-negative members often do not get timely/proper treatment for their ailments. In contrast, non-HIV/AIDS HHs are much better placed with regards to medical expenses *despite*: i] considering details of *all* HH members [18-60 years]; ii] more going for 'paid' private treatment; and iii] none getting any medical expense fully reimbursed/sponsored by others unlike their HIV/AIDS counterparts.

To take care of rising expenditures and falling incomes HIV/AIDS HHs often adopt various coping mechanisms a number of which were mentioned in earlier chapters like wife, minor children and/or those above 60 years taking up remunerative employment; taking assistance from NGOs; resorting to borrowings from relatives/friends, employer, financial institutions and/or even money-lenders; resorting to dissavings; and even depending on UUI. Besides the above other important coping mechanisms made use of by the sample HHs include: availing support from extended family⁴⁵ and mortgaging of assets. While 93 [46.5 percent] sample respondents availed the benefit of the former, 25 [12.5 percent] made use of the latter.

The coping mechanisms as mentioned are either absent, or play only an insignificant role in case of non-HIV/AIDS HHs – where majority manage needs with own resources, i.e. present earnings, past savings, or both.

6.7 SUMMARY

HIV/AIDS HHs face immense hardships with regards to illness episodes and treatment related expenses. Whether it is total annual HH medical expenses, NHIT, HIT or RMMT, HIV/AIDS HHs are at an overwhelming disadvantage both, numbers of HHs and high medical expenses points of view. Generally speaking, HIV/AIDS, an important cause of iatrogenic poverty among HHs, involves high medical expenses irrespective of the number of years since HIV detection, gender of the HH head and gender of the HIV+ respondent. There have been significant differences found to exist between the two study samples' pertaining to various facets of health and medical expenditure. Medical expenses of HIV+ respondents' alone, which form the major chunk of total annual HH medical expenditure, far exceeded the medical expenses of *all* non-HIV/AIDS HHs' members taken together. The significant differences existed *despite*: a greater percentage of HIV+ respondents opting for 'free' treatment, unlike a greater proportion of non-HIV/AIDS HH members availing of 'paid' private treatment; a large number of HIV+ respondents getting the benefit of fully/partly sponsored medical treatment with many not having to bear even the out-of-pocket expenses [unlike the counterparts from non-HIV/AIDS HHs all of who had to bear personal expenses]; and many HIV+ respondents not seeking treatment due to financial constraints. There was significant association found between: a) gender of the HIV+ respondents and source of treatment [while relatively more females opted for 'free' treatment, more males went for 'paid' private treatment]; b) number of years since HIV detection and

whether opted for treatment [the association was direct in nature for those who took treatment];
 c) gender of the HH head and whether opted for treatment on being sick continuously/frequently
 [this was to the rare advantage of female-headed HHs]; and d) gender of the HH head and
 whether on ART [to the disadvantage of female-headed HHs].

* * * * *

Notes

1. Results have been provided only if they are statistically appropriate/sound. For e.g. in case of chi-square tests if results have an unacceptably large number of cells with expected count of '<5' despite *redoing*, the same have been ignored. Doing so does not adversely affect the study for the same do not form any critical part of the study objectives.
2. A related sub-objective was to find whether significant differences exist if details of those below 18 and above 60 years are also considered.
3. If 1 percent of the extreme sample elements in terms of high 'other annual HH consumption expenditures' are *trimmed*: mean expenses *including* medical become ₹ 31,551 [SD: 39654; Max. amt: ₹ 3,17,000] and *without* medical expenses become ₹ 19,554 [SD: 29661; Max. amt.: ₹ 2,18,000]. If 1 percent of the extreme sample HHs in terms of high annual medical expenses are *trimmed*: mean 'other annual HH consumption expenditures' *with* medical are ₹ 33,260 [SD: 51398; Max. amt.: ₹ 5,13,000] and *without* medical are less than half at ₹ 15,073 [SD: 44211; Max. amt.: ₹ 4,78,000].
4. This was found by *redoing* medical expense slabs from 11 to 8, with the lower-end two and upper-end three being merged.
5. MW-U [where actual expense details were considered instead of slabs, and where there was no question of *redoing*] showed that *there was no significant difference in total annual HH medical expenses based on gender of the HIV/AIDS HH head at the 0.05 level* [$U = 4147$; $Z = -1.758$; $p = .079$]
6. In case of non-HIV/AIDS HHs, chi-square provides an unacceptably high percentage of cells with expected count '<5' despite *redoing*, on account of the presence of very few female-headed HHs [most of these were incidentally having expenses in the bottom two brackets]. MW-U however showed *no significant difference in total annual HH medical expenditures at the 0.1 level on the basis of gender of the non-HIV/AIDS HH-head* [$U = 3112.5$; $Z = -1.555$; $p = .120$].
7. These results were obtained after *redoing/reducing* slabs from the original 11 to 6: with the bottom two; top three; original 4th and 5th; and original 6th and 7th slabs being merged.
8. All present in large number of sample HHs as highlighted in earlier chapters.
9. See also: '*AIDS as much a social problem as a medical one*', in *The Hindu* (01/12/2009, 6).
10. WHO classifies the HIV infection into four clinical stages based on the infections and the performance scale (Pradhan, Sundar and Singh 2006, 116-117).
11. OIs are those caused by otherwise harmless micro-organisms that can become pathogenic when the host's resistance is impaired (WCC 2002, 110). While OIs decrease the CD-4 count, thereby weakening the HIV+ individual further, poor CD-4 count in turn can make the HIV+ person vulnerable to more OIs.
12. While mean age of total HIV+ sample respondents was 36.50 [SD: 8.73]; mean age of those sick last month but not continuously/frequently [43 in number] was 35.12 years [SD: 7.87].
13. From original nine [including the 'nil' bracket] to seven, with 'Up to ₹ 250' constituting one slab and '₹ 751-1500' constituting another, besides the rest.
14. Fourteen were sick *frequently* and eight *continuously*.

15. Details of such implications [some of which are provided in earlier chapters], have not been included in this chapter since the primary objective of the chapter was on studying the more 'direct' economic implications of HIV/AIDS on health/medical expenses only.
16. Or 23 percent if one considers the entire sample.
17. The focus of Patra is not on HIV/AIDS *per se*, but on health care/delivery in Orissa.
18. That the mean number of days hospitalised is high in case of HIV+ respondents can be appreciated better by seeing that even if a couple of extreme sample elements are *trimmed*, mean days hospitalised is still considerably higher at 24.72 [SD: 23.58].
19. Reimbursement or sponsoring of expenses which is done at times by NGOs or benefactors in case of HIV+ respondents does not usually happen in case of non-HIV/AIDS HHs. While HIV+ respondents who got their medical expenses including out-of-pocket expenses fully reimbursed by others were not included for deriving the mean values pertaining to expenses as mentioned herein, of those who were considered also, some got additional amounts over and above their own provided by others.
20. Slabs reduced to six: 'nil'; 'Up to ₹ 500'; '₹ 501-2,500'; '₹ 2,501-5,000'; '₹ 5,001-10,000'; and 'Above ₹ 10,000'.
21. Unlike HIV/AIDS HHs, with regards to the non-HIV/AIDS HHs *there was significant association at the 0.1 level* [$U = 3312.5$; $Z = -1.933$; $p = .053$]. However, considering that significance was only at the 0.1 level and since very few HHs were involved in HIT, it may not be appropriate to make definite conclusions on the association without making further in-depth study with a larger sample.
22. An untreated HIV+ person has thousands or even millions of HIV particles in every milliliter of blood. This is known as the *viral load*. Lower the *viral load* better it is for the recovery of the immune system. The aim of ART is to suppress the level of HIV in the body to very low levels, ideally below 50 *copies* of HIV per milliliter [$50/\text{mm}^3$] of blood (Jain and Stephens 2008, 5).
23. According to WHO, those payments made by the patient at the point of receiving healthcare, with the definition taking a cross sectional view of the point of interface between the patient and the service provider (Malavia in HRLN 2008, 152)
24. Even at present despite much initiative, experience, spending and global funding, 2.6 lakh PLWHA in India are still in dire need of ART (Sinha 2010b, 11).
25. Incidentally of those not on ART, many were on urgent need of the same based on their medical parameters; but were not availing primarily due to extreme financial constraints and lack of support. Besides putting life to greater vulnerability, this was also reducing their productive life.
26. See also AIDS.org: <http://www.aids.org/factsheets/124-t-cell-tests.html>
27. It needs to be noted here that need of being on ART is not dependent *per se* on the number of years since contracting HIV. It instead depends on circumstances like general pre-disposition, *CD-4* count, *viral load* count etc. - which in turn are often influenced by factors such as nutritional status, OIs etc.
28. Pertaining to non-HIV/AIDS HHs, while about two-thirds at 65.9 percent [27 respondents] belonged to the 18-60 years age bracket, 34.1 percent [14 respondents] represented those above 60 years [in one case vis-à-vis the latter details pertained to two members of the same HH].
29. While 53 [41.7 percent] out of 127 on government provided ART were on 'other RMMT', the corresponding figures were 3 [75 percent] out of 4 with regards to those on private ART.
30. This is in lieu of the mean ₹ 2,215 spent by those on private ART [see Table 6.4.1aⁱⁱⁱ].
31. In case of one non-HIV/AIDS HH details of three members were included.
32. Pertaining to the sample HIV/AIDSs HHs, during the course of last one year itself 50 percent of the HIV+ respondents were subject to all three: NHIEs, HIEs and RMMT, irrespective of whether the treatment was taken or not [as seen earlier a substantial number do not seek NHIT even if frequently/continuously ill]; whether the persons suffered NHIEs during the last one month or earlier; and whether the treatment was free/fully-sponsored at no cost to self/HH. Of the remaining, while 67 [33.5 percent] respondents were subject to least two of the mentioned three during the year, 26 [13 percent] were subject to at least one. Only 7 [3.5 percent] respondents were free of all three. Even with regards to those 'medically free' during the last one year, either some were exposed to the same in the past even entailing high expenses [in one case a respondent having nil personal medical

- expenses during the last one year had spent over ₹ 3 lakhs on HIV related treatment earlier], or in the concerned HHs some other HIV+ member not directly part of the present study was currently undergoing treatment.
33. This bold assumption, though not in consonance with ground reality since there were NHIEs in earlier months as well, was made only for the purpose of arriving at *minimum* NHIE expenditure figures per HIV+ respondent. Details of earlier months were unavailable since the objective of the study was primarily to analyse NHIT expense details of last one month only - an objective quite similar to the NCAER/UNDP/NACO study (Pradhan, Sundar and Singh 2006). On account of the various complexities involved, especially on account of the very nature of the study, there is no full-proof method *post-data* collection, of finding correct NHIE expenditure figures for the earlier 11 months, only on the basis of knowing the number of illness episodes that took place earlier and expense figures of last month. This is on account of reasons like: treatment costs are not always the same; treatment is not always taken; if treatment is taken it does not always involve personal costs; nature of earlier illness episode(s) may be different to that/those of last month; source of treatment may be different in different months etc. Considering the very nature of the assumption therefore, the percentage share of HIV+ respondents' medical expenses to the total annual HH medical expenses could only get higher than what has been cited.
 34. The balance 49 percent are primarily incurred on those below 18 and above 60 years - though a small part is still on those within 18-60 years since NHIEs of earlier months were not considered herein.
 35. Average of 2.77 members per HH excluding the HIV+ respondent [see Table 3.10iv, Chp. 3].
 36. Public health expenditure in India as a proportion of total health expenditure is only 16 percent - much less than in Ethiopia, Nigeria and Pakistan where it is 36, 28 and 23 percent respectively (Ramachandran and Rajalakshmi 2009, 25).
 37. Market prices in approximate figures of commonly prescribed drugs as per recommended dosages have been provided as factual examples of the cost factor: *First-line* treatment [four common options]:- i] TRIOMUNE-30 tabs: ₹ 1,324 per month; ii] DUOVIR-N tabs: ₹1,544 p.m.; iii] VIRADAY tabs: ₹ 3,900 p.m.; iv] generic combination of Zidovudine, Lamivudine & Efavirenz: ₹ 3,200 p.m. *Second-line* treatment:- LOPIMUNE, TENVIR-EM and Zidovudine: ₹ 8,316 p.m. *Third-line* treatment:- Fusion inhibitors: ₹ 80,000-1 lakh p.m. While the course/line prescribed depends on various parameters of the patient; each has its own side effects [see Ramaiah (2008, 67-74)]. Often additional treatment is recommended alongside on a regular basis. Despite, or on account of its prohibitive price, the *third-line* treatment is often not available in the market. *First-line* treatment is the one dispensed by ART centres across India, with a few select centres of late also dispensing *second-line* treatment.
 38. One HIV virus can make 10 billion copies of itself in a day, with a mutation rate of 1 in 10,000 (Gaitonde 2001, as in Singhal and Rogers 2006, 46-47).
 39. To cite a related example of TB, which is often associated with HIV/AIDS, in order to see the economic dimension of the fallout of getting infected with drug resistant versions of illnesses:- while normal TB can be treated in 6 months, drug resistant TB takes over 2 years, with drugs being less potent and more toxic; while standard TB drugs cost \$20, drug resistant TB medicines cost up to \$5,000 (Sinha 2010c, 11).
 40. At the turn of the century only about 2.2 percent of PLWHA in India were receiving ART.
 41. The switching-over is dangerous because often private practitioners put PLWHA on ART once *CD-4* count becomes '<350'. However, if one switches to government ART, one gets it only if the *CD-4* count is '≤200'. Hence, if at the time of switching if ones *CD-4* count was '>200' one will not get the free ART. This is dangerous since once started, ART cannot be stopped. To avail of the same therefore PLWHA often consciously and at grave risk decrease their *CD-4* count to '<200' for availing the free ART without delay.
 42. Medical discrimination is faced by PLWHA even in present times in State-run public health services despite Government of India memorandum No. 11020/29/1198/NACCO (Admn ART) dated 26/08/2008, with directives for compliance of the Supreme Court to ensure the rights of PLHA.

