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# Trends in Ugandan household assets during the 1990s

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# Trends in Ugandan household assets during the 1990s

By

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# 1 Introduction

The response of economic agents to growth opportunities created by market liberalization depends on initial conditions among which are asset endowments and incomes. Deininger and Okidi (2003) use panel elements in the series of the Uganda National Household Survey data and estimate that whereas initial incomes are not a source of future welfare divergence among households, initial assets are critical for guaranteeing higher growth paths for household welfare.

Several other studies have explored the Ugandan data to provide information for monitoring micro-level implications of the various reforms and policies that have been implemented in Uganda since the early 1990s. Most importantly, Appleton (1999, 2001) and Appleton and Ssewanyana (2003) analyzed the data to produce the official poverty statistics of Uganda. Several other analysts have used the data in conjunction with results from Appleton's original work to investigate the policy implications of using national versus regional poverty lines (Appleton, 2003), analyze the determinants of household welfare growth (Deininger and Okidi, 2003), and perform several stochastic dominance tests of welfare changes during the 1990s and estimate elasticity of poverty with respect to growth (Okidi, *et al.*, 2003). Other studies have drawn on Appleton's work to shed light on the extent of chronic poverty in Uganda (Okidi and McKay, 2003), compare quantitative and qualitative evidence of poverty persistence and transitions (Lawson, *et al.*, 2003), and assess the impact of abolition of health user fees on the welfare of vulnerable groups (Deininger and Mpuga, 2003).

These, and numerous other studies have, however, not exploited the time series of cross-sectional Ugandan data to provide a disaggregate investigation of the changing patterns of households' assets during the 1990s, a period of tremendous economic growth and poverty reduction. To the best of my knowledge, it is the work by Lawson *et al.* (2003) that has attempted to disaggregate households' assets beyond land and human capital

categories in an effort to isolate the contributions of different assets to changes in consumption-based welfare levels.

This paper contributes to filling the identified knowledge gap by analyzing the 1992/93 and 1999/00 National Household Survey data in order to shed light on the changes in the holdings of different types of assets by Ugandan households during the 1990s. At this stage the paper is limited to descriptive statistics, which are presented and discussed to illuminate the intertemporal changes in household asset holdings, and the shocks suffered by households, plus the coping mechanisms used during the 1990s. It is expected that the results presented in this paper will provide insights into the nature and role of asset accumulation during the past decade of successful poverty reduction in Uganda, hence informing policy debates on households' participation in future growth and poverty reduction.

## 2 Data

As already alluded to, the source of data for this analysis is the Uganda National Household Survey program. Specifically, the bulk of the study uses data from the 1999/2000 survey. Attempts to use the earlier survey data series for a trend analysis of the various asset types did not produce promising comparability of either the values or quantities of the assets in question. As a result, the study relies on observed and recall information collected at one interview for each household in 1999/2000. In particular, households were asked to declare their current (1999/2000) asset situation (including quantities, values, etc.), which they were then asked to qualitatively compare and rank against their recollection of the respective asset situation in 1992/93.

## 3 Changes in household asset holdings during the 1990s

The primary assets considered in this section span the traditional categories of land, labor and capital. Because of measurement problems that cannot enable distinguishing between cultivable land and other land, the land referred to here is measured as total land (in acres) available to the household at the time of the 1999/2000 survey as compared to the household's perception of the amount in 1992/93. Labor is measured as the number of *prime age* members of the household, where prime age ranges from 20 to 56 years of age. Capital comprises human and physical assets other than land, with human capital measured as the total number of years of education of the household head and for the entire household. Other physical assets include livestock, household appliances, electronics and bicycles.

### *3.1 Land*

Land remains the primary asset for the average Ugandan household in spite of the estimated decline in its share in total household asset portfolio from 57 to 51 percent between 1992 and 2000 (Deininger and Okidi, 2003). The declining share might reflect temporary or permanent conversion of land into other forms of assets, including human development. This suggestion asset transformation is consistent with the observed rise in land rental market participation from only 10% of households in 1992 to 24% in 2000 and is also consistent with the reported increase in the incidence of land sales among 30% of Ugandan communities over the same period (Deininger and Okidi, 2001).

The above-highlighted emerging dynamism in land markets is corroborated by the descriptive statistics presented in Table 1 and Table 3d, which (due to comparability problems of the asset sections in the 1992/93 and 1999/2000 surveys) are generated using retrospective data collected during the 1999/2000 National Household Survey. Table 1 shows that in 1999/2000 nearly 30% of households had zero landholding, a figure higher than the estimated 21% rural landlessness but lower than the 67% level of landlessness observed among urban residents. Regionally, the highest incidence of landlessness at the

time of the 1999/2000 survey was reported in Central followed (surprisingly) by Northern[1]. By gender, 38% of female-headed households were landless compared to 25% of male-headed households. Table 2 shows that the average household that had land in 1999/2000 held about 5 acres. Rural/urban disaggregation reveals that urban-based landholders had more land than rural-based landholders. Regionally, Eastern landholders reported the smallest per-household average holding. A stark contrast emerges when female- and male-headed landholding households are compared. Whereas the latter's landholding was estimated at 5.8 acres, for the former it was 3.8 acres.

