

Tanzania

Human Resource Development Survey: Final

Report

by

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Volume I: Main Report
Annexes I, and II

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DATA AVAILABILITY

The data sets and documentation can be obtained from:

- (i) Professor H. R. K. Amani at the Department of Economics at the University of Dar es Salaam, Dar es Salaam, Tanzania, if you or your institution are located in Eastern Africa.
- (ii) The Poverty and Human Resources Division of the Policy Research Department at the World Bank, 1818 H Street, N.W., Washington D.C. 20433
- (iii) The Human Resource Division of the Africa Technical Department at the World Bank, 1818 H Street, N.W., Washington D.C. 20433
- (iv) The World Bank Gopher system (Gopher.worldbank.org) after March 15, 1995.
- (v) The World Bank Mosaic system ([Http://www.worldbank.org](http://www.worldbank.org)) after March 15, 1995.

Volume II is available upon request.

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3. The researcher will give recognition of the source in all publications, conference papers, and manuscripts with the following statement "The data used in this paper come from a nationally representative survey of 5,000 households in Tanzania. The survey was a joint effort undertaken by the Department of Economics of the University of Dar es Salaam, the Government of Tanzania, and the World Bank, and was funded by the World Bank, the Government of Japan, and the British Overseas Development Agency."

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WHY A SURVEY IN TANZANIA?

1. The Population and Human Resources Division of the Eastern Africa Department of The World Bank, in collaboration with the University of Dar es Salaam and the Tanzanian Planning Commission, decided to undertake a survey in Tanzania which would consist of a household survey, a limited community module and a price questionnaire. The objectives of the survey were to provide information regarding the following:

- a. Household use of, and expenditure patterns for, social services;
- b. Reasons for low levels of household investment in education and health services for children;
- c. The distribution of the benefits of public spending for social services and how to improve targeting;
- d. Households' evaluation of the social services available to them;
- e. The potential for demand-side interventions to increase human capital investment directly (especially for girls and the poor); and
- f. The feasibility of repeated national monitoring surveys to assess the impact of future Bank and government projects in the social sectors, and to increase Tanzania's capacity to perform household survey work.

2. This document serves two purposes. First, it is a project completion report, so it outlines the major stages of the Tanzania Human Resource Development Survey (HRDS). It emphasizes the reasons for the survey's success, its shortcomings, and the areas where, if performed differently, it could have obtained better or faster results. Second, together with the questionnaires themselves, it provides information sufficient to allow the reader to use the datasets. This report is organized as follows: Section 2 describes the contents of the questionnaire. Section 3 describes the steps followed in conducting the survey, and Section 4 concludes the paper by presenting what should have been done differently and the major lessons learned from this experience.

3. **Background.** Tanzania maintains a substantial amount of data on its public service delivery systems in health, education, and water supply. However, it has very little population-based information on households' utilization of social services. Social sector projects have been designed from a top-down perspective with little or no information on the behavioral patterns, desires, capabilities, or constraints of the intended beneficiaries. The government and donors have designed social policies and projects in Tanzania on the basis of assumptions regarding household needs and behavior. Policies have been

dominated by efforts to achieve geographical equity in the distribution of a predetermined set of social services. There has been minimal attention given to economic factors, the need to overcome households' constraints in using social services, identification of the beneficiaries of public subsidies, strategies to target those subsidies more effectively, the role of the private and charitable sectors in service delivery, gender issues in the utilization of social services, strategies to effect greater investment by households in the human capital of their children, or to households' assessments of the services they are provided.

4. In addition, there has been a presumption that the government should provide social services directly. Consequently, there is little information regarding how households mix use of public, private, and charitable sources of social services. In short, population-based surveys have not been a significant component of project development, monitoring, or evaluation in the social sectors.

5. **Other Surveys.** In the last three decades, several household budget surveys have been conducted. Some of them have been nationally representative. Others have only covered the rural population, while still others covered only specific regions. Some of these surveys have included data on living conditions, consumption patterns, and income sources. The 1969 and 1976/77 Household Surveys, two rural household surveys in 1980 and 1983, and the 1991 Cornell/ERB Household Survey fall within this category. The two most recent surveys, the 1991 Household Budget Survey and the 1991 Cornell/ERB survey, have collected only economic information, with a few simple questions on expenditures for social services. Three other household surveys have recently been completed: the USAID-financed Demographic and Health Survey (DHS, 1992), an ODA-financed health financing survey (1991), and the Tanzanian National Nutrition Survey (1991). The DHS and nutrition surveys collected data on specific nutrition, demographic, and health outcomes, as well as use of some social services. However, they do not contain essential economic information about the household or detailed data on the use of the education system.¹

¹ In 1994 the Tanzania Bureau of Statistics completed a Welfare Monitoring Survey of approximately 7,000 households. The data are expected to be ready for analysis by the end of 1994.

THE QUESTIONNAIRE

1. **Contents of the Questionnaire.** The main objective of the survey was to obtain data on the use of, and spending on, the social sectors. The primary emphasis was on education and health--the areas in which the major gaps in availability of data were identified. The survey was divided into five major components, each of which was further subdivided, as described below:²

I. Individual Questionnaire

- A. Household Roster;
- B. Information on parents of children between 7 and 15 years of age;
- C. Information on the utilization of, and spending on, education services;
- D. Information on the utilization of health services for those reported ill in the month previous to the interview;
- E. Information on the utilization of, and spending on, prenatal care, delivery, and family planning.