43. In one case on account of denial of treatment, that too by being kept in/near the operation theatre for the entire day, an HIV+ individual resorted to self removal of an ulcer at home which in reality necessitated a surgical procedure done by a medical practitioner possibly involving local anesthesia/hospital stay.
 44. In one case, delay in providing timely treatment led to a HIV+ person becoming permanently blind. Costly treatment in the range of ₹ 80,000-1 lakh provided by the State subsequently was not sufficient to reverse the damage already caused.
 45. They are relations who are not directly part of the HH. With regards to HIV/AIDS HHs these relations are usually from the wife's side [about 64 percent of the cases].
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CHAPTER 7: SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 SUMMARY OF CHAPTERS / FINDINGS

- 7.1.1 Chapter 1**
- 7.1.2 Chapter 2**
- 7.1.3 Chapter 3**
- 7.1.4 Chapter 4**
- 7.1.5 Chapter 5**
- 7.1.6 Chapter 6**
- 7.1.7 Chapter 7**

7.2 CONCLUSION

7.3 RECOMMENDATIONS

- 7.3.1 Preventive recommendations / measures**
- 7.3.2 'Curative' recommendations / measures**
 - 7.3.2A 'Medico curative' recommendations / measures**
 - 7.3.2B 'General curative' recommendations / measures**
- 7.3.3 Suggestions for further research**

Notes

CHAPTER 7: SUMMARY, CONCLUSION AND RECOMMENDATIONS

HIV/AIDS is like a huge rock in society. Only if everyone in society keeps breaking the rock into smaller pieces will it eventually become dust: Sommai Punnyakamo (2001, as in Singhal and Rogers 2006, 242).

As the chapter title is indicative of, the present chapter is sub-divided into three broad parts: summary of chapters/findings, conclusion and recommendations.

7.1 SUMMARY OF CHAPTERS / FINDINGS

The present study has been presented in seven chapters. The summary of each along with key findings are as follows:

7.1.1 Chapter 1

The chapter titled '*Introduction*', which began with a broad background of HIV/AIDS comprised of the following: statement of the research problem; objectives of the study; scope of the study; relevance/significance of the study; and limitations of the study.

7.1.2 Chapter 2

Chapter 2 pertained to '*Review of Literature*'. It comprised of the following sections: methodologies/primary objectives of other studies; economic implications of HIV/AIDS; summary of findings of other studies; and similarities/differences between the present research and other studies. The economic implications of HIV/AIDS were divided into three parts: macro/national, sectoral/occupation and micro/individual/HH level implications; with each being further sub-divided into non-medico economic implications and medico-economic implications.

7.1.3 Chapter 3

Titled as '*Research Design, Methodology and Sample Profile*', the third chapter covered aspects like the study population; sampling procedures; sample; instrumentation; ethical considerations; data collection, methods and techniques; operational definitions; and sample profile.

7.1.4 Chapter 4

As per the title this chapter dealt with '*Impact of HIV/AIDS on Income and Employment*'. Amongst others it covered issues pertaining to employment/income loss due to death of an AIDS member; income/employment of the HIV+ respondent and CGs; additional burden due to death of non-HIV/AIDS earning members; coping mechanisms; and loss of double employment/sources of income. The summary of major findings of the chapter is as follows:

The chapter has revealed the serious nature of economic hardships caused directly/indirectly by HIV/AIDS on individuals/HHs through loss of employment/income. Unlike their non-HIV/AIDS counterparts, barring the odd case of higher non-wage income per annum [excluding interest], HIV/AIDS HHs have lower HH, per capita wage and total income per annum [in addition to having more dependents]. The significantly low total HH income levels in HIV/AIDS HHs - with female-headed HHs being to a greater disadvantage - can be attributed to fall in earnings indirectly linked to HIV/AIDS for reasons such as: absenteeism due to sickness/care-giving; loss of job due to sickness/care-giving; 'un-employability' of the HIV+ person due to sickness; incapability/indisposition for regular work; death of working members; part-time work; working at lower remunerations due to changes in jobs etc.

While HIV/AIDS in general and death of an AIDS member can contribute towards disbanding/dissolution of HHs as the relatively high number of single person HHs can be an indicator of, death of earning AIDS members causes hardship to HHs since: a] an income source

is permanently/prematurely lost; b] majority of the dead were earning and in the productive age groups; and c] death involves funeral costs. Average earnings lost of dead earning AIDS members was found to be greater than the total annual HH income of almost three-fourth of the total sample HHs. Savings in terms of medical expenses on the death of the AIDS working member does not substantially compensate for the larger losses in terms of earnings lost.

Pertaining to the HIV+ respondents, while a number who were not working at the time of HIV detection are working now to supplement HH income, many of those working earlier are not so now, with the majority not doing so due to illness, followed by dismissal from service; with most getting no compensation at the time of leaving. Mean earnings at present are lower than those prevailing at the time of HIV detection. While comparing earlier employment to the present there is a fall in the number of agricultural labour, skilled/semi-skilled/non-agricultural labour and housewives; there is rise in those in service [primarily due to HIV/AIDS NGOs], domestic servants and petty business/small shops. Majority of those currently employed have not reported their status to their employers due to fear of losing their job; of those who reported, there has been no discrimination. Absenteeism from work due to HIV/AIDS and the consequent loss of income is significantly higher in HIV/AIDS HHs as compared to non-HIV/AIDS HHs.

Majority of the HIV/AIDS respondents/HHs required services of CGs. However, many had to forgo the same, with those relatively fortunate having to make do with part-time service or when absolutely needed only. Majority of the CGs were HH members or relatives; employed; and in productive age groups. CGs also included minor children and those above 60 years. Though care-giving was usually occasional/part-time, it nevertheless led to loss in earnings.

Having non-HIV/AIDS earning HH members dying aggravates the problem for HHs in general. Although the number of such cases appeared inconsequential, nevertheless compared to

non-HIV/AIDS HHs, those belonging to HIV/AIDS HHs earned less and suffered more [in terms of months] - in high possibility on account of HIV/AIDS in the HH and the consequent resource scarcity in terms of time, attention and finances.

Coping mechanisms [like wife/HIV+ female respondent taking up job, HIV+ person taking additional job, minor children and/or those aged above 60 years taking up remunerative work] adopted by HIV/AIDS HHs to supplement income, are conspicuous by their absence in non-HIV/AIDS HHs. While there was a significant association between adoption of coping mechanisms and total annual HH income, with those HHs from lower brackets mostly making use of the same, there was no significant gender based association although female-headed HHs also made substantial use of them. There was positive WFPR even among HIV+ minor children.

While a number of HIV/AIDS HHs have lost an income source during the course of last one year due to HIV/AIDS, with most being from lower income brackets, the number can increase even further if those who are currently not working due to illness who though intend to take up remunerative employment in the future may in reality not be able to do so due to further deterioration in health. Loss of income pertaining to those who lost employment during the year was equal to almost 30 percent of the total HH income. HHs facing loss of two sources of income due to death and/or loss of employment due to illness face a far severe economic crises than others with the total mean annual HH income lost being even greater for some HHs than the actual total annual HH income itself. The amount lost by HHs having dead AIDS earning members would suffice to place almost one-third sample HHs in higher income brackets.

While much of the findings are substantially graver in HIV/AIDS HHs as compared to the 'control group', in the former itself they are experienced more by those from lower income brackets. Though pertaining to employment/income significant gender based associations in

general were not visible, nevertheless female-headed HHs have not been spared of hardships, with the same being indeed significant in HHs where earning AIDS members had died and in HHs where there was loss of income from two earning HH members.

7.1.5 Chapter 5

Titled as '*Impact of HIV/AIDS on the Inflow and Outflow of Household Income*', Chapter 5 dealt with aspects on how the annual HH rupee comes and where it goes. While the outflows broadly pertained to food, regular monthly consumption and other annual HH consumption expenditures, besides remittances and savings/investments; inflows covered HH income, dissavings, borrowings and UUI. At the end miscellaneous issues like modes of dependence for assistance, provision for children's future, institutional assistance and disproportionate burden on females were also outlined. The summary of important findings of the chapter is as follows:

HIV/AIDS HHs face significantly greater adversities as compared to non-HIV/AIDS HHs, be it with reference to numbers of HHs involved or mean values. Pertaining to food, the hardships were more despite food expenses constituting a greater proportion of total HH income and greater dependence on 'partly/fully sponsored' food. While food expenses and gender of the HH head are independent in HIV/AIDS HHs, reflective that irrespective of the gender HHs in general face food problems; in case of non-HIV/AIDS HHs it was usually the female-headed HHs which spent lower amounts. The absence of significant association in case of HIV/AIDS HHs' sample was despite female-headed HHs having significantly lower total annual HH incomes as compared to male-headed HHs [female-headed HHs make up for their significantly low total annual HH incomes through significant dependence on 'partly/fully sponsored' food and UUI; and to some extent by resorting to coping mechanisms]. Female-headed HIV/AIDS

HHs faced significant hardships vis-à-vis drop in food consumption since HIV-detection, with many not being able to spend additional amounts on extra\proper food as recommended.

Pertaining to the regular monthly HH consumption expenditure [excluding food] while unlike non-HIV/AIDS HHs there were less number of HIV/AIDS HHs under heads like fuel/water, electricity, entertainment, cable/dish TV and alcohol; there were more HIV/AIDS HHs with regards to 'house rent', an indicator of fewer HHs having self-owned houses. On an average while amounts spent by non-HIV/AIDS HHs were significantly higher on heads like entertainment, electricity, fuel/water, cable/dish TV and alcohol; mean amounts were higher vis-à-vis rent in HIV/AIDS HHs. Unlike in case of food expenses, there was significant association between regular monthly HH consumption expenditure and gender of the HH head.

With regards to 'other annual HH consumption expenditure', barring the inconsequential case of automobile purchases, except for the larger number of HIV/AIDS HHs associated with medical expenses, there were fewer HHs vis-à-vis clothing/footwear, education, other durable goods, house/vehicle repairs/maintenance etc, as compared to non-HIV/AIDS HHs. There were significant differences between the two samples' with regards to most of the listed heads of expenses [including clothing/footwear, education, other durable goods, medical, maintenance/repairs of house/vehicle, ceremonies/festivities etc.] to the disadvantage of HIV/AIDS HHs. There were more HIV/AIDS HHs in the higher expenditure slabs unlike their counterparts, primarily due to the high medical expenses. Unlike the 'control group', there was no significant association between gender of the HIV/AIDS HH head and other annual HH consumption expenses [due to reasons like universality of medical ailments/expenses across HIV/AIDS HHs and dependence of female-headed HHs on coping mechanisms and UII].

While in relation to remittances the numbers of HHs involved and mean values were significantly higher in case of HIV/AIDS HHs; with regards to savings/investments the figures were significantly lower as compared to the control group. Position of HIV/AIDS HHs was also comparatively adverse with regards to savings vis-à-vis dissavings. There was no significant gender-savings/investment association in HIV/AIDS HHs though there was in the control group.

In sum, while with regards to non-HIV/AIDS HHs the rupee was used more on food and savings\investment, in case of HIV/AIDS HHs it was to meet medical expenses and make remittances, the latter being a consequence of higher borrowings. While in case of the former HHs total outflow of income was more or less close to the total annual HH income, in case of HIV/AIDS HHs the outflows were substantially greater than the total annual HH income.

With regards to the inflow of the HH rupee, though total annual HH income is the primary mode, most HIV/AIDS HHs were in lower income brackets, with per capita and per HH income being lower than their non-HIV/AIDS counterparts, despite having greater amounts in terms of non-wage income. In both samples' there was significant gender based association with total annual HH income slabs to the disadvantage of female-headed HHs.

Majority of the HIV/AIDS HHs resorted to dissavings and borrowings since HIV detection. There was no significant association between the same and gender of the HH head. During the last one year there were more HIV/AIDS HHs which resorted to dissavings, though there was no significant gender based associations. With regards to borrowings, while the numbers of HHs and mean values were significantly higher for HIV/AIDS HHs - there was no significant gender based association though there was in case of non-HIV/AIDS HHs.

The much unknown and hardly documented UUI irrespective of its nomenclature, plays a critical role in HIV/AIDS HHs - in terms of numbers of HHs involved as well as mean values.

There was significant gender-UUI association in both samples' [in 'favor' of female-headed HHs]. Of those HIV/AIDS HHs with borrowings and UUI, majority had 'UUI > Borrowings', with the same happening significantly in case of HHs belonging to lower annual HH income slabs. The role played by others/externals in HIV/AIDS HHs could be more than that reflected under UUI/borrowings since many HHs get part of their expenses reimbursed by others later.

Of the total inflow, while in case of non-HIV/AIDS HHs the major chunk of over 91 percent came from wage-income itself with other modes playing minor roles, in case of HIV/AIDS HHs while the role played by wage-income was comparatively smaller, the contributions made by borrowings and UUI were higher at over 13 percent each.

Although for most of the sample HHs NGOs do play a role in providing assistance, in the majority of the cases though it was borrowings/UUI and 'combination of others' that *primarily* assisted to meet HH expenses\deficits during the year. Most HHs had no way of getting formal social security assistance through Life/Medical Insurance or ESIS. Majority of the HIV/AIDS HHs made no provisions for the children's future unlike provisions made by their counterparts. Unlike non-HIV/AIDS HHs where 'provisions made for children's future' were gender of the HH head dependent, in case of HIV/AIDS HHs the same was gender independent.

The chapter has shown gender bias of HIV against females. On many occasions it is the female-headed HHs which are at a greater/disproportionate disadvantage. Occasional absence of significant gender based association in HIV/AIDS HHs [though on the contrary association is often present in non-HIV/AIDS HHs] is not indicative of better times for female-headed HHs – it only indicates that the situation is bad for all irrespective of gender. Also, in HIV/AIDS HHs gender based associations when absent were at least partly due to adoption of coping mechanisms and significantly high dependence on the part of female-headed HHs on UUI [both

though help generate resources, nevertheless impose burden, which could include physical, emotional and future burdens]. HIV+ females, especially those married face great problems, present and future. Majority of these were **not**: a] staying with husband/his family; b] getting financial help from them; and/or c] getting any share in husbands' property.

