

CHAPTER V

ECONOMIC PROFILE AND CONSUMPTION PATTERN OF HOUSEHOLDS WITH PEOPLE LIVING WITH HIV

5.1 INTRODUCTION

In this chapter, economic profile of households with PLHIV, economic differentials and consumption pattern and level of consumption is analyzed. Economic profile of PLHIV depicts the economic wellbeing of a HIV household. In the Indian context, in the country as a whole, there is no evidence that HIV prevalence is related to poverty. In fact, as per NFHS-III women and men in households, in the next to the highest wealth quintile are most likely to be infected with HIV (NFHS-III, 2005-06). It may not be evident at the state level or region specific level (NFHS). However, many studies conducted in past (region specific) evidently show that HIV prevalence is more among people living at the marginal end of the society and socio-economic character defines vulnerability to HIV to great extent. In this chapter an attempt is made to estimate the economic background of PLHIV households. To analyze the economic wellbeing and differential within the group itself, we had estimated an index of economic status of households based on the possession of durable goods and condition of housing. This chapter is categorized into two portions: (A) Socio-Economic background of PLHIV households and comparative evaluation with Pune urban Households. (B) Consumption level and pattern among HIV households.

The economic character of a household is guided by household income to a great extent. It is a major determinant of the economic welfare of a household. A household drives its income from various sources. Income is closely guided by the occupational status of the head of the household and other individuals of the household. In the study group, we had categorized annual income into seven different categories. It was observed that in the study group, 32.7 percent households belong to lower income category. Fifty percent of female headed households earned less than Rs. 20,000 per annum. Table 5.1 shows the distribution of households and their share in income by income categories and type of households.

Table 5.1: Distribution of households by income categories

Annual Income Category	HIV household Pune city (headship)		Total	HIV Household Urban Maharashtra (UNDP)		Non HIV households Urban Maharashtra	
	Male	Female		HHs	Share in Income	HHs	Share in Income
Up to 20000	57 (22.5)	74 (50.0)	131 (32.7)	12.89	3.17	6.63	2.10
20001-30000	77 (30.4)	31 (20.9)	108 (26.9)	17.19	7.54	16.78	8.66
30001-41000	35 (13.8)	22 (14.9)	57 (14.2)	16.80	10.35	17.82	12.68
41001-84000	66 (26.1)	18 (12.2)	84 (20.9)	37.50	36.86	50.20	57.12
84001-130000	9 (3.6)	0 (0.0)	9 (2.2)	10.16	17.65	7.28	15.06
130001-173000	3 (1.2)	3 (2.0)	6 (1.5)	1.95	4.69	0.91	2.72
Above 173000	6 (2.4)	0 (0.0)	6 (1.5)	3.52	19.75	0.39	1.66
Average income Per household	39514.8	26845.3	34838.8	58,636		50,387	
Total	253 (100.0)	148 (100.0)	401(100.0)	297 (100.0)		769 (100.0)	

Source: Author's Own estimates based on primary survey and UNDP (2005)

From Table 5.1 it is experienced that majority of HIV households in the study group have income lesser than Rs.41000 per annum (60 %). Female headed households have more compromised economic status when compared to male headed households. Differential was observed, when HIV households in the study group were compared with that of UNDP study HIV and non HIV urban Maharashtra households. A widened gap in term of average annual income is experienced.

However, income is a noisy (not much reliable) determinant of economic welfare. Estimates based on reported income are not much reliable to depict economic character of a household. This is because people do not report their income adequately and hide the different sources of income. Hence, an attempt has been made in this thesis to estimate the socio-economic wellbeing and economic status of HIV households, to construct an index based on principal component analysis and an alternative measure of economic wellbeing, standard of living index based on NFHS.

A-5.2. SOCIO-ECONOMIC STATUS OF SURVEY RESPONDENTS' HOUSEHOLDS

Principal components analysis was used to create an index of wealth. The rationale for using principal component analysis to construct a linear index of wealth from a set of indicators is described and validated in Filmer and Pritchett (1999; 2001). This index of wealth has an advantage over separately controlling for the ownership of assets, when considering the effect of wealth on a variable of interest because asset

ownership might be separately correlated with the variable of interest, e.g. water access and sanitation variables may be indicators of wealth, but also have independent effects on health outcomes. Further, the linear index may contain less measurement errors than household consumption as a measure of long-run household economic status (Filmer and Pritchett, 2001).

The weights for the components of the linear index were determined using principal components analysis, which is a technique that extracts orthogonal linear combinations of variables that most effectively capture the common information.

The first principal component of a set of variables is the linear combination that explains the largest proportion of the common variation of the set of variables.

The second principal component is the linear combination, orthogonal to the first principal component, which explains the largest proportion of the remaining unexplained variance and covariance of the set of variables, and so on.

In this analysis, only the first principal component was used to create an index of wealth. This relies on a crucial assumption that household long-run wealth explains the maximum variance (and covariance) in the set of household characteristic variables, thereby corresponding with the first principal component. The resulting scoring factors (factor loading) from the principal components analysis of the household characteristic variables are reported in Table 5.2, for a given item in a given factor, this is the correlation between the vectors of subject's responses to that item, with the vector of (subject's) predicted scores, according to a regression equation treating the entire set of items as independent variables. The factor loading expresses the correlation of the item with the factor. The square of this factor loading indicates the proportion of variance shared by the item with the factor. Since each variable was first normalized using its mean and standard deviation, the scoring factor divided by the standard deviation of each dummy variable gives the amount by which that variable would change the index. For example, if the household owns a bicycle, *ceteris paribus* the wealth index would increase by 0.9975. Likewise, negative sign attached to particular characteristics tends to decrease wealth index. For example, if the household owns livestock and television (B&W), *ceteris paribus*, the wealth index would decrease by (-0.1588 and 0.2595) respectively.

The first principal component explains 15.94 per cent of the covariance, with the first eigenvalue equal to 4.7813, and the second eigenvalue equal to 2.5173. Eigenvalue is the standardized variance associated with a particular factor.