II. Contingent Valuation Questions on:

- A. Primary Health Facility (includes modules allowing respondents to assess desired characteristics of facilities, to reveal their willingness to pay for health services, and to provide information on the available health care facilities);
- B. Primary Education Facility (includes modules allowing respondents to assess desired characteristics of schools and curriculum, to reveal their willingness to pay for education services, and to provide information on the available schools and curriculum);
- C. Demand for Child Spacing;
- D. Envisaged, Required Income Level.

III. Household Questionnaire

- A. Land and livestock ownership;
- B. Household income and economic activities;
- C. Annual expenditures;
- D. Monthly expenditures;
- E. Weekly expenditures;
- F. Housing characteristics and expenditures;
- G. Mortality: deaths in the last 12 months.

IV. Community Price Questionnaire

² Annex 2 contains both the English and Swahili version of the questionnaire.

- V. Cognitive Test:³ The cognitive test was adapted from Sabot's test (Knight and Sabot, 1990) and consists of a shorter version of his long test. The test was administered to 500 children between the ages of 7 and 15 that were present in the home at the time of the interview.
2. The design of the questionnaire took advantage of the huge volume of work done on household questionnaires over the past decade. The next paragraphs highlight areas in which this survey is different from the Social Dimensions of Adjustment (see Delaine *et al.* 1992) or Living Standard Measurement-type of surveys (e.g. Ainsworth *et al.* 1992; Grosh 1991). Where appropriate, a summary of the reasons for the difference in approach is also presented.
3. **The Yellow Card.** A yellow-colored Household Roster card was included in the questionnaire. The interviewer had to copy some of the information--age, gender, and name--from the household roster onto this yellow card. The removable Household roster card was then used throughout the rest of the questionnaire for reference as to which members of the household were eligible for particular sections and what their ID numbers were.
4. **Income Questions.** It was decided that our survey, unlike the majority of the surveys we reviewed, would not include data to be used to estimate income levels. Gathering complete and accurate income data is a very time-consuming activity in countries where few receive wages and the majority are self-employed and engaged in non-market activities. In analysis, income questions are difficult to use; monetary incomes are often calculated to be negative; and, when much of the sample works outside the formal market economy, these problems are compounded. Given our time and budget constraints it was not logical for us to try to measure income.
5. We did include a few questions about sources of income. In this section, our objective was not to gather the information necessary to estimate income levels, but rather to ascertain the main economic activities in which the household engaged, and how the household ranked them in order of importance. For those growing crops, we wanted to establish the relative importance of each crop and the proportion of it that was marketed.
6. **Expenditures Section.** The three principal issues which had to be resolved regarding the expenditure section were as follows:
- (i) How to organize the expenditures in terms of levels of observation: individuals or households, and the recall period;
 - (ii) Whether to split consumption expenditure and consumption of home production, or to ask them in the same question; and
 - (iii) How to take into account seasonality of food consumption.
7. Accurate and complete measurement of expenditures is essential. To maximize the accuracy of the information gathered, different types of expenditures were organized into different levels of observation, depending on the consumption item for which we were measuring expenditures. For example, better estimates of consumption are likely to be obtained by adapting the period of recall to the frequency

³ The cognitive test was adapted from R. E. Sabot's test that was used in the late 1970's in Tanzania.

of purchasing the good. Accordingly food expenditures had a week-long recall period, while education expenditures had a one-year recall period. For some items, we gathered information at the individual level--e.g. education and health--and for some, at the household level--e.g. housing and utilities. For food items, we split consumption expenditure and consumption of home production. For items such as education, for which expenditures are more likely to be cash expenditures, we did not split them. However, we explicitly included the following instructions with the expenditure questions: "Please include contributions of labor and other non-cash items, which we will convert to shillings."

8. To address the problem posed by seasonality of consumption, we phrased the question as "During a **typical** week this past year, did anyone in this household acquire or spend money on..." Also it must be kept in mind that not all consumption expenditures are recorded in Part 3, Sections C, D, and E of the Consumption Section. Expenditures on education can be obtained from Section 1, Part C: Schooling, while housing expenditures were included in Section 3, Part F: Housing.

9. The survey asked only a few questions on ownership of durables and none regarding their acquisition cost or present value. There is evidence from Grosh, Zhao, and Jeancard (1995) that information on durables does not change the results of welfare ranking. This is another area in which we chose to shorten the questionnaire and the length of interview.

