COVERSHEET

WORK DISABLING ILLNESS, AND COPING STRATEGIES IN DHAKA SLUMS, BANGLADESH

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Abstract

This paper examines the impact of workdays off due to illness on the financial status and livelihoods of poor slum dwellers in Dhaka, Bangladesh. Data on illness and socioeconomic status were collected in a panel survey with monthly rounds. We contacted over 12,000 individuals during a 12-month period and 2,682 adults had taken workdays off due to illness. Households reporting illness in adults had lower income and expenditures than the remainder. They were less likely to have loans and less likely to be members of credit organisations. Where adults had taken time off work due to illness, households reported a deficit in their financial situation, reduced their expenditure, took out loans or mortgages, changed their work or begged. Particular households may be vulnerable to adult ill health. When ill health prevents an adult earner from working, the household financial situation deteriorates, and strategies are used to offset the effect. It is likely that adult illness is a major contributor to chronic poverty.

5 key words Chronic poverty, ill-health, urban poor, coping strategies

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WORK DISABLING ILLNESS AS A SHOCK FOR LIVELIHOODS AND POVERTY IN DHAKA SLUMS, BANGLADESH

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Abstract

This paper examines the impact of workdays off due to illness on the financial status and livelihoods of poor slum dwellers in Dhaka, Bangladesh. Data on illness and socioeconomic status were collected in a panel survey with monthly rounds. We contacted over 12,000 individuals during a 12-month period and 2,682 adults had taken workdays off due to illness. Households reporting illness in adults had lower income and expenditures than the remainder. They were less likely to have loans and less likely to be members of credit organisations. Where adults had taken time off work due to illness, households reported a deficit in their financial situation, reduced their expenditure, took out loans or mortgages, changed their work or begged. Particular households may be vulnerable to adult ill health. When ill health prevents an adult earner from working, the household financial situation deteriorates, and strategies are used to offset the effect. It is likely that adult illness is a major contributor to chronic poverty.

Introduction

Household economies in both developing and developed countries may be subject to exogenous shocks. When households are unable to fully insure against such shocks these shocks lead to welfare losses. These may be temporary phenomena, or may signal a longer-term deterioration in the situation of the entire family. In the UK context, for example, Gregg (2001) argues that unemployment spells incurred by young men as a result of the local labour market changes raise susceptibility for future employment. When temporary shocks have such long-lasting impacts, the welfare losses may ultimately be higher. Amongst the most vulnerable households in developing countries, adult illness can precipitate families into an irretrievable downward spiral of welfare losses and even the breakdown of the household as an economic unit (Pryer 1990).

Illness generates direct costs, such as those incurred by medical fees and treatments, and indirect costs including wages lost. Attangake et al (2000) examined the short-term economic consequences of malaria on households that lived in Matale- a malaria endemic area in Sri Lanka. Here 24 % of the costs of illness was direct and 33 % were indirect costs, with the major portion coming from wages lost. A sick adult is likely to bring a very substantial toll on household finances and may precipitate substantive changes in the organisation of labour. For example Rajeswari et al (1999) estimated that that the days lost over 6 months amongst patients suffering with tuberculosis was 83 days, or 3 months work. The mean cost of illness (direct and non-direct) was $171 and the average debts

accumulated amounted to $100. Eight percent of female patients were rejected by their families, and 11 percent of school children took up employment to help their families.

Similarly, Kamolratanakul et al (1999) examined the economic impact of tuberculosis in Thailand. In this study, expenditure on illness amounted to 15 percent of household income. Expenditure was most frequently financed by household savings or from transfers from community members or from relatives. Twelve percent took out loans and 16 percent sold part of their property.

Ill health was the most important cause of deterioration in financial status amongst the Dhaka slum households featured in this paper, explaining 22 percent of cases where households reported deterioration in financial status. Pryer (2003) previously examined work-disabling illness in Dhaka slums amongst different livelihood groups. In any month 30-40% of households reported days lost due to illness. On average about 4 days were lost in casual unskilled households and eight days lost due to illness in female-headed households. Expenditure on illness was not significantly different across occupational groups, but income lost due to illness was higher in poorer female-headed households than in other groups. On average 31 percent of household income in female-headed households was lost compared to 11-17 percent of household income in other groups. This paper takes this work further and explores consequences of adult illness on the livelihoods and financial status of this slum population.