7.1.6 Chapter 6

Chapter 6 titled, '*Impact of HIV/AIDS on Health and Medical Expenditure*', covered issues primarily related to total annual HH medical expenditure, NHIEs, HIEs and RMMT. The chapter also briefly outlines possible fallouts of economic nature due to dependence on private medical treatment and discrimination in health care. The major findings of the chapter are as follows:

Total annual HH medical expenditure of HIV/AIDS HHs forms a substantial proportion of total 'other annual HH consumption expenditure' as well as 'total annual HH consumption expenditure', with the figures being significantly different in the two study samples'. If not for the total annual HH medical expenditures there would be no significant difference in the total annual other HH consumption expenditures of the two samples' – the two would appear to come from the same population. Unlike non-HIV/AIDS HHs, HIV/AIDS HHs cannot in general spend much on non-medical HH consumption items due to financial incapacities caused by HIV/AIDS. The total annual HH medical expenses of HIV/AIDS HHs are independent of the gender of the HH head, as well as of years since detection of HIV.

Pertaining to NHIT, HIT and RMMT, wherein majority of the HIV/AIDS sample respondents were subject to the same, significant differences were found to exist in total expenditures in the two study samples', and this *despite*: a] details of only the HIV+ respondents being considered in the case of the HIV/AIDS HHs sample, unlike details of *all* in the age group of 18-60 years in case of non-HIV/AIDS HHs; b] a greater percentage of HIV/AIDS HHs opting

for free treatment provided by government/NGOs/C&S Homes, unlike non-HIV/AIDS HHs where a greater proportion availed of private treatment; c] a large number of HIV/AIDS HHs getting the benefit of fully/partly sponsored medical treatment with many not having to bear even the out-of-pocket expenses, unlike their counterparts all of who without exception had to bear personal/HH costs even if the treatment was from government hospitals; d] many HIV+ respondents not seeking treatment for NHIEs, besides some not taking RMMT regularly [time perspective] or properly [dosage perspective] due to financial constraints.

With regards to NHIEs which majority of the HIV+ respondents were subject to unlike the 'control group', the number of illness episodes experienced by the former were also far more, with a large number experiencing the same frequently or continuously. Almost one-third of the HIV+ respondents experiencing NHIEs did not seek treatment, with the primary reason being financial constraints. In case of the non-HIV/AIDS HHs those not seeking treatment were an insignificant figure that too with treatment not taken since the illness was not considered serious. While all HIV+ respondents not seeking treatment belonged to poorer HHs in terms of total annual HH income, majority of these were frequently/continuously ill. There was a significant association between gender of the HIV+ respondents and source of treatment, with females generally availing more of government/NGO provided free treatment unlike males many of who opted for private treatment. There was also a significant association between whether opted for treatment and number of years since HIV detection, with the relation being direct in nature. Pertaining to those frequently/continuously ill, there was an association, both, between whether availed of treatment and i] gender of the HH head [a rare case in favour of female-headed HHs], and ii] number of years since HIV was detected [relation was direct/positive]. Total NHIT expenses of sample HIV/AIDS HHs were almost ten times higher than those of non-HIV/AIDS

HHs despite factors mentioned in paragraph two above [pertaining to major findings of **Chp. 6**]. The significant difference in total NHIT expenses in the two study samples existed even if expenditure details of those '<18' and '>60' years from non-HIV/AIDS HHs were also included. There was no significant association between total NHIT expenses and gender of the HH heads and of HIV+ respondents.

Close to two-thirds of the sample HIV+ respondents were subject to HIEs during the last one year ['<10' percent in case of 'control group']. Unlike majority of the non-HIV/AIDS HHs which managed total HIT expenses with own resources despite a comparatively greater proportion opting for private treatment, in case of HIV/AIDS HHs there was much dependence on borrowings. The mean number of times and days hospitalised was more by about 2 and 4.5 times respectively in case of HIV+ respondents as compared to the 'control group'. Total HIT expenses of the former were almost eight times higher than that of the latter. The significant differences in total HIT expenses exist *despite* factors mentioned in paragraph two [under major findings of **Chp. 6**] and total HIT expense figures of almost a quarter of the total sample appearing a low figure of 'up to ₹ 500' only. Significant difference in HIT expenses exist even if details of those '<18' and '>60' years of non-HIV/AIDS HHs are included. Though there were lesser HIV/AIDS HHs opting for private HIT and NHIT as compared to non-HIV/AIDS HHs', in case of the former HHs' dependence on non-private treatment was more in case of HIT. Total HIT expenses are independent of gender of the HIV/AIDS HH head and gender of HIV+ respondents.

With regards to RMMT, expenditures of HIV+ respondents get higher than what they already are on 'other RMMT' on account of the ART component. Majority of the sample respondents were on ART with most availing the free ART provided by government/NACO.

There was significant association between whether taking ART and gender of the HH head to the disadvantage of female-headed HHs [no significant association was found vis-à-vis gender of HIV+ respondent and also number of years since HIV-detection]. Total RMMT expenses of the entire HIV/AIDS sample were almost six times the size of the 'control group'. There was significant difference in total RMMT expenses of the two study samples' even if details of *all* members from the non-HIV/AIDS HHs are considered; and even if privately purchased ART treatment expenses are ignored. If ART expenses are excluded there is no significant difference in total RMMT expense in the two samples' if details of *all* members of the non-HIV/AIDS HHs are included. However, if details of *only* those in the 18-60 years age group are considered then even if ART expenses are excluded there is a significant difference in total RMMT expenses.

Annual RMMT and HIT expenses of the HIV+ respondent's constitutes almost 30 and 32 percent respectively of the total annual HH medical expenditures. Assuming that there were NHIEs only during the last one month, the percentage figure of the same in terms of the total annual HH medical expenditures becomes about 9 percent. Under the said assumption, the total annual medical expenditures of the HIV+ respondents itself will constitute a *minimum* figure of at least 71 percent of the total annual HH medical expenditure, with the *minimum* per HIV+ respondent total annual medical expenses being *at least* 6.8 times the per capita medical expenditure figures of *other* HIV/AIDS HH members. The per capita medical expenditure figures of non-HIV/AIDS HHs are even lower than those of the *other* HIV/AIDS HH members. The per capita total medical expenditure figures of the HIV+ respondents are over 16 times higher than the per capita figures for non-HIV/AIDS HHs' members. Things can only get worse for the former if details of NHIT of earlier months are also considered.

The average total medical expenses of the HIV+ respondents despite being calculated at the assumption assisted *minimum* level, is a figure close to 15 percent of the total annual HH income [1.22 percent in case of non-HIV/AIDS HHs comprising *all* members in the 18-60 years age group]. If we take the medical expenses of the HIV+ respondents on *per last month* basis and relate to the average total HH income per month, the percentage of the former becomes more than one-third at 35 percent [2.45 percent for 'control group']. Total annual HH medical expenses constitute a figure of about 20.6 percent of the total annual HH income [2.38 percent for non-HIV/AIDS HHs]. If not for the HIV+ respondents' total annual medical expenses, considered at just the *minimum* level, the medical expense bill of HHs would have been less by about 71 percent, with the average total 'other annual HH consumption expenditure' getting reduced by 25.27 percent [4.79 percent for 'control group']. Total annual medical expenditure of HIV+ respondents forms a *minimum* 10.5 percent [1.5 percent approx. for 'control group'] of 'total annual HH consumption expenditure', inclusive of food, regular monthly and other annual HH consumption expenses [excluding savings/investments and remittances]. The average total annual medical expenditures of the HIV+ respondents can take care of average food expense bills of at least 3.5 months of the sample HIV/AIDS HHs. Incidentally, while the size of total annual HH medical expenditures to 'total annual HH consumption expenditures' [as mentioned above] was equal to about 14.82 percent, the size of total annual HH medical expenditure to 'other annual HH consumption expenditure' was equal to 35.57 percent [2.98 and 9.36 percent respectively for 'control group']. If not for the huge total annual medical expenses of the HIV+ respondents, HIV/AIDS HHs would have been able to reduce total annual HH consumption expenditure; increase consumption of non-medical items; increase savings/investment; reduce

remittances; decrease dissavings, borrowings and dependence on UUI; and insulate HHs from iatrogenic poverty.

Notwithstanding that majority of the HIV+ respondents avail of government/NGO/C&S Homes provided 'free' treatment, a few still go for private treatment. Some who used to go for the latter earlier have presently switched over to the former on account of financial constraints. Depending exclusively on private treatment, even if it is just for ART especially for the types of HHs that formed part of the present study, can be to the 'economic' detriment of HHs in two broad ways: i] high prohibitive costs of treatment can quickly dwindle HH income/savings; curtail other necessary HH consumption; and compel HHs to depend on borrowings, dissavings and UUI; and ii] on account of the cost factor adherence to medicines can suffer, thereby putting health/life at an irreversible risk, impairing future earning capacities, besides possibly increasing future treatment expenses itself - for self, for the State, or for both.

7.1.7 Chapter 7

Chapter 7, the present chapter, highlights the three broad aspects pertaining to the present study as mentioned in the title itself: '*Summary, Conclusion and Recommendations*'.

7.2 CONCLUSION

At the very outset two things need to be mentioned vis-à-vis findings of the present study: i] though the findings/inferences are primarily with reference to sample respondents/HHs on account of the sampling techniques and non-parametric tools used, nevertheless, conclusions drawn are very much indicative and reflective of real situation for other HIV/AIDS HHs as well - especially for those from lower income brackets; and ii] the findings/conclusions though reiterating unambiguously the serious nature of economic fallouts of HIV/AIDS and the urgent

need for 'corrective' action, it does not do so at the cost of other ailments/needs which could also be serious in their own ways.¹

The study has indisputably highlighted the severe nature of economic hardships HIV/AIDS spews on individuals and HHs. The same is reflective not only via high numbers of HHs involved vis-à-vis the fallouts faced, but also in terms of adverse mean values involved. Hardships and adversities faced by HIV/AIDS HHs/individuals are not only higher than those of their matched non-HIV/AIDS counterparts, but the same are in fact significantly higher. HIV/AIDS has made HHs poorer - severely challenging even the basic living conditions.

Gender plays a biased role on many occasions vis-à-vis HIV/AIDS contributed economic fallouts, with female-headed HHs and/or female HIV+ respondents facing significantly adverse conditions/hardships than their male counterparts. Absence of significant gender based hardships or gender-neutral nature of impacts [unlike more biases against females in the 'control group'] whenever it is so, is not a reflection of better conditions for females; it only reflects that the adversities are bad for all irrespective of gender, and that females have reduced some of the differences [despite the significantly adverse position of female-headed HHs vis-à-vis total annual HH income] through adoption of coping mechanisms - each having its own 'burden'.

The study has shown that *HIV/AIDS has serious adverse impact on income and employment*. While both fall due to reasons like increased absenteeism, episodes of sickness, changes in jobs and care-giving duties; death of an earning AIDS member makes matters worse, with the income source getting permanently discontinued.

With regards to health and medical expenditure, while the former keeps deteriorating in terms of numbers of respondents/HHs facing illness episodes and number of illness episodes faced each year point of view; the latter which is extremely high, makes HH income/savings

dwindle, forcing HHs to cut essential non-medical consumption, besides making HHs depend much on dissavings, borrowings and/or UUI. The medical expenses of HIV+ respondents are higher than the medical expenses of *all* non-HIV/AIDS HHs' members taken together.

HIV/AIDS greatly influences the annual HH income and expenditure flows. With regards to the latter, barring extremely high medical expenses, HIV/AIDS HHs' consumption expenses in general are smaller than those of their counterparts. Additionally, while savings and investments are hardly worth the mention in HIV/AIDS HHs, remittances are comparatively high, a reflection of greater borrowings. Food insufficiency is experienced by HIV/AIDS HHs despite much dependence on partly/fully sponsored food, dependence without which the survival of HHs itself would have been under threat. The serious impact that HIV/AIDS has can also be seen through a glance of HH income inflows. While total annual HH income plays a major role in case of non-HIV/AIDS HHs, in case of HIV/AIDS HHs it is borrowings and UUI.

Economic impacts of HIV/AIDS can only get worse than that recorded in the study if amongst others: i] external assistance is not considered and/or the same gets reduced/stopped in the future; ii] fall in present education levels and asset holdings due to HIV/AIDS affects future earnings/economic conditions; iii] there are two or more HIV+ members in the HH; iv] those currently sick are unable to take up remunerative employment again; v] repayment of borrowed amounts, getting accumulated over the years, becomes a problem especially considering additional loss of income/employment and diminishing asset holdings; and with amounts raised through UUI being uncertain because of their very nature; and v] the steep rise in food inflation running into double digits experienced *post-survey* is additionally considered (see Shrinivasan 2010, 13). The economic dilemmas for HHs get compounded on account of perceived, potential and/or actual discrimination of different types facing HIV+ respondents.

In fine, amongst others, the three major and unique findings - and hence conclusions - of the present study [findings/conclusions that are either unrecorded or not easily available in existing literature, and yet those which reflect the severe nature of economic crises facing individuals/HHs from a different perspective] are as follows: i] to make up for shortfall in HH income and meet HH requirements, there is high dependence on the part of HIV/AIDS HHs on partly/fully sponsored food, especially so amongst female-headed HHs; ii] to meet HH expenses including medical and to cover deficits, besides relying much on borrowings, there is significantly high dependence on UUI [in particular among female-headed HHs]; and iii] the total annual medical expenses of the HIV+ respondents, despite treatment being primarily availed at public health centres, treatment being partly/fully sponsored, or treatment even not availed at all, is significantly greater than the total annual medical expenditure of *all* non-HIV/AIDS HH members' taken together. Incidentally, pertaining to income/employment, the high toll HIV/AIDS bears on affected HHs forces many to adopt coping mechanisms including unwanted ones like minor children/those above 60 years taking up remunerative activities or HIV+ members themselves taking up employment and/or even additional employment – options all of which are generally conspicuous by their absence in non-HIV/AIDS HHs even in the eventuality of loss of income/employment.