10. **The Contingent Valuation Questions.** One of the distinguishing features of the HRDS survey is the use of contingent valuation questions to better understand households' perception and valuation of some services available to them, which characteristics they value the most, and how far actual levels of provision are from desired levels. A three-step process was followed. In the first step, the respondent was given 20 chips (or shillings), representing a budget constraint. The enumerator then showed him or her a card with 5 pictures, representing 5 characteristics of a health facility (or of a primary school). The respondent was asked to allocate the 20 shillings among the 5 characteristics. In the second step, the enumerator asked how much the respondent was willing to pay for a visit to a health facility--or, in the case of education, for one year of tuition in a primary school--that matched the most important characteristics for the respondent. In the third and final step, the respondent was asked to characterize the closest health facility (and closest primary school) in terms of the five characteristics that he/she was previously asked to rank. This information should provide a picture of what households consider important in primary health and education services, and of how well the available facilities meet the household's desires. We tried to select characteristics that designers of health and education services tend to emphasize as important. For health, we mixed characteristics of public and private goods.

11. **Respondent Rules.** Different respondents were chosen for different sections to increase accuracy. For some topics, information from proxy or household respondents will be less accurate or less applicable (e.g. the contingent valuation questions on child spacing from a 10-year-old boy). In the header on each page of the questionnaire, there is a space to identify the respondent. This information can be useful for some types of analysis in which it is important to know characteristics of the specific respondent. In the introduction to each section, the preferred respondent is explicitly stated. Accordingly, for Section 1, Part A, the head of the household is the preferred respondent; but in Part D, the preferred respondent is "Each eligible individual, with assistance of the head of household if necessary."

12. **The Community Questionnaire.** We asked community questions to all selected households in a cluster because of the statistical principle that multiple answers to the same question provide better information, on average, than asking only a single "principal informant" these questions. Also, for some questions--e.g. distance to the closest village health center--it is important to obtain answers from each

household. In some rural clusters in Tanzania, houses can be 15 miles apart. Therefore important inter-cluster inequalities may be neglected if not all households are questioned. The price questions, because they do not vary much across households in a cluster, were answered either by a principal respondent or through inspection in the local markets or shops.

STEPS IN CONDUCTING THE SURVEY

1. **Major Tasks and Timetable.** The survey effort began in mid-June, 1993, with a trip to Tanzania. At that time, we ascertained that a household survey was merited but that the fieldwork would have to be completed by January, 1994, to be useful for sector and project work. A first draft of the survey instrument was prepared in late June/early July, 1993, as a joint effort of Tanzanians and members of the World Bank Mission. Field work began in September, 1993. We received the full set of data from the survey by early March, 1994. The timetable below shows the dates of major activities and the persons involved.

<i>Task</i>	<i>Responsible Person</i>	<i>Date</i>
Management of the Project	C. Griffin	June 1, 1993-October 31, 1994
Development of Survey Instrument, Interviewer's Manual, Supervisor's Manual, Instructions for Sample Design and Selection, and Forms to Re-interview the Households.	L. Ferreira, C. Griffin, M. Ainsworth, M. Ravicz, L. Goodhart, H. Amani, P. Rawal.	June 15 - August 15, 1993
Sampling and Fieldwork Strategy Developed	Prof. H. Amani, C. Griffin, and L. Ferreira	July 1 - 31, 1993
Hire and Train Data Gathering Team	Prof. H. Amani, with support from L. Ferreira, C. Griffin, and the World Bank Resident Mission in Dar es Salaam.	August 2 - September 5 and September 11 - 18, 1993
Pre-Test of the Questionnaire		August 13-15, 1993 (First) August 22-24, 1993 (Second)
Survey Translation		August 10 - September 6, 1993
Field Work		September 5-10 and September 19, 1993 - January 31, 1994
Data Entry	Dr. A. Swai (Muhimbili Hospital, Dar es Salaam, Tanzania)	September 20 - January 31, 1994
	Office Remedies (Virginia, USA)	February-March, 1994
Data Cleaning and Coding of Character Variables	Lynn Tsoflias, Joyce Bentzman, and Luisa Ferreira	May 10 - December 31, 1994

2. **Financial Support.** The survey was jointly funded by the British Overseas Development Administration (ODA), Japan, and the World Bank.

3. **Identification of Local Project Management Leader/Survey Firm.** During the mission in June/July, 1993, Prof. Amani, of the Economics Department of the University of Dar es Salaam, agreed to lead the survey effort in Tanzania. Accordingly, a plan for the field work was drafted. Under Prof. Amani's project leadership, a team of 33 enumerators (university students) and 5 field supervisors (university faculty) was hired.

4. **Development of Sampling Strategy.** The HRDS is national in scope and uses all the 222 clusters of the National Master Sample (NMS) maintained by the Bureau of Statistics as its sampling frame.⁴ Two NMS clusters were not surveyed because of weather conditions. For example, Nyamburi village in the Mara region was inaccessible. Heavy rains had washed away a bridge 8 kms (14 miles) from the village. All household surveys conducted by the Bureau of Statistics (e.g. Agricultural Sample Survey since 1986/87, Labor Force Survey in 1990/91) have used the framework of the NMS. This permits obtaining estimates at the national level and by area: rural, Dar es Salaam (DSM), and other urban towns. The current NMS covers 222 clusters: 100 rural villages representing the rural areas, and 122 Enumeration Areas (EAs) representing the urban areas. Fifty-two EAs are from the capital city, itself, 40 EAs are from the nine municipalities (Arusha, Dodoma, Moshi, Tanga, Morogoro, Iringa, Mbeya, Tabora, and Mwanza), and 10 EAs are from the remaining regional headquarters.