When asked to compare their 1999/2000 landholdings with 1992/93 ones, more than 50% of the households declared that there had been no change, 24% said they had less land in 1992/93, 17% said they had no land at all in 1992/93 while 9% said they had more land then than in 1999/2000 (Table 3d). This indicates an evolution of a dynamic system of land transfer either via sales, rental, inheritance, or fragmentation, a detailed analysis of which is beyond the scope of the national household survey data that are used in this study. It is conceivable that the smaller the proportion of households reporting equal amount of land for the two periods the more dynamic has been the phenomenon of land transfer between the periods. On the basis of this proposition, the results in Table 3d suggest that Western region experienced the highest incidence of land transfer, followed by Central. In terms of the basic gender disaggregation considered in this paper, the results suggest that male-headed households (49% of which had the same landholding for both periods) engaged in more land transfers than their female counterparts, 55% of which had equal landholdings for the two periods.

### 3.2 Labor

Most Ugandan households rely on family members to meet their labor requirements. For example, only 15% of those households with non-agricultural enterprises employ any labor at all (Deininger and Okidi, 2003). Reliance on family labor in a labor-intensive

[1] The reported high incidence of landlessness in Northern could be reflecting the fact that most of the land is held communally; individual households might report zero amount of land simple because they may not own the land even if they have use rights.

economic system underscores the importance of family size in household economies. Estimates from the series of Uganda National Household Survey data indicate that national average household size has increased from 4.7 in 1992/93 to 5.2 in 1999/2000 after which it virtually remained unchanged at 5.1 in 2002/2003.

But household size alone is not sufficient. In Table 4 we present the distribution of the number of household members who are in the prime age range (defined as 20 to 56 years of age). In general, the average number of prime age members in a household is 2.3. Given the average household size of 5.2 this implies a dependency ratio of greater than one. Ongoing work at the Economic Policy Research Centre finds that dependency ratio has declined in line with the above-reported slight decline in household size between 1999/2000 and 2002/2003, from 1.35 to 1.30 respectively. This is consistent with the estimated increase in prime age members reported in Table 4 for the period 1992/93 to 1999/2000. However, in Eastern and Northern regions the size of prime age members declined during the same period. As expected, the number of prime age members is higher (2.4) for male-headed households than (1.8) for female-headed households.

## *3.3 Human and other physical assets*

In a given economic environment a household needs adequate human and other physical assets such as those presented in Table 1 to Table 4.

### 3.3.1 Human capital

The results in Table 4 indicate that household human capital stock has improved over time. Specifically, the proportion of households reporting primary as the top level of education declined from 75% in 1992/93 to 67% in 1999/2000. The decline is mirrored in an increase in the proportion of households with secondary level as the top educational achievement. A more significant change is the increase in university degree as the top level of educational, from being the case in less than 1% of households in 1992/93 to registering a ten-fold increase by 1999/2000. A similar pattern is observed in both rural and urban areas, but for urban areas, secondary and high school levels gave way in large proportions to university degree as the top level of education in the household. Precisely,

there was an increase from about 3 to 26 percent of households reporting university degree as their highest level of education between 1992/93 and 1999/2000.

By region, it is Northern where the proportion of households with primary as the highest level of education remained unchanged at about 77% in 1992/93 and 1999/2000. The Northern phenomenon is consistent with the observation that it was the only region in which the incidence of secondary education as the top level of education declined during this period. In terms of the gender of the household head, female- and male-headed households experienced the same pattern of improvement as has been observed at the national level. However, the improvement in human capital stock for female-headed households lagged behind that of their male counterpart during the nineties.

When human capital is measured variably as the total years of education of either the household's head or for the entire household, a significant pattern of improvements is observed for all the spatial and demographic categories considered in Table 4. Nationally, total years of education for household heads increased from about 4 to 6 between 1992/93 and 1999/2000. But rural and female-headed household heads lag behind the national average years of schooling. Regionally, Central and Eastern are above the national average total years of head's education.

Considering the total years of schooling in the household as a whole, Table 4 shows that the stock of human capital more than doubled between 1992/93 and 1999/2000. Comparing this to the increase in years of schooling for household heads, one can deduce that the other members of the household have contributed to total household human capital accumulation much more than the proportionate contribution of the heads. Although Western and Northern were observed to have lower than average years of heads' education, in terms of total years of education in the household, Western experienced the largest increase, from 10.25 to 24.09 between 1992/93 and 1999/2000. For Northern, the increase in total years of education in the household was from 10.9 to 16.9, indicating that it was the only region that did not experience a doubling of this measure of human capital during the 1990s.

### 3.3.2 Other physical assets

What we refer to as other physical assets include livestock, household appliances, electronics and bicycles. Table 1 shows that although the most commonly available household assets in Uganda are electronics such as radios, they are, nevertheless, absent in about 52% of the households. In urban areas, only 23% of the households did not have electronics of any kind in 1999/2000, but in rural areas the absence of electronics was reported in about 60% of the households. In rural areas, the most commonly available assets in this category of physical assets are chickens, followed by bicycles. In the livestock category, goats are second to chickens as the most available form of assets both nationally and in rural areas – about 44% of Ugandan households reported ownership of some goats in 1999/2000.

For households that reported positive amounts of the physical assets under consideration, in 1999/2000, the average household owned one bicycle, seven heads of cattle, two pigs, and seven chickens. On average, urban-based households owned more cattle, goats and chickens than their rural counterparts. Households in Central had more cattle, pigs and chickens than those in other regions. Although female-headed households had fewer livestock than male-headed households, the average difference is small.