7.3 RECOMMENDATIONS

The study has revealed numerous multi-faceted adverse economic implications of HIV/AIDS on individuals and HHs. Recommendations towards alleviation of the same have been provided in two broad parts: preventive ² and 'curative' measures/recommendations. Suggestions for further research are given at the end of the section. 'Curative' measures/recommendations [meant for

post-infection scenario] include those directly related in tackling HIV as a medical condition,³ and those related to ‘curing’ the adverse economic fallouts of HIV/AIDS on individuals/HHs. Incidentally, some measures could be both preventive and curative.⁴

7.3.1 Preventive recommendations / measures

Needless to say the best way of taking care of the adverse implications of HIV/AIDS is to *prevent* people from contracting the infection itself. Vast literature points towards advocacy, effectiveness and long-run profitability of preventive measures, over *post*-HIV contracted ‘curative’ measures. While according to Rao (2000a, 55), one certain calculation about the upcoming costs of the HIV epidemic in Asia is that investment in prevention now to reduce the rate of HIV spread and its costs to society is a major economy, by comparison with the cost of AIDS damage control at a later stage which will grow exponentially; according to World Bank reports, \$1 invested in prevention is equal to about \$67 saved on care and support (S. Mehra, in HRLN 2008, 34). Schoub (1995, 213) reiterates that with ethical dilemmas in the developing world already suffering from other diseases, malnutrition and inadequate social facilities, there is greater priority for preventive health programmes, including AIDS, as compared to treatment costs for AIDS. The Report of the National Commission on Macroeconomics and Health [2005] on a related aspect highlights that prevention of diseases is the most cost-effective strategy for a country facing scarce resources (as in Mehdi 2008, 8). The maintenance of health involves, not just the treatment of the disease but also the prevention of the disease, with prevention via social and environmental change rather than direct medical services becoming a more effective way of reducing today’s leading causes of death (McGuire, Henderson and Mooney 1997, 2 & 14). Even the possible arrival of a safe, effective and affordable vaccine for HIV, is not to be considered as a replacement for other HIV prevention strategies, but instead it is to be delivered as part of a

comprehensive HIV prevention programme including other behavioural and health promotion interventions (Esparza and Osmanov 2004, 349-350).

The importance of education in general and in the context of HIV/AIDS prevention in particular cannot be diminished in any way (see also Albert and Williams 1998, 96). With around three new HIV cases being detected in Goa each day at the ICTCs itself, and with the sexual route accounting for even as high as 94-96 percent of the new infections even at present, it is obvious that ignorance of preventive measure through appropriate behavioural changes have not taken place. While various studies (see Nair 2009c, 4) and reports like the Behavioural Surveillance Survey (GSACS 2005-06, 47) and NFHS-3⁵ have highlighted insufficient awareness levels vis-à-vis HIV/AIDS, especially among women, even in a highly literate State like Goa in present times of much exposure and numerous awareness promoting State/NGO initiatives; studies like Falleiro (2009) have shown that awareness levels are inadequate even when it comes to 'educated' undergraduate college students in Goa. Incidentally, related to poor awareness levels among women, it has been found that the return on investment in women's education is consistently higher than the return on educating men, with studies in Malaysia showing that the net return to education at all levels of wages and productivity is consistently 20 percent higher for girls and young women than for boys and young men - because of which the World Bank in some countries even offers financial assistance to parents who allow their female children to go to school (Reid 2000c, 783-784).

'Education vaccine' is probably the best protective barrier for HIV/AIDS prevention (Pradhan, Sundar and Singh 2006, 99). Education [inclusive of 'information, education and communication' or IEC⁶ which is a key to an effective response to HIV/AIDS (Dixit 2005, 149-155), could be provided via various ways including having compulsory year-long modules on

'Sex Education' or 'Adolescence Life Skills' in formal educational settings for students (Falleiro 2010; WHO 1995, 36). The successful initiative in Tamil Nadu which worked through education and communication paradigms that bring changes in healthcare-seeking behavior, besides engaging high-risk group members as community health personnel, could also assist in HIV prevention (Krishnamoorthy 2010, 9). Additionally, despite improvements in numbers of those testing for HIV there is still need to create greater awareness since a large number of people are still unaware of their infected status. If fear/denial hold back people from knowing their status at an early stage of infection, the same has to be overcome by effectively communicating the advantages that include delayed onset of AIDS through changed lifestyles and fewer chances of infecting others (*The Hindu* 20/11/2007, 8). Individuals/HHs, armed with the knowledge of HIV status can actually plan early for future years keeping in mind the progressively increasing need for more resources (Gupta 1998, as in Gupta and Panda 2002, 192). Though preventive steps need to be focused on high-risk, vulnerable and low income background sections, nevertheless those from the middle and upper middle class backgrounds cannot be ignored just because they often remain invisible either because they do not fit into preconceived categories or because they have multiple identities or types of behaviours (Ramakrishna *et al* 2008, 386). With HIV often becoming a 'lifestyle' disease (Pereira 2008, 2) efforts towards prevention have to go beyond high-risk groups to even the massage/beauty parlours, discotheques, escort-providers, shacks etc. dotting Goa's famous coastline, where incidentally HIV prevalence is amongst the highest.

Besides education, the other *preventive* way that can be adopted is providing safe blood/blood products - not just in Goa which is relatively better-off, but throughout the country on account of regular inter-state movement of people. Blood transfusion has a very high HIV transmission rate of 90 percent and above (Rao 2000c, 50; Sheth 2004, 27). With NFHS-3

reporting 38-40 percent of women in Goa being anaemic, including pregnant/breastfeeding mothers, with the possibility that they may require blood transfusion; and since supply of blood by licensed commercial banks was only about 1/4th of the blood used in hospitals in India (see Medhini, Jain and Gonsalves 2007a, 46-47), attention still needs to be given to fully plug this mode of HIV transmission.

With regards to MTCT⁷ since there are there are about 30 percent chances that the newborn will be HIV+ if the mother is (A. Kehra in HRLN 2008, 30)⁸ there is a need to also plug this route of transmission⁹ through adoption of educative programmes comprising of compulsory counselling sessions for expecting mothers and for couples before registration of marriage. With perinatal transmission accounting for over 90 percent of infections among infected children (Solomon, Madhivanan and Ganesh 2000, 99), and with HIV prevalence among women increasing to almost 50 percent of all new infections, the sooner this route of transmission is taken care of the better it will be to provide a brighter future for the children. Unfortunately in India, though ART for HIV+ pregnant women can reduce the risk of HIV transmission, over 75 percent of the women are not on the same (Sinha 2008b, 8; 2010b, 11).

7.3.2 'Curative' recommendations / measures

7.3.2A 'Medico curative' recommendations / measures

Investment in health is a major asset, not only in well-being, but also in economic development; while poverty leads to bad health; bad health is a factor in the continuation of poverty (Sachs 2008, 2). Since HIV treatment is for life, it is critical that treatment programmes are sustained for the long term (UNAIDS 2008, 20). Mere availability of health technologies is not enough - ensuring access to such technologies is critical (Gupta, Trivedi and Kanamuthan 2007, 23). While proper treatment can improve the lives of those infected and affected themselves, it will

additionally help at the sectoral and macro levels too.¹⁰ Amongst others the following recommendations/measures could improve the ‘treatment’ aspect of HIV/AIDS:

- Taking care of the oft-seen-in-India scenario of dilapidated state of infrastructure, poor quality/supply of drugs/equipment and employee absenteeism especially at rural health centres (see also Panagariya 2008, 16), which has a negative effect on the sick, both to go for treatment and to continue the same on a regular basis.
- While *second-line* treatment should be provided/extended without delay,^{11, 12} since many on *first-line* are resistant to the same especially due to poor adherence (TOI 05/01/2009, 7); dispensing *first-line* treatment itself should be streamlined with possibly another *Link-ART centre* to cater to those living in-and-around Ponda [Goa]. This could reduce grueling travelling ordeals for the PLWHA and improve adherence to treatment. ART besides improving the life-span and well being, keeps PLWHA productive for more years, minimizes impact on family earnings and helps raise lifetime family income (Drummond and Kelly 2006, 10; Bell, Devarajan and Gersbach 2004, 124). Streamlining ART distribution could encourage PLWHA who are currently not on it despite of urgent need, to avail of the same.
- Discrimination in healthcare settings - public and private - should be done away with. The proposed legislation, the draft National Health Bill, 2009 which hinges on people’s participation and involvement in health issues, and which highlights patients rights and government obligations that no one is denied health in public/private hospitals, besides envisaging monitoring/redressal systems (Rajadhyaksha 2009, 1), should be vigorously pursued. To reduce medical discrimination provisions need to be incorporated and invoked to suspend licenses of doctors/clinics involved in discrimination against PLWHA.

- Ensuring that the relatively new initiative of the government to provide free medication for OIs (Nair 2008b, 5) holds true for all illnesses/treatments, times and public health centres without exception, with patients especially from weaker sections not having to incur any personal expenses on treatment/medication.
- Unnecessary delays and unwanted experiences at the ART centres due to reasons like breakdown in *CD-4* count equipment should be avoided – there should be alternative plans of action for any eventuality.
- Efforts should go to provide/guarantee fair price healthcare and thus greater health equity, with mechanisms framed so that anyone could walk into any registered healthcare provider - private, NGO or public - and expect a proportional healthcare cost subsidy based on ones ability to pay (Krishnamoorthy 2009, 9). Private and NGO providers should step to formally cover regions that lack public healthcare provision (*ibid*).
- Concessional bus/railway passes should be made available to PLWHA, at least from poorer backgrounds, to travel for the purpose of seeking treatment. This will reduce hardships on HHs as well as improve adherence to treatment.¹³
- Gender biases against females when\wherever it exists whether in HHs or healthcare settings should be done away, with a multipronged strategy that includes incentives and explicit government support. Unfortunately, in the words of Delhi High Court Justice Muralidhar, “Women [*often*] carry the burden of poverty in that they have to prove their BPL status when trying to access health facilities” (Garg 2010, 8).
- An advisory should be handed to employers to provide some relaxations in leave/hours of duty to HIV+ individuals to receive ART treatment, and for employed HH members from HIV/AIDS HHs to perform care-giving duties.

- ARV drugs must be provided free to any accredited doctor even in the private sector. This will prevent chances of potential corruption in trying to sell drugs from the public sector to the private; and also prevent PLWHA from taking their drugs from public centres and going for guidance to the private sector. This can additionally assist to regulate doctors who gave incorrect care in the past (Pandey 2006, 13-14).

In fine, notwithstanding the fact of the right to health in all forms and levels should always contain elements of availability, accessibility, acceptability and quality (Medhini, Jain and Gonsalves 2007a, 7); nevertheless, for the greater, all-round and long term good, we need to do away with the illusions of curative medicine, the ‘medicalisation’ of medical health, the employment of urgency-driven curative medical solutions, the reduction of public health to bio-medical health, and mistaking primary care for public health (Jacob 2007, 10). Instead, amongst others, we need to focus on public health as national interest, social justice and production of an egalitarian society, and provision/access to water, sanitation, housing, nutrition, education and employment as basic rights (*ibid*). Additionally, the principles guiding the ‘treat 3 million by 2005’ [‘3 by 5’] programme of WHO namely: urgency, added value, integrated approach, partnership building and treatment as a human right (Narain and Gilks 2004, 112) could be used as standard guidelines by all for dispensing health services to PLWHA in Goa.

7.3.2B ‘General curative’ recommendations / measures

- Gender inequality and poor respect for human rights of women/girls, key factors in the HIV/AIDS epidemic from the point of view of effectiveness and social justice (Medhini, Jain and Gonsalves 2007a, 449) have to be wiped-out without any ado. There have to be mechanisms to prevent women from being exploited, victimised, thrown out from homes;

besides laws to safeguard their rights over property. Having laws itself may not suffice; they have to be publicized, with free legal services also provided (see also Dixit 2005, 90-92). 'Sensitiveness to individualization' could greatly help PLWHA in general and women in particular; the same could even help take care of suicidal tendencies (Thomas, Sinha and Thomas K. 1997, 93-95), existence of which was revealed by the present study as well.

- Redistributive mechanisms like credit and social investment schemes, employment creation schemes, education and training need to be rethought as mechanisms to address critical needs and improve human conditions (Reid 2000c, 783). In recent times some NGOs have floated schemes for few HIV/AIDS individuals/HHs towards capacity building by providing financial support to start home-based entrepreneurship programmes like tailoring. Despite hardships faced at the time of availing the subsidy and *post*-subsidy, similar initiatives could be expanded to cover the entire State and all HIV/AIDS individuals/HHs after ironing out flaws. Initiatives towards economic empowerment of HIV/AIDS infected/affected through measures like providing assistance in getting bank loans to take up jobs and improve life as done by the Bellary District AIDS Prevention Society [BDAPS] in association with UNDP (Ahiraj 2007, 6) should be adopted in Goa as well to suit local needs. Encouraging and providing assistance towards capacity building and starting of self-help groups can help HIV/AIDS HHs in general and those headed by females in particular.
- To assist PLWHA to ease HH expenses and facilitate travel needs the concessions promised by the Indian Railways should be provided not only for those on ART or those who seek treatment, but in case of the economically vulnerable to travel for any purpose at least once a year. Likewise the State owned *Kadamba* bus service which has of late taken the initiative to

provide subsidized travel to PLWHA, should as well provide the same to children/family members of those who are in advanced stages of infection and living BPL.