Setting

Dhaka is the national capital and the largest city of Bangladesh. Thirty million people, over 20% of the total population of Bangladesh, live in urban areas. By the year 2005 this figure will have risen to 46 million and by 2015 projections indicate that 68 million (more than a third of the total population of Bangladesh) will live in urban areas (Government of Bangladesh, 1992; World Bank, 1999/2000). In the absence of commensurate industrialization and on the account of little planned urban or spatial development, this rapid expansion of the urban population has serious implications for physical and socio-economic conditions for the countries cities (World Bank, 1999/2000; Government of Bangladesh, 1992). The number of slum settlements has grown rapidly in recent years and the urban poor are now estimated to be around 11 million, or 37% of the urban population (Islam, 1997).

The gross national product (GNP) in 1998 was US$44 billion ($350 per capita) and the rate of growth through the 1990's was 5%. However, this was highly uneven distribution of wealth and this is not being reduced by economic growth. The Gini index in 1992 was 28.3, with the lowest 10% consuming 4.1% and the richest 10% consuming 23.7%. Fourteen per cent of the urban population lives below the poverty line and the largest gap between the rich and the poor is in the urban areas (World Bank,1999/2000). However, within Dhaka slum populations 50% were below the chronic poverty line (2,500 Taka per month). 93% have lived in Dhaka slums continuously for over 11 years. Over half of adult Dhaka slum residents over the age of 16 years suffered from malnutrition (BMI <18.5). 73% of children under five in the same population suffered from undernutrition

(Weight for age <-2 Z scores), 69 % were stunted (height for age <-2 Zscores), and 31% were wasted (weight for height <-2 Zscores). This was worse than the national average for children in 1995-1996 were 49 % were stunted, 17.5 % wasted and 56% underweight ((BBS,1997). Making this population severely undernourished.

The Urban Livelihoods Study is based in the slum settlements of Mohammadpur subdistrict.. *Agargoan* includes the biggest slum in *Mohammapur*. The land is owned by the government but has been occupied informally by squatters for over 20 years. *Central Mohammadpur* includes slums in *Rayer Bazaar, Jafrabad, Pisciculture, Adabar* and *Pulpar Bottola* areas. Most of the slums in this area consist of poor housing within middle and lower-middle class residential housing settlements. Private landlords own most, though some are on disputed land. Finally, *Beri Badh* is the peripheral area of *Mohammadpur*. The settlements have been developed along the embankment of the Dhaka City Flood Protection alongside the Buri Ganga River. The embankment is government owned land, with slums adjacent to the embankment situated on privately owned land.

Health care in Dhaka city

For the urban poor population in Bangladesh, there are a variety of public and private providers. Recent studies have shown that there is very low utilization of health services in the first place and little variation in the choice of provider when services are utilized (Desmet ,1998; Islam, 1997). Low cost private providers, such as pharmacies and

private practitioners mostly received the money from the urban poor (Desmet,1998). A comprehensive study of illness and health service utilization in Dhaka city slums from 1993 shows that the most popular health option of the urban poor was to 'wait and see' when they experienced and illness (30%), followed by home care (28%). When services are sought, the urban poor first go to pharmacies (16%) or modern private providers (8%). Non-governmental sources of care are the third most popular services (5%). Government sources of health care for illness is the least popular among service options, with only 2.6 % of slum dwellers seeking care from these sources (Desmet, 1998).

There is also evidence from ULS ethnographies that patterns of treatment may vary depending on who is sick. Child illness is perceived as more serious than adult illness regardless of type of illness, and care is sought more promptly than for adults (Kabir et al, 2000). The wait and see approach also identified in the studies by Desmet et al (1998) may indicate the adult illness may reach a critical level and therefore more costly before treatment is sought. In addition, there may be delays in treatment for women who are not involved in income generating work. It is clear from the above that in every community the urban poor usually hedge their bets- they are constantly weighing their need for income and work against their health and unless they are prevented by illness from earning work their health loses out (Kabir et al,2000). These patterns of resort mean that the likelihood of the urban poor suffering from advanced disease or complications is greater for those who can afford to seek care earlier on.