Table 5.2: Scoring Factor and Summary Statistics for the Computation of a Linear Index for Wealth for Survey Household (First Principal Component)

Sr. No.	Characteristics	Mean	Std. Deviation (SD)	Scoring Factor (SF)	SF/SD
1	Type of House (Pucca)	0.2120	0.4092	0.5604	1.3695
2	Source of light (electricity)	0.8828	0.3221	0.4473	1.3888
3	Source of Drinking water (Piped water)	0.8628	0.3444	0.2410	0.6997
4	Ownership of House	0.6035	0.4898	0.1166	0.2382
5	Kitchen (separate room)	0.2718	0.4455	0.6096	1.3685
6	Cooking Fuel (LPG, Electricity)	0.4514	0.4983	0.6638	1.3322
7	Toilet in House	0.1945	0.3963	0.6779	1.7105
8	Agriculture land Ownership	0.1521	0.3596	0.1189	0.3307
9	Livestock Ownership	0.0823	0.2752	-0.0437	-0.1588
10	Fan	0.5661	0.4962	0.6587	1.3273
11	Bicycle	0.1646	0.3713	0.3704	0.9975
12	Radio/ Transistor	0.3292	0.4705	0.2535	0.5388
13	Television B/W	0.1521	0.3596	-0.0933	-0.2595
14	Television colour	0.4439	0.4975	0.6603	1.3274
15	Refrigerator	0.0748	0.2634	0.5219	1.9811
16	Telephone	0.0299	0.1706	0.2274	1.3330
17	Mobile Phone	0.4364	0.4966	0.6687	1.3467
18	Washing Machine	0.0200	0.1400	0.1186	0.8471
19	Clock/Watch	0.9426	0.2328	0.1006	0.4321
20	Pressure Cooker	0.7481	0.4346	0.4260	0.9801
21	Water Pump	0.0025	0.0499	0.1249	2.5014
22	Computer	0.0075	0.0863	0.2350	2.7238
23	Vehicle Ownership	0.0299	0.1706	0.4226	2.4774
24	Bullock Cart	0.0100	0.0995	0.0912	0.9163
25	Tractor	0.0050	0.0705	0.1158	1.6417
26	Sewing Machine	0.0748	0.2634	0.3813	1.4475
27	Cot/Bed	0.8853	0.3191	0.2241	0.7022
28	Table Chair	0.4813	0.5003	0.4916	0.9826
29	Mattress	0.8878	0.3160	0.1399	0.4428
30	Number of Sleeping Rooms	0.3804	0.1954	0.3504	1.7933

Source: Author's Own estimates, based on primary data

Resulting wealth index score was categorized into five categories based on the concept of range and cumulative frequency. Thirty durable goods and basic amenities were identified for construction of wealth index based on first principal component analysis. Wealth index score ranges from minimum (-1.69566) to maximum (3.99306) range (5.68872). We had divided this range in five equal slices and estimated the cumulative frequencies of PLHIV in Pune city in a chronological economic order ranging from poorest to richest.

Comparing the ownership of different assets (*see* Table 5.3) in different economic categories confirms that PLHIV in the higher socio-economic strata are more likely to own various household assets, more likely to have access to basic amenities.

Households in lower socio-economic strata are more likely to share toilet facilities, use other source of fuel for cooking and having less access to basic amenities which are integral part of health concern. The wealth index is therefore consistent with expectations about these and other indicators of household wealth.

Table 5.3 Variables Means by Wealth Index Score grades for Survey Households

Characteristics	Poorest	Poor	Medium	Rich	Richest
Type of House (Pucca)	0.022	0.141	0.519	0.850	1.000
Source of light (electricity)	0.676	0.988	1.000	1.000	1.000
Source of Drinking water (Piped water)	0.748	0.908	0.974	0.850	1.000
Ownership of House	0.554	0.583	0.701	0.750	0.500
Kitchen (separate room)	0.058	0.172	0.675	0.950	1.000
Cooking Fuel (LPG, Electricity)	0.072	0.497	0.883	1.000	1.000
Toilet in House	0.007	0.074	0.558	1.000	1.000
Agriculture land Ownership	0.144	0.117	0.182	0.300	1.000
Livestock Ownership	0.108	0.067	0.052	0.150	0.000
Fan	0.086	0.736	0.961	0.950	1.000
Bicycle	0.043	0.147	0.273	0.700	0.500
Radio/ Transistor	0.237	0.288	0.506	0.550	1.000
Television B/W	0.180	0.166	0.091	0.100	0.000
Television colour	0.065	0.503	0.857	0.950	1.000
Refrigerator	0.000	0.012	0.156	0.700	1.000
Telephone	0.007	0.025	0.039	0.150	0.500
Mobile Phone	0.058	0.485	0.857	1.000	1.000
Washing Machine	0.022	0.012	0.000	0.100	0.500
Clock/Watch	0.928	0.939	0.961	1.000	1.000
Pressure Cooker	0.504	0.840	0.922	1.000	1.000
Water Pump	0.000	0.000	0.000	0.050	0.000
Computer	0.000	0.000	0.013	0.000	1.000
Vehicle Ownership	0.000	0.000	0.039	0.400	0.500
Bullock Cart	0.000	0.012	0.013	0.050	0.000
Tractor	0.000	0.000	0.013	0.050	0.000
Sewing Machine	0.007	0.043	0.156	0.450	0.500
Cot/Bed	0.806	0.908	0.961	0.950	1.000
Table Chair	0.230	0.479	0.792	1.000	1.000
Mattress	0.871	0.834	1.000	1.000	1.000
Number of Sleeping Rooms	0.318	0.378	0.428	0.612	0.750
Wealth Index	-0.974	-0.022	1.109	2.336	3.434
Number of Households	139	163	77	20	2

Source: Author's Own estimates, based on primary data

Economic differentials were experienced among the PLHIV by the gender of the head of household. It is observed that most of the households with PLHIV belong to lower economic strata. About $\frac{3}{4}$ of total PLHIV individuals are categorized as poorest or poor. Table 5.4 highlights the economic differentials among PLHIV households by the gender of the head of household.