Of the households that had certain respective assets in 1999/2000, the majority (42%) of them said there was no quantitative change in their possession of electrical appliances such as kettles and flat irons compared to the 1992/93 levels. Eleven percent of the households reported asset depletion in the case of electrical appliances. But incidence of depletion was proportionally smaller than incidence of new acquisition (27%) than that of accumulation (20%). A sharp contrast is observed between Western and Eastern. Whereas the largest proportion (33%) of Western households reported that they had no electrical appliances in 1992/93 but had something in 1999/2000, in Northern region 22% of the households reportedly saw their electrical appliances base eroded over time. For electronics, the majority of Ugandan households (46%) who owned them in 1999/2000 had none in 1992/93. The growth in the ownership of electronics was propelled by the

observed high (47%) incidence of new ownership by 1999/2000. Regionally, it was Northern that had the largest occurrence of new acquisition of electronics by households.

The analysis of changes in household livestock ownership presented in Table 3a and Table 3d shows that the vast majority of those who possessed some respective type of livestock in 1999/2000 actually had none in 1992/93. In particular, 45% and 47% of the households in this category had no cows and goats respectively in 1992/93. The highest rate of livestock accumulation occurred among pig farmers, with 72% of those who owned pigs in 1999/2000 declaring that they had none in 1992/2000. Nationally, a significant fraction (about 22%) of the households experienced declines in their stock of cows and goats during the 1990s and only 13% of them reported holding about the same stock at the start and end of the period. Except for pigs, a larger proportion of urban residents compared to their rural counterparts enjoyed higher-than-average livestock accumulation during the 1990s. Inter-regional comparisons reveal that the poorest (Northern) region far exceeded the rest of the country in start-up rate of pig rearing. Conversely, it was Northern that reported the smallest proportion (less than 40%) of households that had neither cows nor goats in 1992/93 but started rearing them thereafter. Furthermore, more than 34% of Northern households experienced declines in their stock of cows and goats during the 1990s compared to less than 17% of Central households.

A popular means of transport in Uganda is bicycle, which was reported in about 40% of the households (Table 1), each of whom owned no more than one bicycle irrespective of the subgroup of Ugandans (Table 2). Like most of the assets considered earlier, households who owned bicycles in 1999/2000 reported that they acquired them after 1992/93. Similarly for jewelries – about 50% of the households that owned some pieces in 1999/2000 did not have any in 1992/93.

## 4 Incidence of major shocks affecting households

Household asset bases and production capacities are oftentimes subjected to unforeseen negative shocks that affect welfare levels in a given period. The 1999/2000 household

survey incorporated a section that enables some analysis of the major shocks that households reportedly experienced during the 1990s. This section simply describes the distribution of the reported shocks and any corresponding coping strategies that were available and deployed in the wake of a particular shock.

Table 5a shows that during the seven years preceding the 1999/2000 survey about 37% of Ugandan households experienced some kind of shock such as illness, family separation, job loss and asset loss. The distribution of households who reported occurrence of shocks was fairly even between rural and urban areas. A similar distribution is observed on a regional basis, with only four-percentage point difference between Western that reported the highest shock incidence and Northern that reported the lowest. The most common sock was illness, reported in about 23% of Ugandan households followed by loss of assets that was suffered by about 9% of the households.

Confining the analysis to only those households that experienced some shock, we observe in Table 5b that about 62% of them had at least one incidence of major illness during the 1990s with a rural biased distribution. The second most important shock was loss of assets, which was reported to have occurred in about 25% of the households.

When shocks occur, available or affordable coping mechanisms are employed. Of interest to this paper is the use of household assets to cope with shocks. However, Table 5a indicates that less than 5% of Ugandan households sold assets in order to cope with the effects of shocks. Focusing on illness as the most common type of shock, we observe in Table 6 that whenever major illness occurred, most households either received no help at all (40%) or relied on friends and family (42%). Of the households that suffered illness shock, only 6% of them borrowed money to deal with the problem, and 11% sold some form of asset in an attempt to cope.

## 5 Linking the asset trend analysis to welfare

Each of the tables below presents the distribution of every variable by welfare ranking from the poorest to the richest 20% of households. In terms of asset ownership, 42% of the richest 20% of the households did not have land at the time of the 1999/2000 survey. But land accumulation occurred among nearly 52% of the households in this sub-group. That is, 23% of them did not hold land in 1992/93 but had acquired some by 1999/2000 and 29% of them reported that their 1992/93 landholdings were less than the 1999/2000 amounts. As expected, a much smaller proportion of this sub-group of households had no electronics or electrical appliances compared to the bottom 20%. Nevertheless, there was a significant growth in ownership of electronics among the poorest segment of Ugandans as reflected in the estimated 56% of those who had none in 1992/93 owning some electronic item in 1999/2000.

With respect to livestock, as already noted, starting up household pig rearing was more phenomenal among the poorer parts of the country, the rural and Northern parts. A similar pattern is observed when households are ranked according to their welfare levels (where welfare is measured by consumption expenditure). Specifically, nearly 80% of the poorest 20% of households started new pig rearing during the 1990s compared to the corresponding estimate of 71% for the richest 20%. Furthermore, whereas 36% of the poorest households embarked on keeping cows after 1992/93, a large proportion (31%) of the sub-group reported that their stock of cows declined during the 1990s.

The human capital dimension depicted in Table 4 reveals that whereas there has been a decline (from 67 to 61 percent) in the proportion of non-poor households in which the top level of education is primary, the corresponding proportion for the poor increased instead (from 83 to 84 percent). In terms of university education, in 1999/2000, only 3% of the poor households were headed by university degree holders. It is, however, encouraging to observe that the total number of years of education in the household does not differ in large magnitudes between the poor and non-poor (Table 4).