There are many health care alternatives to choose among in urban areas. Along with traditional healers, government services, NGO services, there are private providers of

'modern' allopathic care. In fact the private sector health services dominate the urban areas of Bangladesh. Historically, the government has had an informal policy of working in partnerships with NGOs to provide public health services in urban areas, while the government concentrated on rural areas. The availability of public or NGO services is very low compared with pharmacies and medicine shops, so that even the poorest of the poor utilize the private sector when they are ill (Bangladesh Urban Primary Health Care Project,2000; Desmet , 1998). This is quite different from rural areas where private providers are less common and the government service infrastructure is better developed, particularly for primary care and secondary levels of care. For the urban poor households must make complex decisions about when to seek care and where. For poor households with severely restricted resources, these can be tough decisions and not all individuals are likely to receive care with equal probability.

Study Design

Data collection is based on two sets of interrelated activities; quantitative data collection on a panel of around 850 households – termed the quantitative panel survey – and qualitative studies which explore the same study objectives within selected slum settlements in the study area. Panel households were selected through a random cluster sample of all slum areas in Mohammadpur, with stratification for geographical area. Twenty-five clusters of households were sampled across Mohammadour subdistrict. Sample size calculations for the quantitative panel survey were made based on planned tests of hypothesized differences between both child and adult nutritional levels in

different livelihood groups and also on a desire to detect seasonal variations in nutritional status over the period of the study.

Households were followed up on a monthly basis. The monthly questionnaire was administered to the head of household and spouse and enquiries were made into work participation, sources of income, changes in financial status, shocks, stresses and coping strategies, and food expenditure. Acute and work disabling morbidity was recorded for a two-week recall period and anthropometry was carried out on household head, spouse and children under five.

Every third month a more extensive data collection interview took place, this time involving head of household, spouse and all resident family members. At this interview detailed additional information was collected on debts and savings, income from employment and from other sources, asset ownership, sale and purchase; food supply and food stocks; food expenditure, total expenditure,child feeding practices; common property resource use; social relations (TU group/ committee/ NGO membership and activities); use of amenities and environmental situation. Changes in financial status, self reported morbidity and anthropometry were documented for all household members.

Quality assurance

The emphasis on the study was on quality. The interviewers were trained to instil an understanding of the urban livelihood objectives and their specific role in contribution to the achievement of those objectives. In addition several quality control measures were out

in place during the survey period, which included spot checks, supervised interviews, re-interviews, self editing in the presence of the respondent, daily self editing, editing by two supervisors, selective editing by the research officers.

Conceptual framework

Sen (1981) uses the term "entitlement" to cover a set of resources and relationships determining the control a household has over food and other basic needs. A household "entitlement" has two dimensions: endowment and exchange.

Endowments have been classified into five groups. Thus material resources cover money, assets and stores of value while human resources include the age, gender, education, skills, health and nutritional condition of household members. The relationship a household has with other individuals, households and organizations is also important and constitutes their social resources. (Such relationships may be used to make “claims” to assistance, include claims on food, credit, labour, productive resources or services from kin, neighbors, labour groups, patrons, landlords, employers, government or NGOs). A related concept is the idea of cultural resources including status, restrictions and norms that govern behaviour. Finally, the environment in which the household lives is associated with a set of endowments. Environmental resources cover facilities like housing, water, and sanitation, and also common property resources which include natural resources that may be shared by households; these may be defined by clear property rights, or notionally may be common property.

The "entitlement" model is dynamic and potential is provided by the *exchange* of any part of what is owned (for money or kind) to provide for food and other basic needs. For example, human labour may be sold for a wage, commodities produced may be used for domestic production or sold onto the market, and other commodities procured may be traded. A household may therefore have a large range of possible sources of "entitlement", which together may be seen as constituting its livelihood.