5. **Selection of households and non-response.**

Household selection was done in the field. In each cluster the team supervisor would first obtain the list of ten-cell leaders from the local authorities, and then, from each ten cell-leader, the list of households belonging to his/her cell. Each household was assigned a unique number, and then, using a table of random numbers, randomly selected. In each cluster, a list of about 30 households was then obtained, the last households in the list being alternates. With the collaboration of local authorities, the field workers were able to have an almost 100 percent response rate, except for the cases in which no member of the household was present for interviewing, and returning to the household was not feasible. Refusals to cooperate were rare. In those cases--absent households or refusals--, new

Table 1: Regional (Rural and Urban) Sampling

Region	Rural	Urban	Total
Dodoma	100	80	180
Arusha	118	121	239
Kilimanjaro	124	154	278
Tanga	132	167	299
Morogoro	88	120	208
Coast	79	88	167
Dar es Salaam	0	1127	1127
Lindi	84	50	134
Mtwara	114	44	158
Ruvuma	69	49	118
Iringa	124	128	252
Mbeya	174	153	327
Singida	82	41	123
Tabora	99	72	171
Rukwa	59	56	115
Kigoma	83	35	118
Shinyanga	153	54	207
Kagera	193	24	217
Mwanza	163	192	355
Mara	97	63	160
Mainland Tanzania	2135	2818	4953
Zanzibar	127	104	231

⁴ For more information on the NMS see "The National Master Sample" a technical report by The Bureau of Statistics, President's Office, The Planning Commission, published in June, 1993.

households were drawn from the list of alternates.

6. The survey covered a total of 4,953 households in the 20 regions of Mainland Tanzania: 2,135 rural and 2,818 urban (see **Table 1**). In a second stage, the survey was extended to Zanzibar, where 230 households, in 24 clusters, were interviewed.

7. In each cluster, between 20 and 25 households were targeted to be interviewed.⁵ These households were randomly selected. For a household belonging to village i , the household sampling weight (factor from household level to the national level) is defined according to the following expression: $w_h = w_i^* \frac{1}{n_i}$,

where n_i gives the sample size in village i , and w_i^* is the NMS village weight (factor that expands from the cluster level to the national level).

8. **Development of Survey Instrument.** The first draft of the household survey was developed in English in July, 1993. Training of enumerators, based on this draft, began on August 2, 1993. The month of August was devoted to training the enumerators and pre-testing the questionnaire. The first pre-test of the questionnaire took place in mid-August. The household questionnaire was almost completely precoded to eliminate coding errors and time delays. A category labeled "other: specify" was added to several questions. For those questions for which answers were not mutually exclusive, we precoded them with letters, rather than numbers, to allow for unambiguously coding of multiple answers. To minimize non-sampling errors, the questionnaire was in a form that reduced to a minimum the number of decisions required of interviewers while in the field. In anticipation of pages becoming detached from the questionnaire, every page contained a space for the household number and the last digit of the cluster code. Despite the fact that questions were written exactly as they were supposed to be asked by the interviewer, interviewers were granted some flexibility to give the interview greater semblance to a conversation, rather than an inquisition.⁶

9. **Pre-Test of Questionnaire.** The "pre-pre-test" of the questionnaire (August 16, 1993) was done only to discern whether the questions were understood, how long the administration of the survey required, whether all responses had been anticipated, which sections needed to be stressed during the training, etc. In this pre-pre-test, each questionnaire required an average of 4 hours to complete, far longer than the planned 1.5 hour maximum. The survey was consequently shortened and streamlined.

10. The true pre-test was conducted in two different types of clusters: Ubungu ward in DSM (urban) and Kibaha in the Coast Region (rural) over a period of two days. We chose these clusters because they are representative of two distinct groups, so a broader spectrum of answers and problems with the instrument could be anticipated. In the pre-test each questionnaire required an average of 2.5 hours. After a couple weeks of interviewing, the enumerators became more familiar with the instrument, resulting in their spending an average of 1.5 to 2 hours per questionnaire.

⁵ This target number reflects the trade-off between precision in the estimates, and operational constraints on the completion time of the survey.

⁶ Lower case instructions were to be read aloud to the respondent, while upper case instructions were meant to provide directions to the interviewer.

11. During the pre-test, each supervisor was asked to comment on each interview. The supervisor was asked to pay special attention to questions that seemed to make the respondent uncomfortable, that the respondent had difficulty understanding, or that the respondent seemed to dislike. The supervisor also evaluated which sections seemed to go slowly, had the most difficult questions, or provided insufficient opportunity for a complete response.

12. **Revision of questionnaire.** Given the results of the two pre-tests, several areas for improvement in the questionnaire were identified. Perhaps most importantly, the willingness-to-pay amounts were adjusted. The sample distributions of the maximum willingness-to-pay questions were analyzed, and, based on that analysis, we decided to change some of the values. For example, in the child spacing question, the "pay Tsh 1,000" responses unexpectedly accounted for a large share of the bids. Thus, we provided the option of paying more by introducing "pay Tsh 50,000" and "pay Tsh 25,000" as answer choices. For the other contingent valuation sections--health and education--the first pre-test determined that there was also a large lumping of responses at the high end of the scale. We adjusted the ranges accordingly, although there remains some lumping at the high end in the final data.