Table 5.4: Socio-Economic Differentials by Gender of Head of Household

Socio-Economic status category	Head of Household			Mean Wealth Index Score		
	Male	Female	Total	Male	Female	Total
Poorest	76 (30.0)	63 (42.6)	139 (34.7)	-0.952	-1.000	-0.974
Poor	99 (39.1)	64 (43.2)	163 (40.6)	0.018	-0.085	-0.022
Middle	59 (23.3)	18 (12.2)	77 (19.2)	1.125	1.054	1.109
Rich	17 (6.7)	3 (2.0)	20 (5.0)	2.312	2.477	2.336
Richest	2 (0.8)	0 (0.0)	2 (0.5)	3.434	...	3.434
Number of Households	253 (63.1)	148 (36.9)	401 (100.0)			

Source: Author's Own estimates, based on primary data

Table 5.4 depicts that majority of HIV household (75%) are categorized as poor / poorest as per economic status. Male headed household are economically better than those of female headed households. More than 90 percent of female headed households are categorized below middle economic strata and about 85 percent of female headed households are categorized as poorest or poor household as per wealth index score. On the contrary, around 30 percent of male headed households are categorized as poorest as per wealth index score. This highlights the marked socio-economic differential within the HIV households. Similar differentials were noticed in the mean score of wealth index as per gender of head of household and wealth index score.

Similarly, the socio-economic differentials were visible by HIV status of head of household by gender. Evidently those households with HIV positive woman head are socially and economically most deprived in the study group. Table 5.5 shows the socio-economic differentials among study respondents by gender and HIV status of head of household.

Table 5.5: Socio-Economic Differentials by Gender and HIV Status of Head of Household

Socio-Economic status category	Gender of Head of Household			
	Male		Female	
	HIV positive	HIV negative	HIV positive	HIV negative
Poorest	57 (31.3)	19 (26.8)	55 (43.7)	8 (36.4)
Poor	75 (41.2)	24 (33.8)	55 (43.7)	9 (40.9)
Middle	41 (22.5)	18 (25.4)	15 (11.9)	3 (13.6)
Rich	9 (4.9)	8 (11.3)	1 (0.8)	2 (9.1)
Richest	...	2 (2.8)
Number of Households	182 (100.0)	71 (100.0)	126 (100.0)	22 (100.0)

Source: Author's Own estimates, based on primary data

Distribution of the study group shows that HIV positive female headed households are socially and economically most vulnerable. Merely, 1 percent of them reach rich wealth index score compared to 9 percent in HIV negative female headed households and 5 and 11 percent in case of HIV positive and negative male headed households respectively. This marked differential calls for the sensitization for gender based policies with respect to HIV response.

5.3 ALTERNATIVE MEASURE OF ECONOMIC BACKGROUND OF SURVEY RESPONDENTS

Besides wealth index, standard of living index (SLI) was constructed to estimate the socio-economic well being of survey respondents (based on method used in NFHS-I, NFHS-II). The possession of durable goods is another indicator of a household's socioeconomic level, although these goods may also have other benefits. For example, having access to a radio or television may expose household members to innovative ideas or important information about health and family welfare; a refrigerator prolongs the wholesomeness of food; and means of transportation allows a greater access to numerous services outside the local area. Table 5.6 shows a summary household measure called Standard of Life Index, which is calculated by adding the following score for 26 items characterized by possession of durable goods, housing condition and access to basic amenities of life:

House type: 4 for *pucca*, 2 for semi-*pucca*, 0 for *kachha*;

Toilet facility: 4 for if household own toilet at home and 0 for shared, public or no facility;

Source of lighting: 2 for electricity, 1 for kerosene, gas, or oil, 0 for other source of lighting;

Main fuel for cooking: 2 for electricity, liquid petroleum gas, or biogas, 1 for coal, charcoal, or kerosene, 0 for other fuel;

Source of drinking water: 2 for private tap or private hand pump, 1 for public tap, hand pump, 0 for other water source;

Separate room for cooking: 1 for yes, 0 for no;

Ownership of house: 2 for yes, 0 for no;

Ownership of agricultural land: 4 for owning agriculture land and 0 for no agricultural land;

Ownership of livestock: 2 if owns livestock, 0 if does not own livestock;

Ownership of durable goods: 4 each for a car and tractor, 3 each for telephone, refrigerator and colour television, 2 each for a bicycle, electric fan, radio/transistor, sewing machine, black and white television, water pump, bullock cart, 1 each for a mattress, pressure cooker, cot/bed, table/chair and clock/watch.

Index scores range from 0–14 for a low SLI to 15–24 for a medium SLI and 25–45 for a high SLI. By this measure, more than one-third (36.9 percent) of surveyed respondents households have a low standard of living, 44.6 percent have a medium standard of living, and 18.5 percent have a high standard of living.

The proportion with a low standard of living is higher in female headed households than in male headed households (46.6 and 31.2 percent, respectively), and the proportion with a high standard of living is much higher in male headed households than female headed households (23.7 and 9.5 percent, respectively).

Likewise, differentials were examined as per the migration status. The proportion with a low standard of living is higher among migrants than natives (40.4 and 25.0 percent, respectively). Though the difference in the proportion with high standard of living in migrants and natives is marginal (18.1 and 19.6 percent, respectively), natives have higher standard of living than migrants.

Differentials were also observed as per the HIV status of head of the household. The proportion with the low standard of living is higher in households with HIV positive head of family than HIV negative head of family (38.0 and 33.3 percent, respectively).

HOUSEHOLD OWNERSHIP OF DURABLE GOODS AND STANDARD OF LIVING

Table 5.6 highlights the percentage of household owing selected durable goods by gender of head of household and distribution of households as per the standard of living index.