Regarding shocks, a higher proportion (40%) of the top 20% of the households reportedly suffered some shock over the seven years preceding the 1999/2000 survey compared to the 36% reporting rate among the poorest 20%. However, the incidence of illness was slightly lower among the top 20% than among the bottom 20%. But the top 20% suffered more separation, job loss and asset loss than the lower quintiles. Distinguishing the poor form non-poor, Table 5b shows that on average a poor household is more likely to sell assets in order to cope with shocks. In addition, the proportion of poor households who receive no help in the event of illness is higher than that of the non-poor.

## 6 Policy implications and conclusions

This paper presents a brief set of descriptive statistics to help highlight the distribution and trend of various household assets using information collected in one survey on the asset situations in 1999/2000 as compared to retrospectively estimated situations in 1992/93. This approach and the qualitative ranking of asset statuses in two periods using respondents' recall were deemed more reliable than a trend analysis that is based on asset values reported in different survey rounds because of the quality of the survey data on asset values.

Overall, the asset trend analysis is corroborative of the Uganda poverty trends. But the analysis is quite limited, largely due to difficulties in assembling good quality time series of household data on assets. Nevertheless, from the descriptive results highlighted in this paper, the following summary and concluding remarks can be drawn to enrich the asset perspective of the poverty policy discussions.

- Other than land, the nature and quantities of the most commonly available assets, especially in rural areas where the bulk of the population lives, do not augur well for formal development of credit markets that, by design, are usually dependent on physical assets as collateral.

- The average quantities of the main assets of the households are so meager that the reliance of the country's agricultural sector on the largely peasant family system calls into question the extent to which modernization of such farming units can generate sustainable agro-based national economic buoyancy.

- The higher-than-average (42%) incidence of landlessness among the richest 20% of Ugandan households suggests that land may not be the most common form of asset holding among the rich who usually have a more diverse array of assets. Nevertheless, land accumulation was more widespread among this richest sub-group than among the other welfare groups. With a gradually developing market-based land transfer system, and in an increasingly commercialized agricultural environment, this trend might lead to greater inequality in land distribution.

- The estimated 30% landlessness among the poorest 20% of households should be of major policy concern given that previous analyses have established that land is the key asset of the Ugandan poor, especially with respect to the dependence of the poor on crop agriculture.

- Gender disparity in landholding is still very significant, even when gender is merely reduced to female- versus male-headed households.

- The use of information for empowering the citizens and increasing their role in monitoring public service delivery is challenged by the absence of electronics such as radios in over 50% of households, coupled with Uganda's high illiteracy rate.

- But the observed increase in new ownership of electronics implies that the situation is improving. This is especially encouraging given the centrality of information dissemination in the national effort to empower citizens to participate in improving service delivery.

- Although for both poor and non-poor households the total number of years of education in the household has doubled, the fact that over 84% of the poor households are headed by primary school graduates or dropouts might entail the risk of poverty entrenchment because of the importance of education in moving out of poverty.

- Ugandan households who were observed to have positive amounts of livestock in 1999/2000 registered tremendous accumulation of this asset category during the 1990s.

- There were significant intra-sectoral shift for livestock producers as a large proportion of farmers started pig rearing.

- Although there was overall accumulation of property over time, the pattern was largely driven by greater-than-average progress among urban residents.

- Areas of higher poverty incidence such as the rural and Northern parts of the country recorded lower incidence of accumulation of cows and goats but much higher incidence of accumulation of pigs, a type of livestock that offers relatively small usage variety. This suggests a dangerous shift to easier-to-acquire but inferior productive assets among poorer households.

- Because the causes of shocks such as illnesses and asset and job losses are usually exogenous and broad in geographic coverage, it is unsurprising that the distribution of shocks to households is observed to be quite even across various sub-populations.

- The role of social capital, in the form of networks of family and friends, is very important in the event of major shocks to households, an indication of completely underdeveloped market-based risk management mechanisms. In spite of general prevalence of social capital as a mechanism for warding off the effects of shock,

poor households are less likely to receive help and are more likely to sell off their assets when hit by a major shock, a phenomenon that can entrench their impoverishment.

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## Appendix: Tables of results