Using this model, a *livelihood strategy* is defined as the way in which a household combines and utilizes its various forms of entitlement to maintain its members on a daily basis. A culturally determined *livelihood standard* could be derived to define culturally determined minimal needs. *Vulnerable livelihoods* could then be considered as those forms of livelihoods that are unable to fulfill culturally determined minimal needs over the annual cycle. Such households can be considered vulnerable to extremes of climate, illness and disease, loss of earnings or income as a result of adjustments in markets for goods and labor and to adverse treatment in the socio-political system. When such households are unable to cope with difficulties of this kind, they may be reduced to starvation and beyond. Within this framework analyses of ownership and/or access to different resource or entitlement bases can be undertaken both at a household level and at the level of characteristics of individuals such as by age and gender.

An important dimension of the livelihood framework is that the health status is seen simultaneously as an *outcome* and an *input* into the processes of production and

reproduction of a household's livelihood. Morbidity profile of all household members has been collected. Information on incapacitating earner ill health will also be used to ascertain the constraint ill-health places on the pattern and level of livelihoods pursued over the annual cycle.

Statistical analysis

The sample size was 10,476 individuals of which 2,682 adults took workdays off due to illness and 7,794 adults did not take workdays off due to illness. The individuals were followed up over 12 months from January 1996 to December 1996. Our analysis was directed towards identifying the characteristics of households with sick adults, and then the relationship between work days lost and changes in finances or the organization of labour after taking household characteristics into account. The analysis draws on data collected across all panels. For the dichotomous outcome sick adult or not, we used logistic regression for panel data using the command xtlogit (Stata Version 7). For the continuous variable, days lost due to illness, we used xtreg regression with fixed effect models for panel data (Stata Version 7) .

Model specification

Model 1

Dependent variable: Illness in adults over 16 years of age

Every three months all household members were asked to report whether they suffered any illness in the previous 14 days by symptoms and the name of the illness and how

many days they sufferred. Illness includes diarrhea or cough/ cold or fever or headache or gastric or abdominal pain or any other illness

Independent variables

1) Financial Status

Most analyses use expenditure data to assess the financial status of households because income is sometimes considered too sensitive in nature to collect accurately. Expenditure data was collected at the household level and covers food expenditure and all non-food expenditures.

2) Savings and loans,

These data were collected in the three monthly questionnaires. Savings were documented at the individual level as were loans and then combined as estimates for households.

3) Household type and gender, members of credit organizations, type of latrine

Households were asked to name their household heads and household type was classified as either male-headed or female-headed. Gender and membership of credit organisations were individual level variables and type of latrine was a household level variable.

Model 2

Dependent variable: Work days off due to illness

Every three months all household members were asked to report whether they have suffered any illness in the previous 14 days by symptoms and the name of the illness and how many days did they suffer. If he/she said yes, they were asked a follow up question, "how many workdays did you lose because of your illness whether total days or partial days", and "how much income did you lose". We used total days off from work due to illness as the dependent variable.

Independent variables

1) *Financial status*

Expenditure data was collected at the household level from food expenditure and non-food expenditures.

2) *Savings loans, assets, workdays per month and earner: dependency ratio*

These were collected in the three monthly questionnaires. Assets included business assets, household assets and rarely applicable, animals and land. Earners and dependents were also differentiated and we calculated the earner: dependency ratio.

3) *Financial status and exante responses*

Household perception of financial status was also included in the three monthly questionnaire. The spouse of the household head was asked to evaluate the family's economic status during the previous 30 days. Five categories were included:

a) large deficit
b) slight deficit

c) break even

d) slight excess , but not enough to save

e) enough to save

Using the same questionnaire we also asked the same respondent which of the following responses would they have made in an economic difficulty:

a) Change work

b) Reduced expenditure

c) Take loans

d) Took mortgage

e) Family migrated

f) Sell assets

g) Begging

The assessment of a household's economic situation provided by the questionnaire is obviously a subjective matter. The answer provided by an individual is likely to depend on her/his access to information as well as access to resources within the household. Moreover, even if an individual had access to the same information and experience within the household, they may take into consideration different pieces of information in making their assessment. In light of this concern, efforts were made to always collect the information from the same respondent as far as possible. In this way it was felt that changes in financial situation would be more likely to be identified.