Table 5.6: Percentage of Household owning selected Durable Goods and Percentage Distribution of Households by Standard of Living Index according to Gender of Head of Household

Characteristics	Head of Household		Total
	Male	Female	
Durable Goods			
Fan	62.06	47.30	56.61
Bicycle	21.74	7.43	16.46
Radio/Transistor	37.55	25.00	32.92
Television B/W	15.81	14.19	15.21
Television colour	47.83	38.51	44.39
Refrigerator	9.09	4.73	7.48
Telephone	3.95	1.35	2.99
Clock/Watch	94.86	93.24	94.26
Pressure Cooker	76.68	71.62	74.81
Water Pump	0.40	0.00	0.25
Car/Jeep/Van/Bike	3.95	1.35	2.99
Bullock Cart	1.19	0.68	1.00
Tractor	0.79	0.00	0.50
Sewing Machine	7.91	6.76	7.48
Cot/Bed	91.70	83.11	88.53
Table/ Chair	52.96	39.86	48.13
Mattress	89.72	87.16	11.22
Standard of Life Index			
Low	31.23	46.62	36.91
Medium	45.06	43.92	44.64
High	23.72	9.46	18.45
Number of Household	253	148	401

Source: Author's Own estimates, based on primary data

Table 5.6 shows the visible mark of divergence in the possession of durable goods by the gender of head of household. It has been experienced that female headed households possess less durable goods compared to their male headed household counterparts. This marked difference is visible in the SLI. Student *t* test confirms that there is a significant difference in the standard of life index among male headed household and female headed household ($t = 4.7395$, 399 df, which is greater than critical value 1.96 at 95% CI). Mean score of Male headed households (19.03) is greater than Mean score of female Headed households (15.41).

Likewise, HIV status of head of the household is also an important factor contributing to the socio-economic status of PLHIV Households. Generally, the head of the household is also the main bread winner in the family. If the Head of the household himself is HIV positive, this may lead to a disastrous impact on the socio-economic well being of the household. T test shows the statistical significant relationship between HIV status of head of household and standard of living index ($t = -4.36304$,

399 df, which is greater than critical value 1.96 at 95%CI). Mean score HIV positive head households (16.81) is lesser than that of mean score of HIV negative head households (20.65).

5.4 ECONOMIC BACKGROUND OF PLHIV HOUSEHOLDS

In this section, a comparative analysis is done between the PLHIV households and Pune Urban Households, to investigate the issue of economic vulnerability of HIV households. Data from District Level Household and Facility Survey (DLHS) for Pune Urban is used in the said analysis for comparative evaluation. Conducting the District Level Household and Facility Survey is one of the major responsibilities undertaken by International Institute for Population Sciences (IIPS) at the request of the Ministry of Health and Family Welfare (MoHFW), Govt. of India. IIPS as a nodal agency involved 16 regional agencies and six monitoring agencies in carrying out this task covering all the districts of India. DLHS is the only source which provides district level estimates for various health and family welfare indicators. DLHS-III is the third in series of district surveys preceded by DLHS-I and DLHS-II in 1998-99 and 2002-04 respectively. DLHS-III, the survey, covered 611 districts in India, with a sample size of about 0.7 million households. The total number of households representing a district varies from 1000 to 1500 households, from the rural and urban set up of the district. The DLHS-3 is designed to provide information on family planning, maternal and child health, reproductive health of ever married women and adolescent girls, utilization of maternal and child healthcare services at the district level for India. At the Household level, information on all members of the household and the socio-economic characteristics of the household, assets possessed, number of marriages and deaths in the household since January 2004, etc. was collected. Information about the assets possessed, is key the information to estimate the socio-economic status categorization of households.

From Pune district, 1018 representative households were selected to collect information and all the questionnaires were completed. Out of 1018 representative households for Pune district, 586 (57.6%) households were in Urban set up and 432 (42.4%) were in Rural set up. These 586 urban Households were considered in the analysis. In our analysis to bring out socio-economic status differentials between Pune urban households and HIV households, we had used data from third rounds of DLHS (RCH-III).

Wealth Index based on First Principal Component (PCA) is used to construct a linear index for wealth for Pune urban households, and an alternative measure of socio-economic status is also constructed as Standard of Living Index (SLI) based on the weight given to the possession of durable goods and basic amenities as per the National Family Health Survey (NFHS). All the common variables were identified among the Pune urban households and HIV households.

5.4 - A SURVEY RESPONDENTS HOUSEHOLDS (HIV HOUSEHOLDS) AND DLHS-III (RCH-III) PUNE URBAN HOUSEHOLDS

To compare surveyed HIV household with RCH-III Pune urban households, 27 identical durable goods and basic amenities were identified to develop a linear index for wealth based on PCA. Similarly, standard of living index (SLI) was constructed as an alternative measure of socio-economic status based on the weighting given to particular durable goods and basic amenities as per NFHS. Wealth index was constructed based on first principal component analysis.

Table 5.7 shows the difference among HIV households and Pune urban households in the possession of durable goods and basic amenities of life to maintain a decent standard of life. HIV households are deprived in the possession of valuable durable goods compare to Pune urban households. Similarly, differentials were observed in the access of basic amenities to maintain a decent standard of life among HIV and Pune urban households, in which former are at a compromised situation. Access to basic amenities such as proper housing, safe drinking water, and sanitation, clean cooking fuel is not only an important measure of socio-economic status of household but is also fundamental to the health of its members. Compared to Pune urban households, HIV households are in a disadvantageous condition, which threatens the health of HIV positive member of household.

Table 5.7: Comparative Evaluation of Scoring Factor and Summary Statistics for the Computation of a Linear Index for Wealth for Survey Household and RCH-III Pune Urban Household (First Principal Component)