13. We also changed the order of the sections. Based on the pre-test and judgment of the field workers, we decided to first ask the questions in the individual section, then the contingent valuation questions, then the household questions. Because the respondents enjoyed the contingent valuation questions so much, this decision helped increase interest in the questionnaire and re-energized the respondent before proceeding with the household questions--the last part of the questionnaire. The final survey instrument, incorporating all of the changes dictated by the pre-tests and other expert advice, was completed on September 12, 1993.

14. **Translation.** Translation of the survey instrument was a joint effort of the enumerators and supervisors. Given the specific characteristics of the Kswahili language, this was a much better approach than asking one translator to translate from English to Kswahili, and another one to translate from Kswahili to English. The "group" translation, involving those who would ask the questions, was intended to avoid different interpretations of the same question and achieve uniformity. In this way the enumerators were able to better convey the message/objective of each question.

15. The majority of the interviews were conducted in swahili. In very few cases, because no one in the selected household could speak swahili, the need arose to use interpreters.

16. Our initial plan called for the field work to start no later than August 29. However, unforeseen circumstances, including both financial and logistical problems, delayed the first field trip. Both the money and the materials were available by September 6, and five of the six teams left for Tanga region on that day. Initially we had planned to have the sixth team based full-time in Dar es Salaam; however, tighter time constraints imposed by the above and subsequent delays eventually made it necessary to send the sixth team into the field as well, as detailed below.

17. **First "Field Trip."** From September 6 through September 10, an experimental survey trip was conducted. Five teams went to Tanga region, and one team remained in Dar-es-Salaam. The major findings from this trip were as follows:

- a. On average each questionnaire required 2.5 hours to complete. The following were fixed time costs of entering each cluster: identification of boundaries in the case of urban

clusters; authorization from the local authorities; identification of the ten cell leaders;⁷ listing; identification and selection of the households; and required travel to each home. The teams could then proceed with the interviews. In total, each enumerator could perform only about 3 interviews per day; in the rural villages it became dark after six p.m., and no electricity was available.

- b. Given the length of the questionnaire and our experience in the field, we decided to drop the section entitled "TIME USE DURING SCHOOL YEAR." This section proved to be very time-consuming, and respondents became tired quickly, which was likely to have adverse effects on the following section of the questionnaire, "ACUTE ILLNESSES."
- c. After this first week of "real" field work, some fine tuning in the survey instrument was necessary. Also, a need to expose the enumerators to further training was recognized, as several major areas of weakness became evident. At the same time, we started producing 4,500 copies of the final questionnaire. Once again a delay in the transfer of funds delayed the start of field work. The first tranche of the payment was not received until September 18. Accordingly, all the contracts were modified, and the field work was replanned to start on September 19.
- d. **Additional Training.** Four major problems surfaced which indicated a need for more training. The enumerators did not fully understand the following concepts:
 - (i) In-kind income/expenditure. Subsistence farmers with no other economic activity would appear in the completed questionnaire as having no source of income, and as having no expenditure on those items for which no cash payment had actually been made.
 - (ii) Household membership and how to report expenditures for members who had also been "members" of other households within the previous 12 months (e.g. newlyweds).
 - (iii) Direct sponsorship and indirect subsidies to students in the education section.
 - (iv) Use of the yellow card.
- e. The enumerators received further training (September 12 through September 16). In reviewing the questionnaires, we also determined that it was necessary to reinterview some of the households.
- f. The performance of one supervisor and two enumerators did not meet our quality standards, and they were dismissed. This fact, together with the loss of one supervisor for

⁷ When the idea of ten-cell leadership was first introduced, every group of ten households would have a "leader" to solve any problems and disputes that would arise among households, to keep demographic data, and to provide the next level structure with household information as required. Today, in some villages or wards, we can find some ten-cell leaders with 20 households, and in some others with just 5. Under the multiparty system, each party can put its candidate to compete for the leadership through voting.

health reasons, required replanning of the field work. However, the dismissal of the supervisor and enumerators, combined with the promotion of four enumerators to assistant supervisor positions, positively affected the motivation and performance of the whole team.

18. **Field Trip Preparation.** Initially the field work team was composed of 6 supervisors and 33 enumerators. After the Tanga trip, the team was reduced to 4 supervisors and 31 enumerators. This final team of 31 enumerators comprised students and recent graduates from the University of Dar es Salaam, who were primarily economics and business majors.

19. Given the constraint that 21 of the 31 enumerators were students who needed to be back in Dar es Salaam no later than October 12, the following was decided:

- (i) All teams would work outside Dar es Salaam for the period of September 18 through October 12. Initially we had planned that 1 team (comprising 8 enumerators) would interview in Dar es Salaam, while the other 5 teams would go upcountry.
- (ii) After the students returned from the countryside, they would start interviewing in Dar es Salaam, on a part-time basis, while the 10 graduate enumerators finished the clusters outside Dar es Salaam.
- (iii) Each 2 supervisors had 15 or 16 enumerators, rather than 5, as initially planned. As this imposed an additional burden on the supervisors, 4 enumerators, based on their superb performance during the first week of field work, were promoted to Assistant Supervisors. Other than interviewing, they were responsible for a preliminary check of each questionnaire for mistakes, unanswered questions, wrong skip rules, inconsistencies, etc., before the supervisor proceeded with the final check. Nonetheless, the final word on the quality of the questionnaire remained in the supervisors' hands. Given the logistics of the field work, it was essential to have each and every questionnaire thoroughly checked before the team left the cluster.