- The economically poorer PLWHA based on economic conditions and/or stage of infection should be provided graded monthly pension/dole. The monthly dole of ₹ 1,000 provided by the Government of Goa to four PLWHA enrolled with the Dept. of Social Welfare under the Dayanand Social Security Scheme [DSSS] as per press reports should be provided to others as well. Hurdles faced by PLWHA vis-à-vis documentation procedures [like getting income/residence certificates] need to be addressed. The government notification issued as amendment of the DSSS scheme to suggest that ‘persons with disabilities having disability to the extent of 90 percent and above shall be entitled for financial assistance at the rate of ₹ 3,000 per month’ should be suitably used/amended to include PLWHA for the purpose of providing more assistance. As has been initiated in Orissa besides pension to the PLWHA, monetary assistance has to be provided to AIDS widows as well (Mohanty 2008, 12).
- Food assistance and security has to be assured by the government. The initiative started by Goa Agriculture Department through the Goa State Horticulture Corporation Limited [GSHCL] to provide subsidized commodities through mobile vans and vegetable outlets should increasingly cover slum areas and places where there are known extensive pockets of PLWHA. The promise by the Centre to the HIV+ individuals to provide job cards and employment under the National Rural Employment Guarantee Act [NREGA], besides being treated as belonging to BPL category, and ensuring them 35 kilograms of food-grain every month under the *Antyodaya Anna Yojana* [AAY] scheme (Mahapatra 2008, 1&7) should be enforced without exceptions, delays and bureaucratic/political hurdles. The “Right to Food” law as assured by UPA-II though not particularly aimed at PLWHA could be of much

assistance since it envisages subsidised community kitchens for homeless and migrants; guaranteed access to sufficient food especially for vulnerable sections; and 25 kilograms of rice or wheat per month at ₹ 3 per kilogram to BPL families.

- Schemes like those started by the Directorate of Women and Child Development under the *Vatra Bhet* scheme wherein a saree and dress material is distributed as New Year gift to BPL women housed in registered shelters and children in *Apna Ghar* should be extended to all HIV+ women and children from BPL HHs irrespective of status of residence.
- Life/Medical Insurance companies should be encouraged to provide cover to PLWHA since many especially from better economic backgrounds though desirous for insurance covers, are denied because of being infected. To PLWHA from lower economic backgrounds, insurance cover should also be provided as done by the pilot initiative of group insurance plan introduced in Karnataka by Population Services International [PSI] in partnership with Star Health and Allied Insurance Company and the Karnataka Network for Positive People [KNP+], which besides covering treatment costs, provides ₹ 30,000 insurance cover; with ₹ 15,000 being provided for hospitalization and equal amount to family in case of death.
- Discrimination at the workplace should be made a serious and punishable offence. Termination of a PLWHA [who are appropriately qualified and functionally capable of doing the job, and who pose no risk to others vis-à-vis transmission of HIV] should be strictly prohibited. The same criteria need to be applied at the time of availing/applying for new jobs as well. Those currently employed who fail the above mentioned three pre-conditions should be provided suitable alternative employment instead of making to leave the job. Alternative job as 'compassionate employment' should be provided as a right/priority to HH members of those PLWHA that need to be terminated/released from employment due to incapability of

work. Providing a job to a HIV+ member's HH member as rehabilitation should not be at the cost of exploitation of the person, as sometimes happens (Chopra 2008, 13).

- Free legal services provided by NGOs like Human Rights Law Network [HRLN] and Lawyers Collective, to defend/protect PLWHA against discrimination/denial by defending their basic right to life/health; to take litigation of HIV infected/affected persons for court/out-of-court settlements; to take matters of public concern to higher authorities; to increase awareness of legal rights/remedies etc., should be extended and widely publicized so that benefits reach even the illiterate/less educated and those in unorganized/informal sectors.
- Since HIV/AIDS epidemic cannot be tackled by the government alone, it is critical for other sectors, including individuals, HHs, NGOs and Corporates to also contribute. Pooling resources, financial and otherwise, is going to be necessary, especially if long-term sustainability of intervention efforts is to be met.

In fine, to improve the economic well-being of PLWHA, we need to effectively follow the Chinese programme of 'Four Frees and One Care': *free* ART, voluntary counselling/testing, drugs to prevent MTCT, and schooling for [orphaned] children; *and* economic assistance to affected HHs. While in Goa we may be doing relatively well vis-à-vis the 'four frees', we need to do much more on the multi-faceted and complex issue of 'One Care'. To improve the economic well-being of PLWHA and their families, we also need to see that the inglorious history of NACP-II, as per the 'Detailed Implementation Review' of the World Bank¹⁴ (as in Jain 2008, 1-2), and NACO¹⁵ (as in Chatterjee and Sahgal 2002, 63-64) does not get repeated.

7.3.3 Suggestions for further research

With the base provided by the present study, researchers in the future can do amongst others the following:

- Conduct forms of *longitudinal* studies. Amongst other things, the same will help in understanding the efficacy of existing/new 'curative' measures, and the roles played by ART, inflation and government/NGO/corporate policies.
- Conduct in-depth analyses of the numerous nuances and facets of UUI since they play an important role in the functioning of HIV/AIDS HHs.
- Conduct a study to quantify the adverse impact HIV/AIDS has on labour productivity. The same could be compared with productivity levels of healthy non-HIV workers.
- Conduct economic impact studies on HHs having HIV+ minor children. Such HHs could include those having HIV+ parent(s); those where parents are dead; and those which are run by grand-parents.
- Conduct comparative analyses of the economic implications of HIV/AIDS with those of other diseases - especially the so-called 'lifestyle' and communicable diseases.
- Conduct in-depth analyses of the economic impact of HIV/AIDS on HHs' having two or more HIV+ members and/or two or more earning PLWHA who have died.
- Conduct a detailed study of the economic impact faced by individuals/HHs over time on account of the dubious role played by discrimination and stigma.
- On account of the important role played by 'sponsored' assistance in the lives of HIV/AIDS individuals/HHs, conduct a study on its implications to donors, especially if non-institutional.

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Notes

1. Diabetes for example is to 'bleed India of \$32 billion this year' (Sinha 2010a, 9).
 2. Preventive measures have been provided for their 'indirect' role in tackling the adverse economic fallouts - i.e. by averting contraction of HIV infection itself.
 3. So that accompanying adverse economic fallouts are taken care of.
 4. To elaborate take examples of employment and education: while having an appropriate job *ante*-HIV could provide support to HHs thereby *preventing* individuals from going to 'HIV-risky' avenues like prostitution; providing assured employment to HIV+ individuals/other HH members *post*-HIV is important to sustain HHs. Likewise, while education *ante*-HIV can make people aware of the modes of HIV transmission/prevention besides making people more capable for employment; education *post*-HIV, despite HIV imposed pressures to discontinue, ensures an optimistic future for children.
 5. See **Chapter 11**: <http://www.nfhsindia.org/chapters.html>
 6. IEC is a process that informs, motivates and helps people to adopt and maintain healthy practices and life skills. It aims at empowering individuals and enabling them to make correct decisions about safe behaviours / practices (TOI 01/12/2008). See also Rao (2000b, 547).
 7. This vertical form of HIV transmission includes *ante*-, *intra*-, and *post*-partum transmission.
 8. Ten to 50 percent according to Pande (2000, 117).
 9. Standard medical alternatives are available to minimize the risks to bare minimum levels.
 10. A study in South Africa indicated that if half of those needing ART are provided the same, the effect of HIV on economic growth would be reduced by 17 percent (Fredricksson and Kanabus 2007).
 11. At around the time of this study those who were to be on it were referred to Mumbai.
 12. Currently NACO is focusing more on *first-line* treatment by even refusing *second-line* ART to those who received the *first-line* in private hospitals by citing the following: low prevalence of HIV in India; less allocation of grants from Global Fund for Care, Support and Treatment [GFCST]; greater focus on prevention programmes instead of care and treatment; cost of one *second-line* treatment being equal to *first-line* treatment of six patients and TB treatment of 25 (Mahapatra 2010, 8)},
 13. Indian Railways should honour their announced plan without delay to provide 75 percent concession to PLWHA, in line with that existing for cancer patients, for seeking treatment (Rao 2008, 9).
 14. Involving salaries of fictitious people, unqualified NGOs pulling strings, government officers getting cuts to award contracts and politicians acting as middlemen in bribery.
 15. *Alleged* to have become the casualty of political interference, with guidelines often ignored, resulting in setbacks to NGO participation. While in several States '<10' percent of the funds were utilized in certain years; excluding exceptions, empowered committees were not constituted or left sidelined; with low level NGO participation ruling out sustained experimentation with innovative approaches.
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APPENDICES

Appendix I: Questionnaire/Schedule for HIV/AIDS Individuals/Households

Appendix II: Questionnaire/Schedule for non-HIV/AIDS Individuals/Households

Economic Implications of HIV/AIDS on Individuals and Households in Goa

This is part of the research work related to the Ph.D. degree of Mr. Savio P. Falleiro (Lecturer at Rosary College, Navelim), Research Scholar, under the guidance of Dr. (Mrs.) Silvia M. de Noronha, Reader, Dept. of Economics, Goa University.

QUESTIONNAIRE / SCHEDULE [Meant for HIV/AIDS households only]

2009

Note

The undersigned is involved in research with reference to the above mentioned topic which will lead to the PhD degree. The research/study besides being useful to know about the actual status and ground reality of HIV/AIDS individuals/households in Goa, could help in providing further assistance to those infected and their households.

Information obtained will be used for RESEARCH / ACADEMIC PURPOSES ONLY. In no way will personal information be disclosed or identity revealed of informants either in the final report or anywhere. CONFIDENTIALITY WILL BE MAINTAINED AT ALL TIMES, and PRIVACY respected.

This questionnaire is to be filled on a VOLUNTARY BASIS ONLY. There is no compulsion on any one of any type to answer the questionnaire. Answering the questionnaire will be construed as answering voluntarily, with full consent, and out of ones own free will.

Thanking you in anticipation for your time, co-operation and valuable inputs.

Savio P. Falleiro
__/__/2009

**ECONOMIC IMPLICATIONS OF HIV/AIDS ON
INDIVIDUALS AND HOUSEHOLDS IN GOA**

- 0.1 **District:** North Goa-1 / South Goa-2
- 0.2 **Location of household:** Urban-1 / Rural-2
- 0.3 **Nature of settlement area:** a] Coastal-1 b] Slum-2 c] Low-3 d] Upper Middle-4
e] Between low & upper middle-5 f] Agricultural-6 g] Interior/isolated-7
h] Others-99

Part I: Household Details

Section 1: Household Characteristics

- 1.1 **Sex of household head:** Male-1 / Female-2
- 1.2 **Age of household head in completed years:**
- 1.3 **Religion of household head:** a]Christian-1 b]Hindu-2 c]Muslim-3 d]Others-99
- 1.4 **Occupation of the household head** (*refer to codes given at the end*):
- 1.5 **Sector of employment of the household head** (*refer to codes at the end*):
- 1.6 **Educational qualification of the household head:** a] Illiterate-0 b] Primary (up to 4th standard)-1 c] Fifth to SSC-2 d] HSSC-3 e] Graduate-4 f] Post Grad.-5
g] Professional (specify)-6 h] Diploma-7 i] Others (specify)-99
- 1.7 **Highest educational qualification attained by any member in the household:**
a] Primary (up to 4th standard)-1 b] Fifth to SSC-2 c] HSSC-3 d] Graduate-4 e] Post Grad.-5 f] Professional (specify)-6 g] Diploma-7 h] Others (specify)-99
- 1.8 **Name of the 'highest' category occupation** (*monetarily or otherwise*) **in the household pertaining to any member excl. the head** (*refer to codes at the end*):
- 1.9 **Sector of employment of the above** (*refer to codes given at the end*):
- 1.10 **Size of the household** (*including the household head*):
- 1.11 **Number of non-working members/dependents present in the household including children, sick and old people** (*i.e. those above 60 years*):
- 1.12 **Total number of literate members in the household** (*including those currently in Class I and above*):

- 1.13 **Type of house:** a) Pucca-1 b) Semi-Pucca-2 c) Kutcha-3
(Pucca-: tiled/cemented flooring, roof & cemented walls; Semi-pucca: temporary roofs, cemented floor or walls (any one); Kuccha: thatched roofs, mud walls and no proper flooring)
- 1.14 **Is there electricity in the house?** Yes-1 / No-2
- 1.15 **Main source of drinking water:** a) Private tap-1 b) Public tap-2 c) Public hand pump-3 d) Private hand pump (Tube-well)-4 e) Supply tanker-5 f) Own well-6
g) Public well-7 h) River/Pond-8 i) Others-99
- 1.16 **Type of fuel mostly used for cooking:** a) Firewood-1 b) Kerosene-2 c) LPG-3
d) Cow dung-4 e) Electricity-5 f) Solar energy-6 g) Others-99
- 1.17 **Household toilet:** a) Has no toilet-0 b) Common toilet (with other households)-1
c) Own toilet (flush)-2 d) Own toilet (pigs)-3 e) *Sulabh* toilet-4 f) Others-99
- 1.18 **Household ownership of agricultural land or other land:** a) No land-0 b) Land owned *(in square metres)*:
- 1.19 **Does household own livestock (cow, buffalo, poultry, etc.)?** Yes-1 / No-2
- 1.20 **Total number of household members tested with HIV-positive status:**
- 1.21 **Age of the infected member – i.e. the interviewee (in completed years):**
- 1.22 **Age of the second infected member (if more than one in the household):**
- 1.23 **Age of the third infected member (if more than two in the household):**
- 1.24 **Amount of time spent per day on account of taking care of HIV-positive member(s) (in hours):** *(inclusive of time spent on taking care, washing clothes separately, buying medicines etc)*
- 1.25 **Place of residence after one of the family members was detected HIV-positive:**
a) Changed within the same city/village-1 b) Changed from city to village (same state)-2 c) Changed from village to city (same state)-3 d) Changed from one city to another city (same state)-4 e) Changed from one village to another village (same state)-5 f) Changed from one state to another-6 g) Did not change place of residence-7
h) Did not change residence, but other non-infected members did-8
- 1.26 **Reasons for changing residence:** a) Search of employment/transfer-1 b) To seek medical treatment-2 c) Loss of agricultural land/property-3 d) Asked to vacate residence-4 e) To maintain anonymity-5 f) Could not afford earlier place-6
g) Fear-7 h) Others (specify)-99

Section 2: Household Income and Expenditure

A) Total Household Income during the LAST ONE YEAR (Rs.)