Characteristics	HIV Household				Pune Urban Households			
	Mean	Std. Deviation (SD)	Scoring factor (SF)	SF/SD	Mean	Std. Deviation (SD)	Scoring factor (SF)	SF/SD
Type of House (Pucca)	0.212	0.409	0.573	1.399	0.567	0.496	0.661	1.333
Source of Light (If electricity)	0.883	0.322	0.447	1.388	0.968	0.177	0.348	1.962
Source of Drinking water (Piped Water)	0.863	0.344	0.244	0.709	0.991	0.092	0.081	0.882
Ownership of House	0.603	0.490	0.100	0.204	0.720	0.449	0.113	0.252
Separate room for Kitchen	0.272	0.445	0.605	1.358	0.630	0.483	0.599	1.239
Cooking Fuel (LPG, electricity)	0.451	0.498	0.686	1.376	0.834	0.372	0.521	1.401
Toilet Facility in House	0.195	0.396	0.685	1.727	0.695	0.461	0.514	1.114
Agriculture Land	0.152	0.360	0.116	0.323	0.205	0.404	0.085	0.211
Livestock Ownership	0.082	0.275	-0.058	-0.211	0.061	0.240	-0.020	-0.083
Fan	0.566	0.496	0.653	1.316	0.889	0.314	0.544	1.731
Bicycle	0.165	0.371	0.377	1.017	0.386	0.487	0.128	0.263
Radio / Transistor	0.329	0.471	0.215	0.457	0.348	0.477	0.344	0.722
Television Black & White	0.152	0.360	-0.103	-0.288	0.094	0.292	-0.201	-0.687
Television Colour	0.444	0.497	0.666	1.338	0.780	0.415	0.612	1.475
Refrigerator	0.075	0.263	0.536	2.035	0.439	0.497	0.730	1.470
Telephone	0.030	0.171	0.233	1.366	0.275	0.447	0.674	1.508
Mobile	0.436	0.497	0.661	1.331	0.768	0.423	0.547	1.294
Washing Machine	0.020	0.140	0.123	0.875	0.174	0.379	0.582	1.532
Clock / Watch	0.943	0.233	0.087	0.375	0.915	0.280	0.325	1.162
Pressure Cooker	0.748	0.435	0.423	0.974	0.899	0.301	0.497	1.652
Water pump	0.002	0.050	0.121	2.431	0.010	0.101	0.014	0.136
Computer	0.007	0.086	0.239	2.767	0.188	0.391	0.583	1.491
Car / jeep /van etc	0.030	0.171	0.437	2.560	0.097	0.297	0.482	1.624
Bull cart	0.010	0.099	0.076	0.766	0.003	0.058	0.037	0.633
Tractor	0.005	0.071	0.109	1.549	0.002	0.041	0.074	1.792
Sewing Machine	0.075	0.263	0.402	1.525	0.307	0.462	0.352	0.762
Number of sleeping rooms	0.380	0.196	0.358	1.831	0.628	0.495	0.501	1.011

Source: Author's Own estimates

Households were classified as per the wealth index score and divided into five strata, ranging from poorest to richest. Comparative evaluation of possession of durable goods and access to basic amenities confirms that Pune urban Households in any strata are at an upper hand than that of HIV households in any quintile. Wealth index score for RCH-III ranges from minimum (-2.72030) to maximum (2.14323) range (4.86354). Classification of this wealth index range in to five slices gives the

distribution of Pune Urban households as per economic wellbeing. Similarly for the study group, Wealth index score ranges from minimum (-1.56111) to maximum (4.12009) range (5.68121). We had categorized this range in to five equal slices and calculated the cumulative frequencies of households with PLHIV in Pune city and Pune urban in chronological economic strata ranges from poorest to richest.

Table 5.8 shows differentials in variable means by wealth index quintiles for survey HIV household and RCH-III Pune urban households

Table 5.8: Variables Means by Wealth Index Score based socio-economic status category for Survey Households and RCH-III Pune Urban Households

Characteristics	HIV Household				
	Poorest	Poor	Middle	Rich	Richest
Type of House (Pucca)	0.031	0.169	0.529	0.895	1.000
Source of Light (If electricity)	0.724	0.986	1.000	1.000	1.000
Source of Drinking water (Piped Water)	0.767	0.912	0.971	0.895	1.000
Ownership of House	0.577	0.568	0.714	0.684	1.000
Separate room for Kitchen	0.055	0.203	0.729	0.947	1.000
Cooking Fuel (LPG, electricity)	0.074	0.568	0.929	1.000	1.000
Toilet Facility in House	0.018	0.088	0.600	1.000	1.000
Agriculture Land	0.141	0.122	0.186	0.316	1.000
Livestock Ownership	0.110	0.061	0.057	0.105	0.000
Fan	0.172	0.750	0.986	0.947	1.000
Bicycle	0.037	0.169	0.314	0.632	1.000
Radio / Transistor	0.270	0.297	0.471	0.526	1.000
Television Black & White	0.190	0.155	0.071	0.105	0.000
Television Colour	0.074	0.574	0.886	0.947	1.000
Refrigerator	0.000	0.014	0.171	0.789	1.000
Telephone	0.006	0.027	0.043	0.158	1.000
Mobile	0.049	0.588	0.857	1.000	1.000
Washing Machine	0.018	0.014	0.000	0.105	1.000
Clock / Watch	0.945	0.919	0.971	1.000	1.000
Pressure Cooker	0.552	0.845	0.929	1.000	1.000
Water pump	0.000	0.000	0.000	0.053	0.000
Computer	0.000	0.000	0.014	0.053	1.000
Car / jeep /van etc	0.000	0.000	0.043	0.421	1.000
Bull cart	0.000	0.020	0.000	0.053	0.000
Tractor	0.000	0.000	0.029	0.000	0.000
Sewing Machine	0.006	0.047	0.171	0.526	0.000
Number of sleeping rooms	0.328	0.376	0.440	0.606	1.000
Wealth Index	-0.897	0.087	1.181	2.450	4.120
Number of Households	163	148	70	19	1

Contd...

Table 5.8: Variables Means by Wealth Index Score based socio-economic status category for Survey Households and RCH-III Pune Urban Households

Characteristics	Pune Urban Household				
	Poorest	Poor	Middle	Rich	Richest
Type of House (Pucca)	0.000	0.117	0.443	0.902	0.976
Source of Light (If electricity)	0.593	0.926	0.996	1.000	1.000
Source of Drinking water (Piped Water)	1.000	0.979	0.987	1.000	1.000
Ownership of House	0.704	0.670	0.654	0.810	0.798
Separate room for Kitchen	0.037	0.277	0.500	0.941	1.000
Cooking Fuel (LPG, electricity)	0.148	0.521	0.904	0.954	1.000
Toilet Facility in House	0.296	0.383	0.592	0.941	1.000
Agriculture Land	0.074	0.181	0.202	0.209	0.274
Livestock Ownership	0.000	0.096	0.070	0.033	0.071
Fan	0.037	0.660	0.978	0.987	1.000
Bicycle	0.148	0.319	0.386	0.418	0.476
Radio / Transistor	0.074	0.181	0.259	0.490	0.607
Television Black & White	0.148	0.245	0.088	0.039	0.024
Television Colour	0.000	0.330	0.846	0.974	1.000
Refrigerator	0.000	0.000	0.211	0.824	0.988
Telephone	0.000	0.000	0.070	0.425	0.952
Mobile	0.037	0.415	0.803	0.941	0.988
Washing Machine	0.000	0.000	0.022	0.216	0.762
Clock / Watch	0.370	0.862	0.943	0.954	1.000
Pressure Cooker	0.259	0.681	0.965	1.000	0.988
Water pump	0.000	0.011	0.013	0.013	0.000
Computer	0.000	0.000	0.031	0.242	0.786
Car / jeep /van etc	0.000	0.000	0.018	0.039	0.560
Bull cart	0.000	0.000	0.004	0.000	0.012
Tractor	0.000	0.000	0.000	0.000	0.012
Sewing Machine	0.000	0.117	0.246	0.444	0.536
Number of sleeping room	0.371	0.427	0.444	0.778	1.164
Wealth Index	-2.183	-1.187	-0.268	0.667	1.541
Number of Households	27	94	228	153	84