Results

[Table 1 here]

Table 1 provides a summary of the causes of deterioration in financial situation among all households. Incapacitation of an income earning member incapacitated accounted for the greatest percentage of cases where households reported deterioration in financial situation, followed by wage decreases and inability to find work.

[Table 2 here]

Table 2 shows the socio-economic, and demographic variables associated with illness in adults. Adults who were not ill had higher household income and higher total expenditure. Savings were higher in those who were ill. Loans, assets and household size were not significantly different between adults who were ill or not ill.

[Table 3 here]

Higher proportions of ill adults were from female-headed households and those who were ill were less likely to belong to credit organizations, than those who were not ill.

[Table 4 here]

Table 4 shows the odds ratios for individual adults who were ill with a range of socio-economic, social capital, demographic and environmental variables. Odds ratios for

katcha latrines (bamboo and straw), and not being a member of credit organizations was significantly associated with illness. Savings and total expenditure and female-headed households were all negatively associated with illness. Higher loans and female gender had lower odds ratios compared to no loans or to male gender.

[Table 5 here]

Table 5 shows work disabling illness in adults by socioeconomic and demographic factors Savings, assets, total expenditure, workdays per month and earner dependency ratios were the lowest in adults who suffered from workdays off due to illness, compared to adults who did not take days off due to illness. The exception was loans, which was higher in individuals who had days off due to illness compared to adults who did not take days off due to illness.

[Table 6 here]

Table 6 shows work disabling illness by financial status and exante responses to work disabling illness Adults who took days off due to illness had the highest percentage of very much lack of money as well as the highest percentage of lack of money and the least percentage of breakeven compared to adults who did not take days off due to illness Regarding financial situation in the previous month, adults who took days off due to illness had the highest percentage of very much worse situation and the highest percentage of worst situation and the lowest percentage of the same financial status as

well as better and much better, compared to adults who did not take days off due to illness. Hardly anybody changed work , but there was a slightly higher percentage of those did change work in adults who took days off due to illness compared to adults who did not take days off due to illness. There was a higher percentage who reduced expenditure and a higher percentage who took loans in adults who took days off due to illness. There was no difference in taking a mortgage out or family migrated to rural areas, but begging, the last resort, was significant with a higher percentage begging amongst adults who took days off due to illness.

[Table 7 here]

Table 7 provides regression analysis of work days off due to illness with total expenditure, savings, loans, assets, work days per month earner: dependency ratio and exante responses to work days off due to illness. Total expenditure was negatively associated with workdays off due to illness, meaning that less total expenditure was associated with workdays off. The same was true for assets, work days per month, earner: dependency ratio, selling assets, changing work and financial status after the shock. This means that lower assets, lower workdays per month, lower earner: dependency ratio, (more dependants), assets sold taking out a mortgage, changing work and poorer financial status were related to work days off due to illness. The positive associations with workdays off due to illness were decreasing expenditure, taking out loans out and begging. The higher values are associated with workdays off due to illness. Families migrating to rural areas were not associated with workdays off due to illness

Discussion

In this paper we examine the impact of workdays off due to illness on the livelihoods of poor people in Dhaka slums. Does work disabling illness have an effect on livelihoods? Illness in a principal earner was the largest shocks faced by slum residents in Dhaka. After the shock, income was lower as well as assets as a result of illness induced workdays off. Days at work decreased and earner: dependency ratios were lower meaning that that there were more dependants. Households reduced their expenditure to save money, took out loans and mortgages and sold assets. The financial status after the shock was poor and some households took up begging.

Comparisons with other studies

It is instructive to consider the results against the backdrop of existing studies. These fall into two categories; those which describe cross-sectional surveys of the cost of illness in different settings, and those which describe shocks of different kinds on livelihoods in different settings. These two areas of literature are summarised in turn.