20. **Survey Preparation.** In each cluster the research team needed to obtain permission from the authorities before beginning the interviews. Previous to the start of the field work, we requested permission from the Government Statistician to conduct interviews using the NMS clusters as the sampling framework. The research clearance was obtained from the university rather than from the government because the team that carried out the field work was from the university. There were certain procedures that had to be followed before beginning the interviews. First, in each region, one had to obtain permission from the regional headquarters to conduct the interviews. Second, the district authorities had to issue a research clearance, to be later presented to the ward secretary. Often, the ward secretary introduced the team to the village authorities. In the villages, the teams were introduced to the households either by the village secretary or by the ten-cell leaders.

21. **Survey Materials.** Each enumerator was given an "Interviewer's Manual," two sets of cards and 20 chips for the Bidding Games, and a set of supplies consisting of a briefcase, pencils, eraser, notebook, calculator, red pen, clip board, and binder clips. Also, each enumerator had a supply of the cognitive tests, yellow cards with and without printed ID numbers, and blank questionnaires. It was the enumerator's responsibility to administer the household questionnaire and the cognitive test.

22. The main mission of the supervisor was to check the work of the other team members at all levels, guarantee that interviews in the field proceeded satisfactorily, maintain high quality standards, review the completed questionnaires, and reinterview a sub-sample of the households.⁸ As the number of completed questionnaires was viewed as an indicator of interviewer performance, it was conceivable that interviewers would indicate an incorrect response to questions requiring follow-up questions in order to expedite the process. For example, if the household had no income from crop production, then the interviewer would not need to ask questions regarding the type of crop grown.⁹ If a household were revisited, the Supervisor would use a "mini-questionnaire," containing a set of such questions. Every household questionnaire was checked by the supervisor after the interview was completed. At the end of each day, the supervisor and the enumerators discussed particular cases covered, problems faced, questions that proved to be difficult, etc. The supervisors' other tasks included arranging logistics, random selection of households in each cluster, assignment of households to each enumerator, obtaining clearance from several administrative layers, and completion of the price questionnaire. To perform these tasks, each supervisor received, in addition to materials received by the enumerator, a **Supervisor's Logbook**. It included the following:

- i. Supervisor's Manual.
- ii. Price questionnaire to be administered in each cluster by the Supervisor.
- iii. Sample Design and Selection:
 - (a) Selection of the clusters was based on the National Master Sample maintained by the Bureau of Statistics (1988 Census). Each supervisor was provided with a set of maps for each cluster.
 - (b) Within each cluster, households were randomly sampled. Instructions to sample households were given to each team supervisor. These instructions included a set of random numbers tables.
- iv. Forms to re-interview households.
- v. Forms to be completed for each cluster with the population of the cluster and its number of households. This information is essential to construct the weights to be used in the analysis.
- vi. General set of instructions on how to assign a unique identifier to each household.
- vii. For the first week of the field work, the supervisor's logbook also included a spreadsheet in which the results from the contingent valuation questions were to be entered.

23. **Data entry.** Two possible firms in Tanzania were identified to perform the data entry. Both were asked to present cost estimates. Based on the cost estimates and the conditions proposed by each firm, it

⁸ A complete development of the interviewers' and enumerators tasks and responsibilities can be found in the respective manuals.

⁹ Despite the fact that the supervisor was present in several interviews, to the best of our knowledge, none of the households were re-interviewed. However, it should be kept in mind that the supervisor went with the team to every cluster.

was decided to contract the services of Dr. Swai at the Data Processing Center at the Muhimbili Hospital. The team was composed of one supervisor (Dr. Swai), 12 data entry people working in shifts, and 1 liaison at the World Bank Resident Mission in Dar es Salaam.¹⁰

24. At the start of the field work, the interviewing and data entry were nearly simultaneous. Each team was in charge of mailing the completed questionnaires to the Resident Mission, which then delivered them to Dr. Swai. However, because the field work slowed down after classes began (only the 10 non-student enumerators continued interviewing) and only returned to full speed in mid-December (again with a full team of 31 interviewers), the flow of questionnaires was not nearly as smooth as planned.¹¹ We had great difficulty keeping track of the survey effort during November and December due to communication problems between the nodes: the field, the data entry people, the Resident Mission, and Washington. Given that the household survey was an essential building block for the Social Sector Review, and because breakdowns in the data entry system caused grave concern about the timeliness and quality of the data to be made available to us, we decided to have the questionnaires shipped to the U.S. Several possible firms were identified, asked to present cost estimates, and to propose a schedule of activities. Based on the information provided, a contract was awarded to Office Remedies. To minimize data entry mistakes, the data were entered twice, by different people. This ensures over 99% accuracy.