# Tables of results

**Table 1: Incidence of zero asset holding by household (%), 1999/00**

| | Appliances | Electronics | Bicycles | Cows | Bulls | Oxen | Pigs | Goats | Chickens | Land |
|---|---|---|---|---|---|---|---|---|---|---|
| National | 79.1 | 51.6 | 59.2 | 79.4 | 91.6 | 97.0 | 88.9 | 66.4 | 55.7 | 28.5 |
| Rural | 84.6 | 56.9 | 55.5 | 76.7 | 90.4 | 96.5 | 87.5 | 61.5 | 49.5 | 21.3 |
| Urban | 49.5 | 22.7 | 79.6 | 93.9 | 98.3 | 99.6 | 96.7 | 93.0 | 89.5 | 67.4 |
| Central | 63.9 | 31.4 | 60.5 | 85.5 | 95.8 | 99.8 | 84.9 | 83.9 | 71.1 | 37.2 |
| Eastern | 81.1 | 59.0 | 53.2 | 75.5 | 89.7 | 94.7 | 88.6 | 65.4 | 45.3 | 25.0 |
| Western | 86.5 | 48.5 | 60.8 | 77.1 | 92.2 | 99.4 | 90.7 | 56.7 | 56.6 | 14.6 |
| Northern | 92.5 | 78.9 | 63.6 | 77.5 | 86.8 | 92.5 | 94.0 | 50.8 | 43.6 | 36.5 |
| Quintile 1 | 90.8 | 80.7 | 69.0 | 79.7 | 90.4 | 94.4 | 91.9 | 61.8 | 50.8 | 30.5 |
| Quintile 2 | 86.9 | 60.9 | 57.0 | 79.0 | 92.1 | 96.4 | 86.3 | 58.9 | 45.4 | 20.6 |
| Quintile 3 | 84.3 | 52.4 | 52.0 | 78.7 | 90.9 | 96.4 | 86.6 | 61.1 | 48.1 | 20.3 |
| Quintile 4 | 79.0 | 45.7 | 54.5 | 77.3 | 91.5 | 98.0 | 87.7 | 66.5 | 56.2 | 24.4 |
| Quintile 5 | 62.2 | 30.4 | 63.7 | 81.7 | 92.8 | 98.6 | 91.6 | 78.6 | 71.4 | 42.2 |
| Male-headed households | 78.3 | 46.6 | 51.3 | 77.1 | 90.7 | 96.9 | 88.0 | 64.4 | 53.1 | 25.2 |
| Female-headed households | 81.2 | 64.8 | 80.5 | 85.6 | 94.2 | 97.2 | 91.3 | 71.8 | 62.9 | 37.5 |
| Non-poor | 82.1 | 48.8 | 51.3 | 75.1 | 90.0 | 97.2 | 86.5 | 62.0 | 50.1 | 19.2 |
| Poor | 89.7 | 73.8 | 64.2 | 80.1 | 91.3 | 95.1 | 89.5 | 60.5 | 48.3 | 25.7 |

Source: Author's estimation from Uganda National Household Survey data - 1999/00

**Table 2: Mean quantity of asset holding for those who have, 1999/00**

| | Bicycles | Cattle | Pigs | Goats | Chickens | Land |
|---|---|---|---|---|---|---|
| National | 1.06 | 6.54 | 2.26 | 4.11 | 6.73 | 5.35 |
| Rural | 1.06 | 6.47 | 2.18 | 4.07 | 6.61 | 5.26 |
| Urban | 1.04 | 8.00 | 3.91 | 5.01 | 10.00 | 6.52 |
| Central | 1.07 | 10.86 | 2.52 | 3.15 | 9.26 | 6.36 |
| Eastern | 1.06 | 3.60 | 2.18 | 3.02 | 6.11 | 4.41 |
| Western | 1.05 | 6.76 | 2.00 | 3.97 | 6.20 | 5.07 |
| Northern | 1.06 | 6.51 | 1.86 | 5.85 | 5.92 | 5.73 |
| Male-headed households | 1.06 | 6.95 | 2.29 | 4.19 | 6.87 | 5.82 |
| Female-headed households | 1.04 | 4.81 | 2.26 | 3.80 | 6.27 | 3.83 |

Source: Author's estimation from Uganda National Household Survey data - 1999/00

**Table 3a: Availability of household electrical assets in 1992/93 relative to 1999/00 (%)**

| | Electrical appliances in 1992/93 | | | | Electronics in 1992/93 | | | |
|---|---|---|---|---|---|---|---|---|
| | more | equal | less | none | more | equal | less | none |
| National | 10.76 | 41.95 | 19.81 | 27.48 | 11.70 | 24.69 | 17.86 | 45.74 |
| Rural | 11.82 | 47.72 | 16.94 | 23.52 | 12.54 | 25.33 | 14.98 | 47.15 |
| Urban | 9.01 | 32.43 | 24.54 | 34.02 | 9.20 | 22.77 | 26.54 | 41.48 |
| Central | 7.48 | 41.12 | 21.39 | 30.00 | 11.58 | 27.48 | 19.50 | 41.43 |
| Eastern | 11.67 | 54.17 | 13.52 | 20.65 | 10.69 | 23.81 | 16.34 | 49.16 |
| Western | 15.97 | 26.02 | 25.10 | 32.90 | 14.06 | 22.32 | 18.59 | 45.03 |
| Northern | 22.20 | 41.41 | 17.31 | 19.08 | 7.92 | 19.20 | 10.84 | 62.05 |
| Quintile 1 | 17.56 | 61.41 | 13.17 | 7.86 | 14.67 | 18.43 | 11.00 | 55.90 |
| Quintile 2 | 12.84 | 48.23 | 18.77 | 20.17 | 12.76 | 26.65 | 13.54 | 47.04 |
| Quintile 3 | 12.28 | 48.68 | 16.09 | 22.95 | 10.40 | 25.21 | 16.34 | 48.05 |
| Quintile 4 | 10.12 | 47.52 | 15.83 | 26.52 | 12.33 | 26.53 | 13.40 | 47.75 |
| Quintile 5 | 9.02 | 32.72 | 24.09 | 34.17 | 11.01 | 23.61 | 24.45 | 40.92 |
| Male-headed households | 9.87 | 40.57 | 20.86 | 28.70 | 11.28 | 23.21 | 18.51 | 47.00 |
| Female-headed households | 13.53 | 46.22 | 16.55 | 23.70 | 13.46 | 30.75 | 15.22 | 40.58 |