Attanayake et al (2000) examined household costs of malaria in Matale, Sri Lanka. On average, households incurred $7 per patient, of which 24% was direct costs and 44 % indirect costs including income lost and output lost. Sick adults caused greater economic burden than children. Women tended to care for the sick rather than substitute their labour to cover productive work lost due to illness. Rajeswari et al (1999) examined the socio- economic impact of tuberculosis on families in India, by interviewing people retrospectively over 6 months. Mean days lost was close to three months from the six

month period. The total cost of illness (direct and indirect) was $171 over 6 months. Female TB patients were sometimes rejected by their families and 20 % of school children discontinued their studies. Eight percent took up employment to help their families, and care giving of female patients decreased. Kamolratankul et al (2000) also examined the impact of tuberculosis at the household level using a cross-sectional survey. 15% of annual income was used to pay for indirect and direct costs of treatment. Expenditure was most frequently financed by savings or by transfers from relatives. !2% took out bank loans and 16% sold part of their property to pay for treatment.

In a previous publication, Pryer (2003) examined qualitative data to describe strategies to cope with work disabling illness in adults. The sequence of strategies were borrowing money, followed by diversifying income sources, women to going to work, expenditure reduction, use of savings, selling assets, merging households, moving families to rural areas and finally, begging. In addition, there are longitudinal studies that describe shocks of different kinds on livelihoods in different settings. Hoddinott and Kinsley (2001) examined the impact of drought of 1994/1995 on growth of children's heights of Zimbabwean children aged 12-24 months. The shocks lowered annual growth rates between 1.5 and 2 centimetres. Four years later after the drought these children remained stunted than those who did experienced the drought. Dercon and Krishnan (2000) examined vulnerability to shocks using a longitunal dataset from Ethiopia in 1994-1995 which include 1450 households. Shocks reported were harvest failure 78%, and lack of rain , labour problems including illness, death and divorce 40%, oxen problems 39% which includes disease, theft, drought , death or distress sales, other livestock problems

33% same problems as the oxen, and land problems 17 % which include land disputes, land reforms, loss of land due to disputes etc. Lack of rain, crop damage, and livestock damage were all significant shocks in this rural setting. There was multicollinearity among other shocks including workdays ill and wages at peak times, so that these shocks could not be analysed. The study concluded that the number of households that could be expected to fall below the poverty line following shocks, is about half to three-quarters higher than the poverty estimates obtained using the current cross-sectional estimate in each period, indicating that a much larger number of households are actually vulnerable to poverty as a result of shocks than are typically recorded in a cross-sectional analysis. Finally Skoufias and Parker (2002) examined financial shocks in Mexico in 1995 and investigated how shocks affected labour markets. While male workers made up the impact by working longer hours, women workers were laid off, particularly in poor households. The same shocks increased the probability that children do not continue their studies in school.

Why ill-health shocks matter

We end by considering the significance of these findings. Ill-health was a major shock in Dhaka slum households with 22% of households causing deterioration in financial status. The impact off illness shocks includes reduction of income, increased earner: dependency ratios and increased expenditure. More loans were taken out and assets were sold. More adults were begging meaning that livelihoods had collapsed in some households. When credit is difficult to obtain or insufficient, adult illness in a main earner can lead to serious

debt and thence to impoverishment. It is likely that adult illness is a major contributor to chronic poverty.

Policy and coping strategies

What policy options might strengthen the capacity of urban households in the Dhaka slums to cope with the financial costs of illness? One suggestion is to develop programmes to increase the asset buffer of households, by lending money to cover the assets to be sold in a crisis. A second way is to diversify income sources, by promoting business acumen and by increasing income-earning opportunities. Third is to develop credit schemes for the poor households and enhancing access to credit for poor households. · Lastly to develop community based health insurance schemes in the Dhaka slums. There are two community health insurance schemes in Dhaka (The Grameen Health Programme, and the Gonoshasta Kendra Health Care System (Desmet et al, 1999). These programmes need to be supported and extended.