25. As previously mentioned, the questionnaire that was used during the Tanga trip included an additional question on "TIME USE DURING SCHOOL YEAR." This information was entered at the World Bank headquarters using the SURVEY Program.¹²

26. **Major Tradeoffs Made in Survey Design.** Ideally any single person/household should not be subject to questioning for longer than 1.5 hours. People easily become bored, tired, and impatient, which negatively affects the quality of the data. Also, given the logistics of the field work, the need to have the data collected before the rainy season (together with a target of 5,000 households) required that each interview should, on average, take no longer than 2 hours. Consequently, we chose not to collect information on income and to use expenditures alone to classify households by economic well-being. After two pre-tests, two sections included in the initial survey instrument were deleted to shorten the interview: time allocation and detailed facility/community data. We chose not to administer the Raven's test at that time, and the cognitive test was shortened considerably. During the first pre-test, each questionnaire required, on average, four to five hours. We also dropped individual questions after combing the instrument for low priority questions. After the questionnaire was streamlined and field workers gained several weeks of experience, the average interview required approximately 1.5 to 2 hours.

27. In rural clusters, households enjoyed being interviewed, and they did not mind a lengthy questionnaire. Everybody seemed to enjoy the contingent evaluation questions and to be very serious about

¹⁰ Ms. Elizabeth Sakaya was in charge of keeping a log of all the questionnaires received from the field by express mail and delivering them to Dr. Swai at Muhimbili Hospital. The logs were also to inform headquarters of the status of the field work including the number of households and the number of clusters completed.

¹¹ As noted earlier, the student enumerators were supposed to continue interviewing in Dar es Salaam during class time. Here the payment would be per questionnaire, thus creating an incentive to interview as many households as possible. However, contrary to what was planned, in the absence of Professor Amani's supervision, the supervisors who stayed in Dar es Salaam did not continue with the field work. If things had gone as planned, we could have finished the field work one month earlier.

¹² The SURVEY program was designed by the Centers for Disease Control, for data entry.

them. In the urban clusters, a lengthy questionnaire was not as well received by the respondents.

28. Whether the issue is to analyze the effectiveness and the impact of projects, to design those projects, or to provide information to increase the usefulness of dialogue with the government, it is very important that the survey results be made available quickly. We want to maximize the quality of the data used, but time is a very important constraint. Given the law of large numbers, statistical estimates become more precise if more households and clusters are included rather than if a small number of households are interviewed to perfection. In this survey the data were available for analysis, and results made available less than one year after the preparatory work began, and about three months after the last interview. Despite the fact that not everything developed as planned,¹³ we achieved a good balance between timeliness of data production and quality of information.

29. **The Zanzibar Household Survey.** The Revolutionary Government of Zanzibar expressed a desire to have a Household Survey conducted in Zanzibar so that they might have the same type of information that had been gathered for the Mainland. The early experience with the Tanzania Household Survey and the more recent experience with the additional field work in Zanzibar helped us to conclude that many of the time costs are fixed--traveling to the site, securing clearance from the appropriate authorities, training the interviewers, etc. Once the interviewers are familiar with the survey and the supervisors are familiar with the mechanics of the work, the new survey can be conducted quickly. In fewer than 10 days of field work, a group of six experienced interviewers, one supervisor, and a member of the Bureau of Statistics of the Republic of Zanzibar interviewed 230 households in 24 different clusters.

30. **Major problems with the Survey:**

- i. **Delay in receiving funds and materials from Washington .** We operated in the nearly impossible situation of raising money to pay for the survey while it was underway. In addition, the time schedule placed incredible stress on World Bank procurement and payment mechanisms. If we had had more time, all of these processes could have been arranged well in advance. As this was not the case, it was all done on an emergency basis. We caused incredible stress to the system, everyone around us, and ourselves. The delays were usually short, but they caused a few important and avoidable delays in the survey. The goodwill and flexibility of our colleagues, especially of Professor Amani, made it possible to succeed nearly on schedule. However, none of us would advocate repeating the experience in this manner.
- ii. **Quality Control by Supervisors.** After each interview the supervisor was expected to spend some time checking and editing each questionnaire. This is particularly important in the rural areas, and in urban clusters far from Dar es Salaam, where the costs of returning to the cluster are high. The household questionnaire even included one page (page 4B) for the supervisor's check. We noticed that, in some questionnaires, the supervisor's check was not very strict. The majority of mistakes that we handled during the data cleaning and coding phase could have been avoided had the supervisor been more careful with the checking of each questionnaire in the field. However, we will now be able to

¹³ Contrary to what was planned, we did not re-interview households. Also, we only obtained price questionnaires for 07 clusters. For the remaining clusters, the price questionnaires were either lost or not completed.

improve the manuals by specifically noting many of the problems we found. Data entry in the field, or close to the clusters, would probably reduce such problems tremendously. Also, contrary to what was planned the supervisors did not re-interview any of the households.

- iii. **Price Questionnaires.** We only obtained price questionnaires for 70 clusters, out of 222 planned. For the remaining clusters, the prices questionnaires were either lost or not completed. The remaining data still seem useful to obtain some information on price variation within and across different regions.
- iv. **Two Forms.** During the first week of the field-work we used a questionnaire that included a section on time usage for some members of the household, and had a different ordering of questions in other sections. The existence of two forms caused additional problems during the data entry phase.