Source: Author's Own estimates

As per the economic strata of wealth index, mean wealth index differentials were observed. HIV households observed higher mean wealth index score in richest quintile of wealth index than that of Pune urban Households, absolute number is one. However, in other quintiles (poor, middle and rich) Pune urban households are better off than that of HIV households. Hence, on an average, it can be expressed that, HIV households live in a compromised socio-economic condition when compared to an average Pune urban household.

5.4 – B SOCIO-ECONOMIC DIFFERENTIALS AMONG HIV HOUSEHOLDS AND PUNE URBAN HOUSEHOLDS

In an attempt to examine socio-economic differentials among HIV households and Pune urban households (RCH-III), frequency distribution of gender of head of household by wealth index score range was carried out. Table 5.9 shows the distribution of survey respondent HIV households and RCH-III Pune urban households as per wealth index score range respectively.

Table 5.9: Distribution of Survey Respondent Household and RCH-III Pune Urban Household as Per the Categories of Wealth Index (Based On PCA)

Socio-Economic Status Category	Type of Household					
	HIV Households			Pune urban households		
	Male Head	Female Head	Total	Male Head	Female Head	Total
Poorest	89 (35.2)	74 (50.0)	163 (40.6)	24 (4.7)	3 (3.9)	27 (4.6)
Poor	93 (36.8)	55 (37.2)	148 (36.9)	77 (15.1)	17 (22.4)	94 (16.0)
Middle	54 (21.3)	16 (10.8)	70 (17.5)	201 (39.4)	27 (35.5)	228 (38.9)
Rich	16 (6.3)	3 (2.0)	19 (4.7)	133 (26.1)	20 (26.3)	153 (26.1)
Richest	1 (0.4)	...	1 (0.2)	75 (14.7)	9 (11.8)	84 (14.3)

Source: Author's Own estimates.

The following observations were noted from the above distribution. First, Percentage of households categorized as poorest is much higher among HIV households (40.6%) than average Pune urban Household (4.6%). A mere 0.2 percent of HIV households are categorized as richest as per wealth grades, where as 14.3 percent of average Pune urban households are categorized as richest. Differentials were noticed as per the gender of head of household within the type of household itself. Whether it is HIV household or an average Pune urban household, female headed households are socially and economically more deprived than that of their male headed counterparts. Second, compared to HIV female headed household, an average Pune urban female headed household is better off. Third, in male headed household, there is no visible difference in socio-economic wellbeing in HIV male headed household and an average male headed Pune urban household. This highlights the need / focus to formulate policy for the betterment of female headed households in general and HIV positive female headed households in particular to enhance socio-economic wellbeing.

Likewise, standard of living index categories also highlight the economic differentials among HIV households and average Pune urban household. Table 5.10 depicts the distribution of survey respondent households and RCH-III Pune urban households as per the categories of standard of living index as an alternative measure of socio-economic wellbeing of household.

Table 5.10: Distribution of Survey Respondent Household and RCH-III Pune Urban Household as Per the Categories of Standard of Living Index

Standard of Living Index	HIV Households			Pune Urban Households		
	Gender of Head of Household			Gender of Head of Household		
	Male	Female	All	Male	Female	All
Low SLI	79 (31.2)	69 (46.6)	148 (36.9)	45 (8.8)	10 (13.2)	55 (9.4)
Medium SLI	114 (45.1)	65 (43.9)	179 (44.6)	193 (37.8)	27 (35.5)	220 (37.5)
High SLI	60 (23.7)	14 (9.5)	74 (18.5)	272 (53.3)	39 (51.3)	311 (53.1)
N	253	148	401	510	76	586

Source: Author's Own estimates

Table 5.10 shows that as per SLI categories, 36.9 percent of HIV households are categorized as having low standard of living compared to 9.4 percent among average Pune urban household. Female headed households in general and HIV households headed by females in particular are in compromised socio-economic condition than their respective counterparts. Hence, the analysis emphasizes the need to formulate gender sensitive policies in response to HIV.

B-5.5 CONSUMPTION LEVEL AND PATTERN OF CONSUMPTION AMONG PLHIV HOUSEHOLDS

Consumption pattern and level of consumption of a household, depicts the economic character of the household economy. Consumption pattern shows the stratification of expenditure incurred on the different items of consumption *viz.* food consumption and non-food consumption and consumption level shows the quantification of expenditure. Consumption pattern and level are important characters of a household and reveal the welfare aspect of a household. This section highlights the pattern of consumption among PLHIV households and a comparative analysis is carried out with that of UNDP study and NSS- Urban Maharashtra households.

The increase in medical expenditure of household due to HIV/ AIDS is likely to be met by reduction in other expenses. For the households that are below poverty line 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 can reduce the quality of life of future stock of human capital. Out of pocket (OOP) health expenditure constitutes a major halt to the household economy, especially for HIV households where an economically productive member falls sick due to HIV related illness. Increased out of pocket medical payments coupled with reduction in household income, can imply reduced saving. Out of pocket health payments can place a huge economic burden on the household affected by HIV. The impact can also be in terms of increased inequalities and possible increase in poverty. Hence, high OOP health spending may impact the economy of Households and pushing specifically those who are slightly above poverty line into poverty and those already in poverty line, into further impoverishment.