<i>Source of Income</i>	<i>Amount (Rs.)</i>
2.1 Total wage income: Including income from agricultural and allied activities (<i>income from farms and orchards after deducting expenses from production; income from livestock, poultry etc; income from renting tractors, pump-sets, implements etc</i>); trade/business/shops; self employment; salary/wage income...etc.	
2.2 Total non-wage income: Including income from rent; dividends; transfer income (<i>remittances from household or other members living in other places</i>); any other income (<i>like pension</i>); financial help given by charitable organisations...etc.	
2.3 Total Household Income from ALL sources during the last one year (<i>income of all members taken together</i>) (Rs.)	

Household liquidation of assets and/or borrowings of money after one of the family members tested HIV-positive in order to cope with the financial burden/loss of income:

	Code / Response
2.4 No liquidation / no borrowings	Yes-1 / No-2
2.5 Sold / liquidated agricultural land	Yes-1 / No-2
2.6 Sold / liquidated house property	Yes-1 / No-2
2.7 Sold / liquidated jewelry	Yes-1 / No-2
2.8 Sold / liquidated bonds/shares etc	Yes-1 / No-2
2.9 Sold / liquidated vehicles	Yes-1 / No-2
2.10 Sold / liquidated household goods	Yes-1 / No-2
2.11 Sold / liquidated livestock	Yes-1 / No-2
2.12 Raised funds through borrowings	Yes-1 / No-2
2.13 Others (specify)	Yes-1 / No-2

2.14 Total amount of money raised through the above (*in Rs.*)

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B) Household Savings, Borrowings and Lending during the Last One Year (Rs.)

2.15 Did the household save in the ways given below during the last one year? Yes-1/No-2

If 'YES' how much did it save? (*Please fill the following*):

<i>Types of savings</i>	<i>Amount (Rs.)</i>
2.16 Cash/bank deposits/insurance premium/recurring deposits...	
2.17 Purchase of jewelry	
2.18 Purchase of agricultural land	
2.19 Purchase of house/flat/plot	
2.20 Purchase of shares/bonds etc.	
2.21 Total (Rs.)	

2.22 Did the household dissave in the forms given below during past one year? Yes-1/N-2

If 'YES' how much did it dissave? (Please fill the following):

<i>Types of dissavings</i>	<i>Amount (Rs.)</i>
2.23 Cash / fixed deposits	
2.24 Sale of jewelry	
2.25 Sale of agricultural land	
2.26 Sale of house / flat / plot / assets	
2.27 Sale of shares / bonds etc.	
2.28 Total (Rs.)	

2.29 Household borrowing in the last one year: if nil-0 / for amount borrowed (specify amount in Rs.):

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2.30 Did household lend/make remittances/loan repayments last year? Yes-1 / No-2

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2.31 If 'YES' to the above, please specify the amount (in Rs.):

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Does the household own the following items? (For Yes-1 / No-2)

<i>Item</i>	<i>Code</i>		<i>Code</i>
2.32 Farm equipment like tractor / thresher		2.40 Motor cycle / scooter	
2.33 Radio / tape recorder / audio set		2.41 House / flat	
2.34 Television		2.42 Plot of land	
2.35 Refrigerator		2.43 Car / jeep / van	
2.36 Telephone (land line)		2.44 Well	
2.37 Mobile phone		2.45 AC	
2.38 Washing machine		2.46 Computer	
2.39 Fan		2.47 Any other (specify)	

C] Total Household Consumption Expenditure

i. Expenditure on Food items during LAST MONTH (Rs.):

2.48 Food items including: rice, wheat, jowar/bajra/maize, pulses, edible-oil/vanaspati, milk/milk products, sugar, vegetables, fruits, meat, fish and eggs, tea, coffee, bread, biscuits, snacks, spices, etc...	TOTAL VALUE of ALL food items (Rs.)

ii. Expenditure on Non-Food items during LAST MONTH (Rs.)

	TOTAL VALUE (Rs.)
2.49 Fuel (LPG, kerosene, firewood etc.) and water	
2.50 Electricity	
2.51 House rent	
2.52 Transport (including own vehicle)	
2.53 Entertainment	
2.54 Telephone	
2.55 Cable television	
2.56 Toilet articles (toothpaste, soap, detergents, shaving-cream etc)	
2.57 Alcohol	
2.58 Bidi / cigarettes / tobacco / paan	
2.59 TOTAL (Rs.)	

iii. Other Annual Consumption Expenditure during LAST ONE YEAR (Rs.)

	TOTAL VALUE (Rs.)
2.60 Clothing / Footwear	
Durable goods: 2.61 a) automobile 2.62 b) Electronic / electrical appliances 2.63 c) Other durable goods (furniture, utensils etc)	
2.64 Education of children (incl. fees, books, uniform, transport...)	
2.65 Medical (including OPD, hospitalisation and regular medicines...)	
2.66 Travel	
2.67 Repairs/maintenance of house/vehicle...;house-tax/vehicle ins. etc.	
2.68 Other major expenditure (e.g. wedding/funeral, social events, religious ceremonies etc.)	
2.69 TOTAL of iii. (Other Annual Consumption Expenditure)	

Has HIV/AIDS led to a substantial/noticeable fall in 'consumption' of the following?

	Codes / Response
2.70 Food	Yes-1 / No-2
2.71 Entertainment	Yes-1 / No-2
2.72 Clothing / Footwear	Yes-1 / No-2
2.73 'Education'	Yes-1 / No-2

Section 3: Death in the Household

A. Death of an AIDS member

3.1 Was there ever any death of an AIDS patient in the household? Yes-1 / No-2

(If no, skip to Q. 3.16)

If 'YES', then answer the following: (If more than one has died, give details of the earning member; if both were earning members, give details of the last person dying)

3.2 Number of years back the person died (if during last 12 months put Code-1)	
3.3 Age in completed years of the dead person.	
3.4 How long was the person suffering? (number in months)	
3.5 Was the person employed at the time of death? a] Yes-1 b] No-2 c] Never employed-3	
3.6 If no, when did the person stop earning? (no. of months before death)	
If yes [or no], details about last employment of the deceased:	
3.7 A] Nature of occupation (see codes given at the end)	
3.8 B] Sector in which employed (see codes given at the end)	
3.9 C] Earnings of the person (per month in Rs.)	
3.10 If yes, after death family received benefits like: PF	Yes-1 / No-2
3.11	Gratuity Yes-1 / No-2
3.12	Insurance Yes-1 / No-2
3.13	Pension Yes-1 / No-2
3.14	Employment for another member Yes-1 / No-2
3.15 Total amount spent on funeral and related ceremonies (Rs.)	

B. Death of any other earning member (i.e. non-HIV member)

3.16 Was there death of any other earning member in the last two years? Yes-1/No-2

If 'YES', answer the following (if no, please skip and go to next section – i.e. Section 4):

3.17	Age in completed years of the dead person.	
3.18	What was the cause of death? (see codes provided at the end)	
3.19	How long was the person suffering? (number in months)	
<i>Details about last employment of the deceased:</i>		
3.20	A] Nature of occupation (see codes given at the end)	
3.21	B] Sector employed in (see codes given at the end)	
3.22	C] Earnings of the person (per month in Rs.)	
3.23	After death, family received benefits like: PF Yes-1 / No-2	
3.24	Gratuity Yes-1 / No-2	
3.25	Insurance Yes-1 / No-2	
3.26	Pension Yes-1 / No-2	
3.27	Employment for another member Yes-1 / No-2	
3.28	Total amount spent on funeral and other related ceremonies (Rs.)	

Part II] Details about persons living with HIV/AIDS

Section 4: Information on HIV/AIDS status

4.1 How was the HIV status discovered? a] Voluntary testing-1 b] After prolonged illness-2 c] 'Blood test' (e.g. to go abroad) -3 d] During pregnancy-4 e] Others (specify)-99

4.2 If 'prolonged illness', illness was (see codes given at the end):

4.3 If through 'voluntary testing', why did you go for testing? a] Sickness-1 b] Health-provider suggested (due to sickness and/or since another family member—not spouse- was +ve)-2 c] Knew other non-family member with HIV-3 d] Partner/spouse +ve-4 e] Others-99

4.4 How many years back was the HIV detected? (if less than or equal to a year put-1)

4.5 Where was the test done? Government facility-1 / Private place-2

4.6 What was the cost of testing? (if free put code 0) (Rs.):

Section 5: Impact of HIV/AIDS on Employment

A. After HIV status was discovered:

5.1 Did you change the job after you were tested HIV-positive? Yes-1 / No-2 (if no, skip and go to Q. 5.9)

5.2 If 'YES', what was the nature of occupation at that time? (see codes at the end)

5.3 Sector in which employed (see codes given at the end):

5.4 What was your monthly income? (Rs.)

5.5 Reason for leaving the job: a) Too ill to work-1 b) Dismissed from work-2 c) Took VRS-3
e) Reasons of anonymity-4 f) Discrimination at work place-5 g) Others (specify)-99

5.6 Benefits received at the time of leaving job: a) No benefit-0 b) PF-1 c) Gratuity-2
d) Compensation-3 e) Pension-4 f) Others-99

5.7 Total amount received at the time of leaving the job (Rs.):

5.8 How many times did you change job after being tested HIV-positive?
(if did not take any full time job again put code-99)

5.9 Are you currently working/engaged in any income earning activity? Yes-1/No-2

B. Currently working

5.10 If currently employed, nature of occupation (see codes given at the end):

5.11 Sector in which employed (see codes given at the end):

5.12 Does the employer know about the HIV-positive status? a) Yes-1 b) No-2 c) N.A.
(since self-employed)-3 (If c/3, skip to Q. 5.27)

5.13 If 'NO' what is the reason for not disclosing the HIV+ status? a) Social discrimination
and isolation-1 b) Fear of losing the job-2 c) Lowered prestige-3

5.14 If 'YES' are you facing any discrimination at the workplace? Yes-1 / No 2

If 'YES' how are/were you discriminated?

		Codes
5.15 Promotion denied	Yes-1 / No-2	
5.16 Forced to take voluntary retirement	Yes-1 / No-2	
5.17 Benefits not given	Yes-1 / No-2	
5.18 Forced to resign	Yes-1 / No-2	
5.19 Refused loan facilities	Yes-1 / No-2	
5.20 Withdrawal of health/insurance/medical benefits	Yes-1 / No-2	
5.21 Poor access to shared facilities like canteen & toilets	Yes-1 / No-2	
5.22 Shifted from one department to another	Yes-1 / No-2	
5.23 Co-workers avoid and abuse in various ways	Yes-1 / No-2	
5.24 Others (specify)	Yes-1 / No-2	

5.25 Do you get any kind of support from employer? Yes-1 / No-2

5.26 If 'YES' specify: a) Reimbursement of medical expenses-1 b) Paid leave-2
c) Employer purchased group insurance-3 d) Flexibility in work hours-4
e) Others (specify)-99

5.27 How many days were you absent from work or unable to work in the last one
year due to illness?

5.28 Did you lose wage/income due to leave/absence in the last one year? Yes-1/No-2

- 5.29 If 'YES', how much wages/income did you lose in the last one year?(Rs)
- 5.30 What was the amount of fringe benefits (over time, paid leave etc) lost, if any, during the last one year? (Rs.) (mention examples of fringe benefits lost)
- 5.31 If agricultural household, how many days could you not go to work in the last one year due to illness?
- 5.32 In your absence how was the work managed? a) Other family members-1
b) Hired labourers-2 c) Both-3 d) None-4
- 5.33 If you hired labourer(s) because of HIV infection how much amount was spent on hired labourer(s) during the last one year? (Rs.)

Section 6: Impact of HIV/AIDS on Health Status and Expenditure

A. Non-hospitalised illness episodes

- 6.1 How many times did you [i.e. the HIV-positive respondent] fall ill in the **last one year** for which you were not hospitalised? (give the number of illness episodes)
[if frequently code-98; continuously-99]
- 6.2 How many times did you fall ill in the **last one month** for which you were not hospitalised? (give the number of illness episodes)
[if frequently put code-98; continuously-99]

<i>Details of illness episodes during the LAST ONE MONTH</i>	<i>Code/Response</i>
6.3 Nature of illness (give codes as given at the end)	
6.4 Number of days ill (if frequently ill put code-98; if continuously ill put code-99)	
6.5 Did you seek treatment? Yes-1 / No-2	
6.6 If no, reason for no treatment (see codes given on last page) <i>If treatment sought give details by answering the following:</i>	
6.7 Source of treatment (see codes given on last page)	
6.8 Duration of treatment (number of days)	
6.9 Number of days bedridden	
6.10 Number of days not gone to work (if not applicable code-99)	
<i>Expenditure incurred during the last month on treatment (Rs)</i>	
6.11 Fees and medicines	
6.12 Clinical tests	
6.13 Transport cost	
6.14 TOTAL Expenditure (Rs.)	

B. Hospitalised illness episodes:

- 6.15 Were you ever hospitalised after you were detected HIV-positive? Yes-1 / No-2
(if no, skip questions and go to Q. 6.30)

6.16 If 'YES', number of times:

6.17 Were you hospitalised in the last one year? Yes-1 / No-2 (If no, skip to Q. 6.27)

6.18 If 'YES', number of times hospitalised during the last one year:

<i>Details of hospitalisation during the last one year</i>	<i>Code/Response</i>
6.19 Nature of illness (see codes given at the end)	
6.20 Number of days hospitalised	
6.21 Source of treatment (see codes given on last page)	
<i>Expenditure incurred (Rs.)</i>	
6.22 Room rent; Medical expenditure; Clinical tests; Surgery	
6.23 Transport cost	
6.24 Diet/lodging expenses of caregivers	
6.25 TOTAL Expenditure (Rs.)	