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Table 1 Shocks and stresses causing deterioration in financial situation among all households in Dhaka slums (all rounds: January to December 1996)

Main reason shocks and stresses reported	% of all cases where deterioration in financial situation reported
Income-earning member ill/incapacitated	21.6
Wage/earnings decreased	19.3
Unable to find work	18.1
Unable to work due to strikes	9.2
Expenditure for medicine/treatment	3.8
Visitors came	3.2
Repayment of loans	3.0
Small profit in business	1.5
Increase in number of non-earning family members	1.4
Movement out of the household of an income earner	1.4
Unable to work because of illness of other family member	1.1
Loss of employment	1.1
N	2373

Table 2: socio-economic, demographic variables associated with illness in adults

variables	N	Mean	SE	CI (95th)	CI (95th)	t	P
Income							
Not ill	5522	2579.48	26.78	2526.97	2631.99		
Ill	5723	2462.41	24.21	2414.94	2509.87	3.2475	0.0012
savings							
Not ill	5522	632.39	87.32	461.17	803.54		
Ill	5723	1119.38	162.57	800.67	1438.09	-2.6126	0.0090
loans							
Not ill	5522	315.55	10.41	295.14	335.96		
ill	5723	310.53	9.65	291.607	329.45	0.3538	0.7235
assets							
Not ill	5522	2076.73	104.83	1871.21	2282.26		
Ill	5723	2133.84	119.49	1899.58	2368.10	-0.3583	0.7201
total expenditure							
Not ill	5522	596.90	11.72	573.91	619.88		
Ill	5722	564.79	9.11	546.92	582.66	2.1699	0.0300
age (years)							
Not ill	5522	31.65	0.148	31.361	31.943		
Ill	5723	33.87	0.152	33.572	34.171	-10.4096	0.0001
household size							
Not ill	5522	4.982	0.0258	4.932	5.0335		
Ill	5723	4.976	0.0259	4.925	5.0276	0.1646	0.8692

Table 3:demographic and social capital variables associated with illness in adults

variables	All illness No (n=5436) n & (%)	All illness Yes (n=5657) n & (%)	Chi^2	P
household Type				
female headed	395 (6)	503 (9)		
male headed	5217 (97)	5220 (91)	44.9422	0.0001
membership of credit groups				
no	4107 (74)	4378 (76)		
yes	1413 (26)	1343 (24)	6.8414	0.009

Table 4: Logistic Regression among individuals who have suffered from illness with socio-economic, social capital ,demographic and environmental variables

variables	adjusted odds ratio	SE	t	P	CI	CI
savings						
0	1					
442+	-.0.1170472	0.504587	-2.32	0.020	-0.2159563	-0.0181381
loans						
0	1					
84-283	0.0951734	0.508139	1.87	0.061	-0.004432	0.1947788
284+	0.1095563	0.531772	2.06	0.036	0.0053185	0.2137941
members of credit organisations						
yes	1					
no	1.25029	0.7013014	15.41	0.0001	0.6129862	0.6275955
household type						
male head	1					
female head	-0.2182935	0.0958903	-2.28	0.023	-0.4062695	-0.303449
gender						
male	1					
female	0.3 142916	0.411152	7.64	0.0001	0.2336977	0.3948856
latrine use						
pukka stand up	1					
Pukka sut down	0.766129	0.5021677	1.82	0.062	-0.0042189	
katcha latrine	1.723588	0.5021677	17.5	0.0001	1.500151502	2.529759
total expenditure						
113-379	1					
380-493	-0.0815965	0.557487	-1.46	0.143	-0.1908741	0.0276811
494-621	-0.1171589	0.557682	-2.10	0.036	-0.2264746	-0.0078432
622+	-0.1052942	0.0569258	-2.85	0.050	-0.216879	0.0062907