Source: Author's estimation from Uganda National Household Survey data - 1999/00

**Table 3b: Availability of other livestock assets in 1992/93 relative to 1999/00 (%)**

| | Pigs in 1992/93 | | | | Chickens in 1992/93 | | | |
|---|---|---|---|---|---|---|---|---|
| | more | equal | less | none | more | equal | less | none |
| National | 9.12 | 8.32 | 10.96 | 71.61 | 33.56 | 14.79 | 19.49 | 32.16 |
| Rural | 8.74 | 8.24 | 10.90 | 72.12 | 33.86 | 14.86 | 19.60 | 31.68 |
| Urban | 16.95 | 9.87 | 12.18 | 60.99 | 25.64 | 12.95 | 16.59 | 44.82 |
| Central | 10.40 | 9.46 | 11.32 | 68.82 | 29.07 | 15.37 | 20.34 | 35.23 |
| Eastern | 9.91 | 6.80 | 13.33 | 69.96 | 36.59 | 15.46 | 21.82 | 26.14 |
| Western | 5.55 | 9.62 | 11.11 | 73.72 | 18.52 | 17.79 | 21.86 | 41.83 |
| Northern | 8.61 | 4.95 | 2.85 | 83.59 | 47.89 | 10.47 | 13.32 | 28.33 |
| Quintile 1 | 7.56 | 5.23 | 8.23 | 78.97 | 41.30 | 15.71 | 14.37 | 28.62 |
| Quintile 2 | 8.70 | 7.65 | 10.39 | 73.26 | 36.16 | 13.76 | 19.06 | 31.02 |
| Quintile 3 | 10.86 | 9.18 | 12.17 | 67.80 | 33.26 | 15.88 | 19.36 | 31.50 |
| Quintile 4 | 9.34 | 8.99 | 11.76 | 69.91 | 29.30 | 14.14 | 22.76 | 33.81 |
| Quintile 5 | 8.25 | 9.16 | 10.88 | 71.71 | 27.29 | 14.46 | 21.82 | 36.43 |
| Male-headed households | 9.27 | 7.65 | 11.20 | 71.89 | 31.96 | 14.12 | 20.40 | 33.52 |
| Female-headed households | 8.59 | 10.79 | 10.05 | 70.57 | 38.99 | 17.06 | 16.40 | 27.55 |

Source: Author's estimation from Uganda National Household Survey data - 1999/00

**Table 3c: Availability of bicycles and jewelries in 1992/93 relative to 1999/00 (%)**

| | Bicycle in 1992/93 | | | | Jewelries in 1992/93 | | | |
|---|---|---|---|---|---|---|---|---|
| | more | equal | less | none | more | equal | less | none |
| National | 17.09 | 27.75 | 10.10 | 45.06 | 6.67 | 23.70 | 19.97 | 49.67 |
| Rural | 17.42 | 27.70 | 10.40 | 44.48 | 6.61 | 24.83 | 17.42 | 51.14 |
| Urban | 13.23 | 28.38 | 6.50 | 51.89 | 6.80 | 21.23 | 25.55 | 46.43 |
| Central | 19.05 | 32.31 | 7.88 | 40.76 | 5.51 | 24.92 | 22.76 | 46.81 |
| Eastern | 16.46 | 28.46 | 11.94 | 43.14 | 7.19 | 23.78 | 16.68 | 52.35 |
| Western | 19.41 | 22.43 | 13.01 | 45.14 | 7.72 | 21.93 | 21.04 | 49.32 |
| Northern | 11.51 | 25.37 | 6.85 | 56.28 | 7.11 | 24.07 | 11.74 | 57.09 |
| Quintile 1 | 13.93 | 31.50 | 7.99 | 46.58 | 11.30 | 18.15 | 15.70 | 54.85 |
| Quintile 2 | 18.60 | 27.96 | 9.13 | 44.31 | 8.21 | 18.39 | 13.56 | 59.84 |
| Quintile 3 | 18.71 | 27.40 | 10.45 | 43.45 | 6.25 | 24.52 | 13.01 | 56.21 |
| Quintile 4 | 17.45 | 28.09 | 10.67 | 43.80 | 6.66 | 24.82 | 19.11 | 49.41 |
| Quintile 5 | 15.65 | 25.49 | 11.12 | 47.75 | 6.02 | 24.61 | 24.69 | 44.68 |
| Male-headed households | 17.09 | 27.52 | 10.31 | 45.08 | 6.55 | 23.72 | 20.52 | 49.21 |
| Female-headed hseholds | 17.07 | 29.33 | 8.63 | 44.97 | 7.15 | 23.60 | 17.72 | 51.54 |