6.26 Source of financing hospitalisation (see codes given on last page):

6.27 Did you undergo any surgery after you were diagnosed HIV+ve? Yes-1 / No-2 (if no, skip to Q. 6.30)

6.28 If YES, were you charged extra for AIDS kits and fumigating O.T. used for surgery? Yes-1 / No-2

6.29 If 'YES', how much did you have to pay? (Rs.)

6.30 Are you taking ART on a regular basis? Yes-1 / No-2 (if no, skip to Q. 6.33)

6.31 If YES, source of obtaining ART (see codes for source given at the end):

6.32 Total amount spent per month on ART (inclusive of transport amt. spent to get the ART – even if ART is free) (Rs.):

6.33 Are you taking any other medicine on a regular basis? Yes-1 / No-2

6.34 If YES, how much money is spent every month? (Rs.)

6.35 Total amount spent on ALL medicines per month (Rs.)

6.36 Have you been advised to take nutritious diet to improve your health condition? Yes-1 / No-2

6.37 If YES, how much are you spending on these additional food items per month?

Section 7: Coping Mechanism and Social Security

How have you coped and/or are coping with the additional expenditure/loss of income due to HIV/AIDS?

		<i>Codes/Res.</i>
7.1 Used past savings	Yes-1 / No-2	
7.2 Employer reimburses	Yes-1 / No-2	
7.3 Medical insurance	Yes-1 / No-2	
7.4 Mortgage assets	Yes-1 / No-2	
7.5 Liquidation of assets/durable goods/livestock	Yes-1 / No-2	
7.6 Loan from employer of self/other family members	Yes-1 / No-2	
7.7 Borrow from friends and relatives	Yes-1 / No-2	
7.8 Borrow from money lender/financial institutions	Yes-1 / No-2	
7.9 NGO support	Yes-1 / No-2	
7.10 Support from extended family	Yes-1 / No-2	
7.11 Wife had to take up job in order to support the family	Yes-1 / No-2	
7.12 Children had to take up job to support family	Yes-1 / No-2	
7.13 Those above 60 years had to take up a job	Yes-1 / No-2	
7.14 Had to take additional job to meet increasing expenditure	Y-1/N-2	
7.15 Not applicable	Yes-1 / No-2	

- 7.16 Do/did you have any medical insurance cover? a) Yes-1 b) No-2 c) Discontinued-3
- 7.17 Do/did you have life insurance policy? a) Yes-1 b) No-2 c) Discontinued-3
- 7.18 Are you entitled to Employees State Insurance Scheme (ESIS)? Yes-1 / No-2
- 7.19 Are you receiving any type of pension? a) Yes-1 b) No-2 c) No - but another household member receives-3
- 7.20 Have you ever been denied any loan facility? Yes-1 / No-2
(if 'yes' please specify the type of loan denied)
- 7.21 Have you made any provisions/arrangements (financial or otherwise) for the future of your child/children? a) Yes-1 b) No-2 c) NA (no children)
- 7.22 Was any child below 16 years withdrawn from school on account of HIV in the household? Yes-1 / No-2
- 7.23 If 'YES', the primary reason for withdrawal was: a) To take care of the HIV-positive member(s)-1 b) To take up earning activity-2 c) To reduce expenses related to education-3 d) All of the above -4

Section 8: Information on Care-giver

- 8.1 Is anyone needed to take care of you/HIV+ member? a) Yes (available)-1 b) No-2 c) Yes (but not available) d) Yes - not for self, but for spouse/other HH member (if answer is b, c, or d, skip this entire section)
- 8.2 If 'YES' (i.e. for option a/1 above), since when? (number of months)

- 8.3 If 'YES', who takes care of you? a) Spouse-1 b) Children-2 c) Parents-3
d) Siblings-4 e) Other relatives-5 f) Hospital staff-6 g) Care & Support Home-7
h) Paid nurse-8 i) Others (specify)-99
- 8.4 If care-giver is a household member/relative, age of the person (years):
- 8.5 If care-giver is household member/relative, is the person employed? Y-1/N-2
- 8.6 If 'YES', occupation of the care-giver (see codes given at the end):
- 8.7 Write sector in which care-giver is employed (see codes given at the end):
- 8.8 Did care-giver lose any income due to absence from work? Yes-1 / No-2
- 8.9 If 'YES', approximate amount of income lost last year (Rs.)
- 8.10 If care-giver is not currently employed was s\he employed earlier? Y-1/No-2
- 8.11 If 'YES', did he/she have to give up job on account of taking care of you /
HIV-positive member? Yes-1 / No-2
- 8.12 What was the occupation of the care-giver? (see codes given at the end):
- 8.13 Sector in which care-giver was employed (see codes given at the end):
- 8.14 How much was he/she earning per month? (Rs.)

Section 9: To be filled only by HIV-positive WOMEN ONLY

- 9.1 Are you married? Yes-1 / No-2
- 9.2 If married with whom are you living? a) Only husband-1 b) Husband and his
family-2 c) Your parents-3 d) Alone-4 e) Other relatives & friends-5 f) Care
& Support home-6 h) Others-99
- 9.3 If married and not living with husband or his family, are you getting any
financial support from them? Yes-1 / No-2
- 9.4 If married and not staying with husband or his family, when did you stop doing
so? a) After husband was tested +ve-1 b) After self was tested +ve-2 c) After
husbands death-3 d) Others (specify)-99
- 9.5 After husbands death (and even if he is presently alive), were (are) you denied
share in his family property? a) Yes-1 b) No-2 c) Not sure-99

-----Thank You-----

CODES

NATURE OF ILLNESSES AND CAUSE OF DEATH

- | | | |
|--|--|---|
| 1-Common cold, nose & throat discomfort, tonsillitis, pneumonia, bronchitis, whooping cough, respiratory infection, asthma, pain in chest... | 14-Measles, chicken-pox, mums | 24-Diseases related to pregnancy & childbirth (incl. delivery) |
| 2-Malaria | 15-Skin diseases/ infections (Eczema, Ringworm, boils, abscess, skin itching), herpes, allergy... | 25-Diseases of nerves, Cerebral Stroke, paralysis, brain tumor... |
| 3-Fever | 16-Leprosy | 26-Disease of mouth, teeth and gums |
| 4-Headache, body-ache etc | 17-Urinary / Genital infection, burning sensation while urinating, urinary tract infection, enlarged prostate gland... | 27-Polio |
| 5-Weakness, dizziness/anemia, trembling, loss of weight, becoming thin... | 18- Diseases of kidney/ Stones in the bladder, pain near kidney... | 28-Tetanus, Diphtheria |
| 6-Loose motion, diarrhea, dysentery, vomiting, chronic, ameobiosis, Guinea worm... | 19-Gynecological problems (irregular and painful menstruation, excess bleeding, white discharge, leucorrhea etc.) | 29-Filaria (elephantiasis) |
| 7-Stomach problems: indigestion, gas, acidity, constipation, ulcer, piles, appendicitis.... | 20-Aches/pains-Arthritis, spondylolysis, rheumatism, other disorders of bones, numbness, pain in joints... | 30-Meningitis and viral encephalitis |
| 8-Cholera and Acute Gastroenteritis | 21-Breathing problem/Breathlessness, Asthma | 32-Epilepsy/Convulsions/ fits |
| 9-Typhoid | 22-Diabetes | 33-Goitre and thyroid disorders |
| 10-Jaundice/ Cirrhosis of liver / liver related problems | 23-High/Low Blood Pressure | 34-Heart problems |
| 11-Eye problems | | 35-Cancer |
| 12-Ear problems | | 36-Toxoplasmosis strokes |
| 13-T. B. (Tuberculosis) | | 37-Accidents /Violence / Injury |
| | | 38-Mental, psychological problems |
| | | 39-Dog bite/snake bite / insect bite etc. |
| | | 40-Sexually transmitted diseases (STD) |
| | | 41-Old age problems incl. loss of memory etc. |
| | | 99-Others |

OCCUPATIONS

- | | | |
|---|--|---|
| Farmer/cultivator -1 | Small artisan in household & cottage industry -8 | Domestic servant -13 |
| Agricultural laborer -2 | Self-employed/ professional - 9 | Rentier (rental earnings from agricultural land)-14 |
| Construction/relatedwork- 3 | Truck drivers/cleaners -10 | Rentier (rent earnings from house property)-15 |
| Skilled/semi-skilled/other non-agricultural laborer - 4 | Other transport workers (Bus drivers, auto rickshaw driver, rickshaw puller, barge navigator) - 11 | Housewife-16 |
| Service (Govt./Pvt.) -5 | | Student -17 |
| Petty business/small shop- 6 | | Unemployed -18 |
| Large business / medium to large shop owner-7 | Pensioner/retired -12 | Sick-cannot work-98 |
| | | Others (incl. not told) -99 |

SECTORS

Agriculture/allied activities-1	Transport, Storage & Communication-7	Community, social and personal services -11
Mining and quarrying -2	Hotels & Restaurants-8	Tourism (tour operators, travel agents etc) -12
Manufacturing -3	Finance, insurance, real estate & business services-9	Not available -13
Electricity, Gas & Water-4	Health (hospitals, clinics, laboratories etc) -10	Others (incl. government) - 99
Construction -5		
Trade -6		

SOURCE OF TREATMENT

PHC/CHC-1	Private doctor-4	Faith healer/religious person - 7
Govt. hospital-2	Charitable institution/NGO-5	Home remedy - 8
Private hospital/nursing home-3	Chemist shop-6	Others - 99

REASONS FOR NO TREATMENT

Illness not considered serious-1	Financial constraints-4	Doctor not prescribing treatment-98
No medical facility nearby-2	Lack of time/long waiting-5	Others (including combination of some of the above reasons)- 99
No doctor willing to treat-3	No cooperation of family members-6	
	Ignorance-97	

SOURCE OF FINANCING TREATMENT

Past savings/own money-1	Loan from employer-6	NGO support - 9
Employer reimburses-2	Borrow from friends/relations-7	Doctor sponsored-97
Medical insurance-3	Borrow from money lenders/financial institutions - 8	Combination of some of the above sources-98
Mortgage assets - 4		Others (incl. sibling paying) - 99
Liquidation of assets/durables-5		

Economic Implications of HIV/AIDS on Individuals and Households in Goa

This is a part of the research work related to the Ph.D. degree of Mr. Savio P. Falleiro (Lecturer at Rosary College, Navelim), Research Scholar, under the guidance of Dr. (Mrs.) Silvia M. de Noronha, Reader, Dept. of Economics, Goa University.

QUESTIONNAIRE / SCHEDULE

[Meant for Non-HIV/AIDS households only]

2009

Note

The undersigned is involved in research with reference to the above mentioned topic which will lead to the PhD degree. The research/study besides being useful to know about the status and ground reality of HIV/AIDS individuals/households in Goa, could help in providing further assistance to those infected and their households.

Information obtained will be used for RESEARCH / ACADEMIC PURPOSES ONLY. In no way will personal information be disclosed or identity revealed of informants either in the final report or anywhere. CONFIDENTIALITY WILL BE MAINTAINED AT ALL TIMES, and PRIVACY respected.

This questionnaire is to be filled on a VOLUNTARY BASIS ONLY. In no way there is compulsion on any one of any type. Answering the questionnaire will be construed as answering voluntarily, with full consent and out of ones own free will.

Thanking you in anticipation for your time, co-operation and valuable inputs.

Savio P. Falleiro

___/___/2009

**ECONOMIC IMPLICATIONS OF HIV/AIDS ON
INDIVIDUALS AND HOUSEHOLDS IN GOA**

- 0.1 **District:** North Goa-1 / South Goa-2
- 0.2 **Location of household:** Urban-1 / Rural-2
- 0.3 **Nature of settlement area:** a) Coastal-1 b) Slum-2 c) Low-3 d) Upper Middle-4
e) Between low & upper-middle-5 f) Agricultural-6 g) Interior/isolated-7
h) Others-99

Section 1: Household Characteristics

- 1.1 **Sex of household head:** Male-1 / Female-2
- 1.2 **Age of household head in completed years:**
- 1.3 **Religion of household head:** a) Christian-1 b) Hindu-2 c) Muslim-3 d) Others-99
- 1.4 **Occupation of the household head** (*refer to codes given at the end*):
- 1.5 **Sector of employment of the household head** (*refer to codes at the end*):
- 1.6 **Educational qualification of the household head:** a) Illiterate-0 b) Primary (up to 4th standard)-1 c) Fifth to SSC-2 d) HSSC-3 e) Graduate-4 f) Post Grad.-5
g) Professional (specify)-6 h) Diploma-7 i) Others (specify)-99
- 1.7 **Highest educational qualification attained by any member in the household:**
a) Primary (up to 4th standard)-1 b) Fifth to SSC-2 c) HSSC-3 d) Graduate-4 e) Post
Grad.-5 f) Professional (specify)-6 g) Diploma-7 h) Others (specify)-99
- 1.8 **Name of the 'highest' category occupation** (*monetarily or otherwise*) **in the household pertaining to any member excl. the head** (*refer to codes at the end*):
- 1.9 **Sector of employment of the above** (*refer to codes given at the end*):
- 1.10 **Size of the household** (*including the household head*):
- 1.11 **Number of non-working members/dependents present in the household including children, sick and old people** (*i.e. those above 60 years*):
- 1.12 **Total number of literate members in the household** (*including those who are currently in Class I and above*):

- 1.13 **Type of house:** a) Pucca-1 b) Semi-Pucca-2 c) Kutcha-3
(Pucca: tiled/cemented flooring, roof & cemented walls; Semi-pucca: temporary roofs, cemented floor or walls (any one); Kuccha: thatched roofs, mud walls and no proper flooring)
- 1.14 **Is there electricity in the house?** Yes-1 / No-2
- 1.15 **Main source of drinking water:** a) Private tap-1 b) Public tap-2 c) Public hand pump-3 d) Private hand pump (Tube-well)-4 e) Supply tanker-5 f) Own well-6
g) Public well-7 h) River/Pond-8 j) Others-99
- 1.16 **Type of fuel mostly used for cooking:** a) Firewood-1 b) Kerosene-2 c) LPG-3
d) Cow dung-4 e) Electricity-5 f) Solar energy-6 g) Others-99
- 1.17 **Household toilet:** a) Has no toilet-0 b) Common toilet (with other households)-1
c) Own toilet (flush)-2 d) Own toilet (pigs)-3 e) *Sulabh* toilet-4 f) Others-99
- 1.18 **Household ownership of agricultural land or other land:** a) No land-0 b) Land owned (*in square metres*):
- 1.19 **Does household own livestock (cow, buffalo, poultry, etc.)?** Yes-1/No-2

Section 2: Household Income and Expenditure

A) Total Household Income during the LAST ONE YEAR (Rs.)