5.6 CONSUMPTION LEVEL AMONG HIV HOUSEHOLDS

Per capita per month food expenditure in male headed household is higher than female headed household. The reason for that is better economic well being compared to female headed households. The difference in per capita expenditure on food between the two types of households is mainly due to the expenditure on ‘Other food’ items, such as vegetables and fruits, milk and milk products, oil, egg, fish and meat etc. Male headed HIV households because of their comparative higher SES are in a state to incur more expenditure than female headed HIV households.

Table 5.11: Average Per Capita per Month Expenditure on Some Major Items

(In Rupees)

Items	Gender of Head of Household		Total
	Male	Female	
Cereal	105.52	102.46	104.39
Pulses	28.03	24.22 *	26.63
Other Food items	286.54	242.93 **	270.45
Total Food	418.76	368.63 **	400.26
Fuel	63.96	66.03	64.73
Electricity	40.33	35.74	38.63
Rent	61.54	63.69	62.33
Clothing and Footwear	37.68	23.67 **	32.51
Durable Goods	4.41	2.22	3.60
Education	21.12	30.82	24.70
Medical Expenditure	152.88	93.62 *	131.01
Other Non-Food	105.45	81.46	96.60
Total Non-Food	487.36	397.24 **	454.10
Total	906.12	765.87 **	854.36

Source: Author's Own estimates, based on primary data, **@ 95% CI, *@ 90% CI

Table 5.11 shows that average per capita per month total expenditure among male headed households (Rs. 906.12), is greater than that of female headed households (Rs. 765.87). This depicts the purchasing power between two types of households. Per capita medical expenditure among male headed households is more than one and half times that of female headed households. Male headed households have a higher share of medical expenditure in the total expenditure despite the fact that their per capita expenditure is higher. Thus, the medical expenses of male headed HIV households are much higher than that of female headed HIV households, almost around one and half times of the per capita per month medical expenditure of female headed households. Difference in average mean per capita total food expenditure and total consumption expenditure among surveyed households as per the head of household is statistically significant at 95% confidence interval. Difference between average per capita medical expenditure is weakly statistically significant.

5.7 CONSUMPTION PATTERN AMONG STUDY HOUSEHOLDS

Consumption pattern is concerned with the share of total household expenditure incurred on various items *viz.* food expenditure and non-food expenditure. Food expenditure is further split into share of total expenditure incurred on cereal, pulses and other food items, which include: milk and milk products, edible oil, sugar, vegetable and fruits, meat, eggs fish etc, beverages, processed food, spices and other grocery items. Share of total expenditure incurred on non-food items depicts the economic prosperity of a household. Non-food expenditure share is split into fuel expenditure, expenditure incurred on electricity, rent, clothing and footwear, durable goods, education of children, medication and other non-food items which include: transportation, entertainment, toilet articles, alcohol and cigarettes.

Table 5.12 shows the share of expenditure on various major items among study group households by gender of head of the household. PLHIV households spend a large percentage of their total household expenditure on food items and share of medical expenditure, relative to other items of consumption, constitutes much larger proportion. Many studies in India have pointed out that the main impact of HIV on households is through the increased medical expenses. This is because, in the absence of any social security scheme and health insurance, households have to cope with the epidemic on their own. In the study households, nearly 10 percent of total consumption expenditure is devoted to medical expenditure. Expenditure on

education of children constitutes a tiny slice of total expenditure of the household. This upholds the general idea that HIV/AIDS might affect the education of children. Since nutritious food and balanced food is important for ensuring a longer and healthier life for PLHIV, it is seen that study household spends more than half of their total expenditure on food related items.

Table 5.12: Share of Expenditure on Some of Major Items

(In percent)

Items	Gender of Head of Household		Total
	Male	Female	
Cereal	13.66	15.21	14.23
Pulses	3.52	3.50	3.51
Other food items	34.71	34.18	34.51
Total food	51.78	52.68	52.11
Fuel	8.32	9.11	8.61
Electricity	4.97	4.71	4.87
Rent	5.26	6.78	5.82
Clothing and footwear	4.41	3.32	4.01
Durable goods	0.28	0.27	0.27
Education	2.33	3.59	2.79
Medical expenditure	10.24	8.54	9.62
Other non-food	12.41	11.00	11.89
Total non-food	48.22	47.32	47.89
Total	100.00	100.00	100.00

Source: Author's Own estimates, based on primary data

5.8 COMPARATIVE ANALYSIS OF SHARE OF EXPENDITURE ON SOME MAJOR ITEMS

Comparative analysis of pattern of consumption expenditure with that of National Sample Survey Maharashtra Urban households and Urban Maharashtra HIV and non HIV households of Urban Maharashtra (UNDP; 2005) was carried out to see the differentials regarding the consumption pattern.

Table 5.13: Comparative Analysis of Share of Expenditure on Some Major Items

Items	HIV Households	Maharashtra Urban Non HIV Households	NSS Maharashtra Urban Household
Cereal	14.23	11.06	7.12
Pulses	3.51	2.21	2.17
Other Food items	34.51	31.62	25.85
Total Food	52.11	44.88	35.13
Fuel	8.61	11.72	8.96
Electricity	4.87
Rent	5.82	3.22	5.01
Clothing and Footwear	4.01	5.87	5.82
Durable Goods	0.27	1.76	5.98
Education	2.79	3.59	7.26
Medical Expenditure	9.62	5.02	6.24
Other Non Food	11.89	23.93	25.60
Total Non Food	47.89	55.11	64.87
Total	100.00	100.00	100.00

*fuel includes expenditure on lighting too

Source: Author's Own estimates, based on primary data, UNDP (2005) and NSS Urban Maharashtra, Report No. 527(63/1.0/1)

It is evident that HIV household spend a major share of their total household expenditure on two main items, first food items and second medical care. Out of pocket health payments share among HIV households is higher than other households. Pattern of consumption expenditure depicts the economic character of household. Urban Maharashtra households as per National Sample Survey (NSS) spend more than 60 percent of their total consumption expenditure on non-food based items, whereas, study group households spend major portion of their total expenditure on food based items. It is evident from Engel Law that poor people spend more on food based item of their total expenditure, because it is a matter of survival in their case. As the income increase, expenditure on food tends to decline. From the above table, support for this argument is quite evident. There is evident difference in the proportion of total consumption spent on food and non-food items between surveyed households and NSS urban Maharashtra households. Proportion of total expenditure spent on cereals, other food, total food, durable goods, education, medical expenditure, other nonfood is found to be different in the two samples. This shows that expenditure pattern among HIV households differs from expenditure pattern of an average Urban Maharashtrian household. Two observations that emerged are: firstly, there is likely difference among HIV households and urban Maharashtrian households as per NSS in the proportion of total consumption expenditure spent on medical expenditure and education of children. HIV households spend higher proportion of total expenditure on medical expenditure than NSS urban Maharashtrian household.