Source: Author's estimation from Uganda National Household Survey data - 1999/00

**Table 3d: Availability of livestock and land in 1992/93 relative to 1999/00 (%)**

| | Cows in 1992/93 | | | | Goats in 1992/93 | | | | Land in 1992/93 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | more | equal | less | none | more | equal | less | none | more | equal | less | none |
| National | 22.51 | 13.04 | 19.59 | 44.86 | 21.03 | 12.57 | 19.21 | 47.19 | 8.55 | 50.24 | 24.14 | 17.07 |
| Rural | 22.82 | 13.17 | 19.73 | 44.28 | 21.30 | 12.46 | 19.14 | 47.10 | 8.76 | 50.94 | 23.99 | 16.31 |
| Urban | 16.19 | 10.29 | 16.63 | 56.89 | 12.99 | 15.74 | 21.19 | 50.07 | 5.81 | 41.16 | 26.11 | 26.91 |
| Central | 16.71 | 17.03 | 16.16 | 50.10 | 14.60 | 12.12 | 15.78 | 57.49 | 7.34 | 47.73 | 24.86 | 20.07 |
| Eastern | 20.02 | 9.04 | 20.52 | 50.42 | 20.27 | 11.86 | 16.70 | 51.17 | 9.49 | 55.59 | 17.89 | 17.03 |
| Western | 18.18 | 14.08 | 27.02 | 40.72 | 13.11 | 16.60 | 24.42 | 45.87 | 8.22 | 37.63 | 40.09 | 14.06 |
| Northern | 38.14 | 13.50 | 12.33 | 36.03 | 34.08 | 9.04 | 17.80 | 39.08 | 9.53 | 66.88 | 6.34 | 17.24 |
| Quintile 1 | 30.76 | 17.43 | 15.59 | 36.23 | 26.73 | 13.68 | 16.81 | 42.78 | 9.31 | 57.89 | 18.86 | 13.94 |
| Quintile 2 | 21.77 | 9.61 | 14.76 | 53.86 | 21.53 | 10.52 | 18.05 | 49.91 | 8.27 | 54.26 | 20.81 | 16.66 |
| Quintile 3 | 19.57 | 14.44 | 19.39 | 46.59 | 21.48 | 14.42 | 17.71 | 46.39 | 9.82 | 51.19 | 24.15 | 14.84 |
| Quintile 4 | 22.46 | 12.18 | 17.59 | 47.77 | 19.33 | 12.28 | 18.77 | 49.62 | 8.06 | 49.08 | 26.19 | 16.67 |
| Quintile 5 | 19.72 | 12.28 | 28.55 | 39.46 | 15.35 | 11.89 | 26.13 | 46.63 | 7.44 | 40.73 | 29.21 | 22.61 |
| Male-headed households | 21.35 | 12.25 | 20.23 | 46.17 | 19.91 | 12.00 | 19.90 | 48.18 | 7.94 | 48.80 | 25.07 | 18.19 |
| Female-headed hseholds | 27.47 | 16.40 | 16.84 | 39.29 | 24.83 | 14.48 | 16.86 | 43.83 | 10.51 | 54.86 | 21.15 | 13.47 |

Source: Author's estimation from Uganda National Household Survey data - 1999/00

**Table 4: Distribution of human capital and labor (%)**

| | Top level of education in the household | | | | | | | | Total years of education... | | | | Number of members in prime age | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Primary | | Secondary | | High school | | University degree | | of the head | | in the household | | | |
| | 1992/93 | 1999/00 | 1992/93 | 1999/00 | 1992/93 | 1999/00 | 1992/93 | 1999/00 | 1992/93 | 1999/00 | 1992/93 | 1999/00 | 1992/93 | 1999/00 |
| National | 74.70 | 67.33 | 19.74 | 19.99 | 4.96 | 2.69 | 0.59 | 9.99 | 4.23 | 6.18 | 11.96 | 22.81 | 2.27 | 2.29 |
| Rural | 79.41 | 72.82 | 17.56 | 18.18 | 2.80 | 1.92 | 0.23 | 7.08 | 3.68 | 5.59 | 10.75 | 21.42 | 2.26 | 2.28 |
| Urban | 46.83 | 37.74 | 32.68 | 29.76 | 17.76 | 6.84 | 2.73 | 25.66 | 7.49 | 9.33 | 19.14 | 30.29 | 2.30 | 2.36 |
| Central | 69.43 | 59.44 | 21.06 | 24.08 | 8.36 | 3.54 | 1.15 | 12.94 | 5.12 | 7.27 | 13.84 | 25.47 | 2.11 | 2.17 |
| Eastern | 73.86 | 67.55 | 21.84 | 21.95 | 3.90 | 2.08 | 0.40 | 8.42 | 4.12 | 6.14 | 12.09 | 22.71 | 2.36 | 2.24 |
| Western | 80.79 | 69.95 | 15.82 | 16.86 | 3.00 | 3.16 | 0.39 | 10.03 | 3.46 | 5.82 | 10.25 | 24.09 | 2.27 | 2.49 |
| Northern | 76.69 | 76.97 | 19.79 | 14.32 | 3.34 | 1.53 | 0.18 | 7.17 | 3.90 | 4.86 | 10.90 | 16.88 | 2.41 | 2.31 |
| Male-headed households | 73.34 | 65.10 | 20.91 | 21.16 | 5.05 | 2.89 | 0.70 | 10.85 | 4.79 | 6.91 | 12.66 | 24.62 | 2.42 | 2.48 |
| Female-headed hseholds | 78.63 | 73.34 | 16.39 | 16.84 | 4.71 | 2.16 | 0.28 | 7.66 | 2.63 | 4.20 | 9.96 | 17.93 | 1.84 | 1.80 |
| Non-poor | 67.13 | 60.70 | 23.73 | 22.95 | 8.05 | 3.56 | 1.09 | 12.79 | 5.09 | 6.88 | 13.41 | 24.16 | 2.16 | 2.25 |
| Poor | 82.55 | 84.06 | 15.62 | 12.53 | 1.77 | 0.49 | 0.07 | 2.93 | 3.34 | 4.40 | 10.47 | 19.42 | 2.38 | 2.41 |

Source: Author's estimation from Uganda National Household Survey data - 1992/93 and 1999/00