<i>Source of Income</i>	<i>Amount (Rs.)</i>
2.1 Total wage income: Including income from agricultural and allied activities (<i>income from farms and orchards after deducting expenses from production; income from livestock, poultry etc; income from renting tractors, pump-sets, implements etc</i>); trade/business/shops; self employment; salary/wage income...etc.	
2.2 Total non-wage income: Including income from rent; dividends; transfer income (<i>remittances from household or other members living in other places</i>); any other income (<i>like pension</i>); financial help given by charitable organisations...etc.	
2.3 Total Income from ALL Sources (of all household members taken together) (Rs.)	

B) Household Savings, Borrowings and Lending during the LAST ONE YEAR (Rs.)

- 2.4 **Did the household save in the ways given below during the LAST ONE YEAR?**
Yes-1 / No-2

If 'YES', how much did it save? (*Please fill the following*):

<i>Types of savings</i>	<i>Amount (Rs.)</i>
2.5 Cash/bank deposits/insurance premium/recurring deposits...	
2.6 Purchase of jewelry	
2.7 Purchase of agricultural land	
2.8 Purchase of house / flat / plot	
2.9 Purchase of shares / bonds etc.	
2.10 Total (Rs.)	

2.11. Did the household dissave in the forms given below during the past ONE YEAR? Yes-1 / No-2

If 'YES', how much did it dissave? (Please fill the following):

<i>Types of dissavings</i>	<i>Amount (Rs.)</i>
2.12 Cash / Fixed Deposits	
2.13 Sale of jewelry	
2.14 Sale of agricultural land	
2.15 Sale of house / flat / plot / assets	
2.16 Sale of shares / bonds etc.	
2.17 Total (Rs.)	

2.18 Household borrowing in the last one year: if nil-0 / amount borrowed (specify amount in Rs.):

2.19 Did household lend/make remittances/loan repayments last year? Yes-1/No-2

2.20 If 'YES', to the above, please specify the amount (in Rs.):

Does the household own the following items? (for Yes-1 / No-2)

<i>Item</i>	<i>Code</i>	<i>Code</i>
2.21 Farm equipment like tractor / thresher		2.29 Motor cycle / scooter
2.22 Radio / tape recorder / audio set		2.30 House / flat
2.23 Television		2.31 Plot of land
2.24 Refrigerator		2.32 Car/jeep/van
2.25 Telephone (land line)		2.33 Well
2.26 Mobile phone		2.34 AC
2.27 Washing machine		2.35 Computer
2.28 Fan		2.36 Any other (specify)

CJ Total Household Consumption Expenditure

i. Expenditure on Food items during LAST MONTH (Rs.):

	<i>TOTAL VALUE of ALL food items (Rs.)</i>
2.37 On items like: rice, wheat, jowar/bajra/maize, pulses, edible oil/vanaspati, milk/milk products, sugar, vegetables, fruits, meat, fish, eggs, tea, coffee, bread, biscuits, snacks, spices, etc.	

ii. Expenditure on Non-Food items during LAST MONTH (Rs.)

	TOTAL VALUE (Rs.)
2.38 Fuel (LPG, kerosene, firewood etc.) and water	
2.39 Electricity	
2.40 House rent	
2.41 Transport (including own vehicle)	
2.42 Entertainment	
2.43 Telephone	
2.44 Cable television	
2.45 Toilet articles (toothpaste, soap, detergents, shaving cream etc.)	
2.46 Alcohol	
2.47 Bidi / cigarettes / tobacco / paan	
2.48 Total (Rs.)	

iii. Other Annual Consumption Expenditure during LAST ONE YEAR (Rs.)

	TOTAL VALUE (Rs.)
2.49 Clothing / Footwear	
Durable goods: 2.50 a) automobile 2.51 b) Electronic/electrical appliances 2.52 c) Other durable goods (furniture, utensils etc)	
2.53 Education of children (incl. fees, books, uniform, transport...)	
2.54 Medical (including OPD, hospitalisation, regular medicines...)	
2.55 Travel	
2.56 Repairs/maintenance of house/vehicle; house-tax/vehicle ins. etc	
2.57 Other major expenditure (including wedding/funeral, social events, religious ceremonies etc.)	
2.58 TOTAL of iii. (Other Annual Expenditure)	

Section 3: Death in the Household

Death of any earning member

3.1 Was there death of any earning member in the last two years? Yes-1 / No-2

If 'yes', answer the following (if no, please skip and go to next section–i.e. Section 4):

3.2 Age in completed years of the dead person (if two have died give details of last person)	
3.3 What was the cause of death? (see codes provided at the end)	
3.4 How long was the person suffering? (number in months)	
<i>Details about last employment of the deceased:</i>	
3.5 A] Nature of occupation (see codes given at the end)	
3.6 B] Sector employed in (see codes given at the end)	
3.7 C] Earnings of the person (per month in Rs.)	
3.8 After death, family received benefits like: PF Yes-1 / No-2	
3.9 Gratuity Yes-1 / No-2	
3.10 Insurance Yes-1 / No-2	
3.11 Pension Yes-1 / No-2	
3.12 Employment for another member Yes-1 / No-2	
3.13 Was the person hospitalised before death? Yes-1 / No-2	
3.14 How much was spent on the medical treatment? (Rs.)	
3.15 Total amount spent on funeral and related ceremonies (Rs.)	

Section 4: Health Status and Expenditure

A. Non-hospitalised illness episodes

4.1 How many times did any/all members in the 18-60 years age-group fall ill in the **last one year** for which there was no hospitalisation? (give total number of illness episodes) [if frequently code-98; continuously-99]

4.2 How many times did any/all members in the 18-60 years age-group fall ill in the **last one month** for which there was no hospitalisation? (give total number of illness episodes) [if frequently code-98; continuously-99]

<i>Details of any illness episode(s) during the last one month</i>	<i>Code/Response</i>
4.3 Nature of illness (give codes as given at the end)	
4.4 Number of days ill (if frequently ill put code-98; if continuously ill put code-99)	
4.5 Did you/members seek treatment? Yes-1 / No-2	
4.6 If no , reason for no treatment (see codes given on last page)	
<i>If treatment sought give details by answering the following:</i>	
4.7 Source of treatment (see codes given on last page)	
4.8 Duration of treatment (number of days)	
4.9 Number of days bedridden	
4.10 Number of days not gone to work (if not applicable code-99)	
<i>Expenditure incurred during the last month on treatment (Rs)</i>	
4.11 Fees and medicines	
4.12 Clinical tests	
4.13 Transport cost	
4.14 TOTAL Expenditure (Rs)	

B. Hospitalised illness episodes:

4.15 Was any member in the 18-60 years age-group hospitalised in the **last one year**? Yes-1 / No-2

4.16 If yes, no. of times the person(s) was/were hospitalised during last one year

<i>Details of hospitalisation during the last one year</i>	<i>Code/Response</i>
4.17 Nature of illness (see codes given at the end)	
4.18 Number of days hospitalised	
4.19 Source of treatment (see codes given on last page)	
<i>Expenditure incurred (Rs.)</i>	
4.20 Room rent; Medical expenditure; Clinical tests; Surgery	
4.21 Transport cost	
4.22 Diet/lodging expenses of care-givers	
4.23 TOTAL Expenditure (Rs)	

4.24 Source of financing hospitalisation (see codes given on last page)

4.25 Is any household member taking any medicine on a regular basis? Yes-1/No-2

4.26 If 'YES', how much money is spent every month? (Rs.)

Section 5: Wages and Employment

5.1 How many days was any household earning member absent from work or unable to work in the last one year due to illness?

5.2 Did the person lose wage/income due to leave/absence in the last one year? Yes-1 / No-2

5.3 If 'YES', how much wages/income was lost in the last one year? (Rs)

5.4 What was the amount of fringe benefits (over time, paid leave etc) lost, if any, during the last one year? (Rs.) (mention examples of fringe benefits lost)

5.5 If agricultural household, how many days could a working member not go to work in the last one year due to illness?

5.6 In the absence of the above member how was the work managed? A] Other family members-1 b] Hired labourers-2 c] Both-3 d] None-4

5.7 If labourer(s) were hired because of illness, how much amount was spent on hired labourer(s) during the last one year? (Rs.)

5.8 Was any child below 16 years withdrawn from school on account of any sick member in the household? Yes-1 / No-2

5.9 If 'YES', the primary reason for withdrawal was: a] To take care of the sick member(s)-1 b] To take up earning activity-2 c] To reduce expenses related to education-3 d] All of the above -4

5.10 Did any household member above 60 years have to take up any earning activity on account of a sick member in the household? Yes-1 / No-2

Section 6: Miscellaneous

6.1 Has any provision (financial or otherwise) been made for the children's future? Yes-1 / No-2

6.2 If the household had resorted to borrowing last year, the borrowed amount was meant for: a] Medicines/Treatment-1 b] Purchase of durable goods (incl. home)-2 c] Marriage/Funeral expenses-3 d] Business-4 e] Others (including combination of above)-5 f] Children's education-6

CODES

SOURCE OF TREATMENT

PHC/CHC-1	Private doctor-4	Faith healer/religious person-7
Govt. hospital-2	Charitable institution/NGO-5	Home remedy-8
Private hospital/nursing home-3	Chemist shop-6	Others-99

SOURCE OF FINANCING TREATMENT

Past savings/own money-1	Loan from employer-6	NGO support-9
Employer reimburses-2	Borrow from friends / relations-7	Doctor sponsored-97
Medical insurance-3	Borrow from money lenders / financial institution-8	Combination of some of the above sources-98
Mortgage assets-4		Others (incl. sibling paying)-99
Liquidation of assets/durables-5		

REASONS FOR NO TREATMENT

Illness not considered serious-1	Financial constraint-4	Doctor not prescribing treatment-98
No medical facility nearby-2	Lack of time / long waiting-5	Others (including combination of some of the above reasons)-99
No doctor willing to treat-3	No co-operation of family members-6	
	Ignorance-97	

OCCUPATIONS

Farmer/cultivator -1	Small artisan in household & cottage industry -8	Rentier (rental earnings from agricultural land)-14
Agricultural laborer -2	Self-employed/professional - 9	Rentier (rent earnings from house property)-15
Construction & related work - 3	Truck drivers/cleaners -10	Housewife-16
Skilled/semi-skilled/other non-agricultural labourer - 4	Other transport workers (Bus drivers, auto rickshaw driver, rickshaw puller, barge navigators) - 11	Student -17
Service (Govt. /Pvt.) -5	Pensioner/retired -12	Unemployed -18
Petty business/small shop - 6	Domestic servant -13	Sick-cannot work - 98
Large business /medium to large shop owner-7		Others (incl. not told) - 99

SECTORS OF EMPLOYMENT

Agriculture/allied activities-1	Transport, Storage & Communication-7	Community, social & personal services -11
Mining and quarrying -2	Hotels & Restaurants-8	Tourism (tour operators, travel agents etc) -12
Manufacturing -3	Finance, insurance, real estate & business services -9	Not available -13
Electricity, Gas & Water -4	Health (hospitals, clinics, labs, etc)-10	Others (including government) -99
Construction -5		
Trade -6		

NATURE OF ILLNESSES AND CAUSE OF DEATH

1-Common cold, nose & throat discomfort, tonsillitis, pneumonia, bronchitis, asthma, chest pain, whooping cough, respiratory infection...	15-Skin diseases/ infections (Eczema, Ringworm, boils abscess, skin itching), allergy, herpes...	25-Diseases of nerves, Cerebral Stroke, brain tumor, paralysis...
2-Malaria	16-Leprosy	26-Disease of mouth, teeth and gums
3-Fever	17-Urinary / genital infection, burning sensation while urinating, urinary tract infection, enlarged prostate gland...	27-Polio
4-Headache, body-ache...	18- Diseases of kidney/ Stones in the bladder, pain near kidney...	28-Tetanus, Diphtheria
5-Weakness, dizziness / anemia, losing weight, becoming thin, trembling...	19-Gynecological problems (irregular and painful menstruation, excess bleeding, white discharge, leucorrhea etc.)	29-Filaria (elephantiasis)
6-Loose motion, diarrhea, dysentery, vomiting, chronic ameobiosis, Guinea worm...	20-Aches and pains- Arthritis, Spondylolysis, Rheumatism, other disorders of bones, numbness, pain in joints...	30-Meningitis and viral encephalitis
7-Stomach problems, indigestion, gas/acidity, constipation, ulcer, piles, appendicitis...	21-Breathing problem /Breathlessness, Asthma	32-Epilepsy / Convulsions / fits
8-Cholera and Acute Gastroenteritis	22-Diabetes	33-Goiter and thyroid disorders
9-Typhoid	23-High / Low Blood Pressure	34-Heart problems
10-Jaundice/ Cirrhosis of liver/ liver related problems	24-Diseases related to pregnancy & childbirth (incl. delivery)	35-Cancer
11-Eye problems		36-Toxoplasmosis strokes
12-Ear problems		37-Accidents/violence/ injury
13-T. B. (Tuberculosis)		38-Mental, psychological problems
14-measles, chicken-pox, mums		39-Dog bite /snake bite /insect bite etc.
		40-Sexually transmitted diseases (STD)
		41-Old age problems including loss of memory etc.
		99-Others

THANK YOU