Table 5: Work disabling illness in adults by socio-economic and demographic

Variables	n	mean	SE	CI	CI	t	P
savings							
No work days off due to illness	7794	1045.02	128.42	793.2733	1296.773		
Work days off due to illness	2682	366.24	23.95	319.2634	413.218	3.0940	0.0020
Loans							
No work days off due to illness	7794	300.243	6.691813	590.7776	287.1253		
Work days off due to illness	2682	356.97	21.40711	314.9971	398.9493	-3.3440	0.0008
Assets							
No work days off due to illness	7794	2453.732	107.25	2243.478	2663.986		
Work days off due to illness	2682	11100.496	75.27038	952.9024	1248.09	7.1941	0.00001
Total expenditure							
No work days off due to illness	7553	3860.422	146.8211	3572.612	4148.232	4.7702	0.00001
Work days off due to illness	2636	2673.447	20.50114	2633.247	2713.647		
Work days per month							
No work days off due to illness	7794	22.03015	0.1058612	21.82263	22.23767	23.21586	0.00001
Work days off due to illness	2682	17.25764	0.1696295	16.92503	17.59026		
Earner dependency ratio							
No work days off due to illness	7681	2.177245	0.0173321	2.143269	2.21122	14.8487	0.00001
Work days off due to illness	2672	1.681818	0.0267904	1.629286	1.73435		

Table 6: Workdays off due to illness by financial status and extante responses

	Work days off due to illness no no (n=7794) n & (%)	Workdays off due to illness yes (n=2682) n & (%)	Chi^2	P
Financial situation last 30 days				
Very much lack of money	1779 (23)	986 (37)		
Lack of money	2436 (28)	762 (31)	223.4058	0.0001
Break even	3254 (42)	812 (30)		
Extra cash	294 (4)	116 (4)		
Very much extra cash	29 (0.37)	6 (0.22)		
Financial situation previous month				
Very much worse	897 (12)	515 (19.20)		
Worse	1388 (14)	374 (17)	114.3732	0.0001
Same	4467 (57)	1418 (52)		
Better	1000 (12)	261 (9)		
Much better	38 (0.49)	14 (0.48)		
Change work				
No	3986 (95)	1673 (96)	3.2938	0.070
Yes	207 (5)	67 (4)		
Reduced expenditure				
No	2923 (69)	1126 (65)	14.1791	0.0001
Yes	1270 (30)	614 (36)		
Take loans				
No	1008 (24)	318 (18)	24.5179	0.0001
Yes	3185 (76)	1424 (82)		
Took mortgage				
No	4124 (98)	1713 (98)	0.1501	0.698
Yes	71 (2)	27 (2)		
Family migrated				
No	4171 (99.50)	1727 (99.37)	0.3986	0.528
Yes	21 (0.50)	11 (0.65)		
Begging				
No	38 (1)	75 (6)	3.9577	0.047
Yes	4153 (99)	1716 (94)		

Table 7: Regression analyses of work days lost due to illness by exante responses

Variables	coeff	SE	t	P	CI	CI
Total expenditure	-0.0008981	0.000211	-4.26	0.0001	-0.0013118	-0.0004844
Savings	1.26000000	0.0000308	0.24	0.967	-0.000059	0.0000616
Loans	0.0006303	0.0001421	4.44	0.0001	0.0003517	0.0009088
Assets	-0.000358	0.0000216	-1.66	0.098	-0.0000782	6.5900006
Day/month worked	-1.075284	0.0752454	-14.21	0.0001	-1.222794	-0.9277748
Earner: dependency ratio	-1.480208	0.5711943	-2.59	0.010	-2.59967	-0.3604487
Changed work	-1.480208	05711943	-2.59	0.010	-2.59967	-0.3604487
Reduced expenditure	0.4370207	0.2578183	1.70	0.090	-0.0684017	0.9424432
Took loans out	0.6343324	0.2861461	2.22	0.027	0.0733767	1.195288
Took a mortgage out	-1.89164	0.9231795	-2.05	0.041	-3.701424	-0.0818554
Family migrated to rural areas	0.613717	1.585449	0.39	0.699	-2.494368	3.721802
Sell assets	-1.64078	0.8541307	-1.92	0.055	-3.315202	0.0336427
Begging	3.487321	1.219517	2.86	0.004	1.0966	5.878041
Deficit financial status after the shock	-1.727305	0.2405264	-7.18	0.0001	-2.198828	-1255781