This highlights their vulnerability to fall in the Medical Poverty Trap. Secondly, HIV households spend less proportion of total consumption expenditure on education than NSS Maharashtra households, which hinders future human capital formation.

Similarly, the differentials were observed in per capita per month consumption. Table 5.14 shows a comparative analysis of per capita per month consumption expenditure on major items among study group and UNDP (2005) study urban non-HIV Maharashtra households and NSS urban Maharashtra households.

Table: 5.14: Comparative Analysis of per capita per month consumption expenditure on Some Major Items

(In Rupees)

Items	HIV Households	Maharashtra Urban Non HIV Households	NSS Maharashtra Urban Household
Cereal	104.39	87	119.08
Pulses	26.63	17	36.35
Other Food items	270.45	249	432.52
Total Food	400.26	353**	587.95
Fuel	64.73	92	149.87
Electricity	38.63
Rent	62.33	25	83.81
Clothing and Footwear	32.51	46	97.36
Durable Goods	3.60	13	100.10
Education	24.70	28	121.57
Medical Expenditure	131.01	39**	104.36
Other Non-Food	96.60	188	428.47
Total Non-Food	454.10	431**	1085.54
Total	854.36	784**	1673.48

Source: Author's Own estimates; based on primary data and UNDP study (2005), NSS Urban Maharashtra Households; Report No. 527(62/1.0/1), ** @ 95% CI

Table 5.14 shows the per capita per month average consumption expenditure on major items. HIV households in the study group, spend Rs. 131 per month on medical expenditure compared to UNDP study (UNDP, 2005) non HIV urban households (Rs 39) and NSS urban Maharashtra households (Rs 104.36) per month on medical. This shows economic burden of illness associated with HIV infection. HIV households spend merely Rs. 24.7 per month on education compared to UNDP study group (Rs 28) and NSS urban Maharashtra household (Rs 121.57). This highlights the potential negative impact on future human capital formation. Per capita per month food expenditure comprises a major portion of total per capita per month total consumption expenditure among HIV households in the study group (Rs 400.26) compared to UNDP non HIV households (Rs 353) and NSS urban Maharashtra households (Rs 587.95). An average urban Maharashtra household spends per month Rs 1085.54 of

total average consumption expenditure on non-food based items, contrary to that average HIV household in the study group which spends Rs 454.10 per month of total consumption expenditure on non-food based items. Student *t* test confirms the statistical significant difference in average mean per capita spending (total food, medical expenditure, total non food and total consumption expenditure) at 95% confidence interval between surveyed households and Maharashtra UNDP study non HIV urban households.

5.9 OBSERVATION

From the analysis it is observed that, HIV households are living in the compromised socio-economic conditions. It is experienced that most of the PLHIV are categorized into lower socio-economic strata of society. Socio-economic differentials are widened due to existing gender gap. Within the study group, 43 percent of female headed households are categorized as poorest in the economic strata category compared to 30 percent of male headed households. Within female category, HIV positive female headed households (44%) are the worst. This brings out the vulnerable position of the HIV households in general and HIV positive female headed households in particular. HIV households possess lower assets and have less access to basic amenities than an average urban Pune household. This is evident from the comparative analysis of HIV households and RCH-III Pune urban households. Results are consistent with that of alternative measure “standard of living index”.

Hence the argument can be put forward, that though the statement that HIV infection, cuts across the economic strata barrier prevails, it is people in the lower economic strata of society, who are more vulnerable to HIV infection. It could be so because of poor knowledge about the disease, prevention measures etc. On the other hand, the better-off people, despite the risky behaviour, must be protecting themselves from the infection. The poor are put under greater stress due to HIV infection, including the members of the households who are not themselves HIV positive.

To formulate the policies regarding combating HIV infection at regional level, economic character of PLHIV households plays a crucial role. Like said earlier, factors driving HIV infection are region specific, hence economic character of PLHIV household also do differ as per the character of region itself. In Pune city, about 40 percent of population is residing in urban slums, denied basic amenities and a minimum required decent standard of living. This population is most vulnerable to

HIV infection and majority of cases had been reported from slum dwellers in past studies (NARI, NACO). To curb the poverty and to enhance quality of life among vulnerable population, policies should be drafted with due consideration to the HIV issue.

In the study group, 10 percent of the total consumption expenditure is incurred on medical expenditure as compared to 5 percent of total consumption expenditure in case of Maharashtra Urban non HIV HHs (UNDP, 2005) and 6 percent in case of NSS urban Maharashtra (NSSO, 2006-07). This is attributed to frequent ailments related to HIV infection, out of pocket health care spending and lack of any social security scheme from government. HIV households spend more on food items than non-food items as compared to average urban Maharashtra HH.

The HIV households also spend a higher proportion of their consumption expenditure on fuel, electricity and rent, which suggests that these households have lower assets.

With respect to education of children, it is seen that HIV households spend lower proportion of their total consumption expenditure on education, hence evidencing the general adverse effect of HIV infection on the quality of life of future stock of human capital.

Increased need of nutritional food puts extra burden on the limited resources of HIV households. The poor among HIV households are under much serious constraint of trying to meet both their ends meet. What emerges from the above discussion is that the position of poor households affected by HIV is much more serious and compromised in terms of their socio-economic status in the society and leads to impoverishment. The linkage between the HIV related illness and impoverishment due to out of pocket health payments is explored in chapter VI.