**Table 5a: Incidence of major shocks to households in past seven years (%)**

| | Experienced | Incidence of shock experienced by the population | | | | | Sold ass |
|---|---|---|---|---|---|---|---|
| | some shock | Illness | Separation | Job loss | Asset loss | Other shock | to cope |
| National | 37.21 | 22.93 | 3.55 | 2.28 | 9.42 | 3.21 | 3.60 |
| Rural | 37.65 | 24.06 | 3.33 | 1.46 | 9.54 | 3.32 | 3.90 |
| Urban | 34.83 | 16.85 | 4.72 | 6.71 | 8.77 | 2.64 | 1.64 |
| Central | 36.96 | 19.72 | 3.81 | 3.70 | 9.79 | 3.65 | 2.52 |
| Eastern | 40.30 | 26.08 | 4.81 | 2.00 | 9.93 | 2.64 | 4.22 |
| Western | 37.47 | 26.78 | 2.77 | 1.44 | 9.36 | 1.85 | 4.41 |
| Northern | 32.97 | 19.06 | 2.31 | 1.37 | 8.19 | 4.98 | 3.31 |
| Quintile 1 | 35.93 | 22.89 | 2.57 | 1.23 | 9.14 | 3.70 | 3.73 |
| Quintile 2 | 35.78 | 23.49 | 2.60 | 1.19 | 9.72 | 2.93 | 3.62 |
| Quintile 3 | 36.24 | 23.59 | 3.66 | 2.22 | 7.76 | 2.79 | 3.44 |
| Quintile 4 | 36.89 | 23.30 | 3.19 | 2.47 | 8.17 | 2.89 | 3.80 |
| Quintile 5 | 40.01 | 21.77 | 5.06 | 3.62 | 11.67 | 3.67 | 3.43 |
| Male-headed households | 37.38 | 22.78 | 2.95 | 2.77 | 10.00 | 3.25 | 3.83 |
| Female-headed hseholds | 36.75 | 23.32 | 5.15 | 0.99 | 7.87 | 3.12 | 2.82 |
| Non-poor | 38.01 | 22.96 | 3.97 | 2.67 | 9.65 | 3.04 | 3.53 |
| Poor | 35.17 | 22.84 | 2.48 | 1.32 | 8.85 | 3.65 | 3.76 |

Source: Author's estimation from Uganda National Household Survey data - 1999/00

**Table 5b: Incidence of major shocks to households in past seven years (%)**

| | Type of shock suffered for those who experienced some | | | | | Sold ass |
|---|---|---|---|---|---|---|
| | Illness | Separation | Job loss | Asset loss | Other shock | to cope |
| National | 61.62 | 9.53 | 6.14 | 25.33 | 8.63 | 8.28 |
| Rural | 63.89 | 8.84 | 3.89 | 25.35 | 8.81 | 9.01 |
| Urban | 48.38 | 13.54 | 19.26 | 25.17 | 7.57 | 3.99 |
| Central | 53.37 | 10.32 | 10.00 | 26.48 | 9.88 | 5.81 |
| Eastern | 64.70 | 11.92 | 4.97 | 24.63 | 6.55 | 9.87 |
| Western | 71.45 | 7.40 | 3.85 | 24.97 | 4.93 | 9.85 |
| Northern | 57.82 | 7.01 | 4.16 | 24.86 | 15.12 | 7.95 |
| Quintile 1 | 63.72 | 7.17 | 3.43 | 25.45 | 10.30 | 8.60 |
| Quintile 2 | 65.64 | 7.25 | 3.34 | 27.15 | 8.19 | 10.25 |
| Quintile 3 | 65.09 | 10.09 | 6.13 | 21.42 | 7.70 | 8.18 |
| Quintile 4 | 63.18 | 8.65 | 6.69 | 22.15 | 7.83 | 9.21 |
| Quintile 5 | 54.40 | 12.64 | 9.04 | 29.17 | 9.16 | 6.22 |
| Male-headed households | 60.95 | 7.89 | 7.40 | 26.75 | 8.69 | 8.93 |
| Female-headed households | 63.45 | 14.01 | 2.69 | 21.42 | 8.48 | 6.49 |
| Non-poor | 60.40 | 10.45 | 7.01 | 25.39 | 7.99 | 7.77 |
| Poor | 64.94 | 7.04 | 3.76 | 25.15 | 10.38 | 9.65 |

Source: Author's estimation from Uganda National Household Survey data - 1999/00

**Table 6: Copying strategies in case of major illness (%)**

| | Friends & family helped | Borrowed money | Sold assets | Received no help | Other coping mechanism |
|---|---|---|---|---|---|
| National | 41.82 | 6.12 | 11.47 | 39.79 | 0.79 |
| Rural | 40.46 | 6.46 | 12.40 | 39.86 | 0.83 |
| Urban | 52.30 | 3.58 | 4.28 | 39.29 | 0.55 |
| Central | 46.27 | 3.25 | 7.93 | 42.04 | 0.51 |
| Eastern | 50.13 | 4.29 | 13.80 | 30.37 | 1.42 |
| Western | 27.20 | 12.83 | 12.16 | 47.12 | 0.69 |
| Northern | 43.99 | 2.81 | 11.90 | 41.02 | 0.29 |
| Quintile 1 | 36.91 | 3.43 | 12.68 | 46.66 | 0.32 |
| Quintile 2 | 40.55 | 7.26 | 14.33 | 37.33 | 0.52 |
| Quintile 3 | 42.89 | 6.43 | 10.58 | 38.62 | 1.47 |
| Quintile 4 | 41.63 | 5.51 | 11.89 | 39.98 | 1.00 |
| Quintile 5 | 45.45 | 7.43 | 8.83 | 37.69 | 0.61 |
| Male-headed households | 37.59 | 7.20 | 13.23 | 41.15 | 0.83 |
| Female-headed households | 52.95 | 3.29 | 6.83 | 36.23 | 0.69 |
| Non-poor | 43.00 | 6.57 | 10.56 | 38.90 | 0.98 |
| Poor | 38.85 | 5.00 | 13.76 | 42.07 | 0.33 |

Source: Author's estimation from the Uganda National Household Survey data - 1999/2000

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