LESSONS FOR THE FUTURE

1. What Should We Have Done Differently?

- The printing of the questionnaires should have been done commercially, rather than using the university duplicating facilities.
- The fieldwork operations should have been decentralized in six or seven regional headquarters.
- The authorities at the regional, district, and village levels should have been contacted prior to the beginning of the survey work.
- We chose not to enter data in the field because we could not guarantee the logistics. Data entry was centralized in Dar es Salaam. We should have considered options such as regionalized data entry, partial-entry in the field, etc.
- We should have employed multiple contractors for data entry to increase the competitive element in this phase, as data entry can be a serious bottleneck.
- The household identifier number should have been written on every page of the questionnaire during the printing phase, not in the field.
- We should have standardized every element to the degree possible to reduce costs and increase speed.
- Each questionnaire should have allowed for the insertion of more pages for those questions that were to be asked of all household members. This would have minimized the need to use more than one questionnaire per household.
- We should have included a mechanism to ensure that the supervisor and enumerators would receive lower compensation if there were more than a certain number of mistakes in each questionnaire.
- **Training of Supervisors:** The principal authors of the questionnaire should have been present during the training of the supervisors, who then trained the enumerators. Supervisors were trained for a short period of time, which may have been inadequate. This may be the reason that, after the first week of field work, enumerators needed to be exposed to an additional week of training. They knew the "mechanics of the questionnaire," but the majority of them misunderstood the underlying economics.
- The supervisors' training should have more strongly emphasized their role in quality control of the field work.
- **Training of Enumerators:** Enumerator training should have included more practice interviews and more days of training in small groups, with active participation by trainees.
- We should have hired a surplus of enumerators during the training period and deferred the decision whether or not to retain them until after the pre-test. This would have provided a larger pool from which to select, as well as providing incentives for the trainees to excel during the training period.
- **Transportation:** Ideally each team should have had a third car just to transport questionnaires, or even better, each team should have been smaller. Allowing the ratio of

field supervisors to interviewers to be higher would have provided more time in the field for revision and correction of the work of each interviewer.

- We paid inadequate attention to the bridging function of moving surveys from the field into the data entry stage and to monitoring data entry. This should have been treated as a full-time, professional job. This person could have checked each questionnaire sent from the field, edited it, and only then sent it on for data entry. If this person had known a statistical package, the data could have been checked immediately after entry for inconsistencies and extreme values, and it could have been compared against the questionnaires. Also, this person could have provided some support to the Data Entry team.

2. The early experience with the Mainland fieldwork taught us some lessons that we were able to implement in the fieldwork for the survey that was conducted subsequently in Zanzibar. "In undertaking the HRDS in Zanzibar, we did not encounter as many problems as we did in the Mainland. We did not experience problems in supervision, logistics or in the health condition of the enumerators. [...] On lessons learned, one is quite obvious, namely: If a Survey is well planned and employs well trained and experienced enumerators, its chance of success is very high.[...]. Lastly it is necessary to point out that having someone on the team who knows and is quickly acceptable to people [a Zanzibari that knew the location of the clusters was hired] in the chosen clusters makes it very easy to administer the survey." (Adapted from "Final Report on the Human Resource Development Survey in Zanzibar" by Prof. H. K. R. Amani, July 1994.)

3. **Additional Questions.** While analyzing the data, we reviewed the questionnaire and identified other useful questions. It should not be forgotten that the design of our questionnaire was heavily determined by the data already available (we did not want to repeat others' efforts), the type of analysis desired, and the projects that we had in mind. In other settings, with different purposes and/or objectives in mind, major adjustments in the questionnaire might be required. Among the set of questions that we should have included in our questionnaire are the following:

- a. A variant of the household roster for all members of the household. Part 1, Section B, contains the information on mothers and fathers of children, ages 7-15, in the household. This section should have been expanded to include more information regarding family ties within the household. The traditional household roster only gives the relationship to the head and is not useful in some cases when it is desirable to have more information on the household structure.
- b. In the health section, we designed the questionnaire to capture the number of facilities that were visited, and to gather information on the characteristics of the facilities and levels of expenditures made there. We should have added a question asking why people choose to go to a second practitioner, a third, and so on.
- c. Who is the major earner(s) in the household? Corresponding to what we did in the "sources of income" and "crops" sections, we should have asked the respondent/household to rank the relative importance of each member as a contributor to household income.
- d. We should have asked about the desired number of children.
- e. Time diary: In the first week of field work (Tanga region), the household questionnaire still included a question on allocation of time for those members between the ages of 7 and

25. Future analysis of this data on 300 households will, hopefully, tell us more about the quality and usefulness of the time allocation data collected using a recall period. In the future, a time diary should be used to collect information on time allocation, as it is likely that there is a significant loss of accuracy with a recall period.

- f. The survey questions regarding improvements in the community in the last two years (e.g roads, water supply, electricity) should have also asked whether the improvements have benefitted the community or the household (more than the average, about the average, less than the average).
- g. In both the health and family planning sections, we should have asked "how long did the consultation last?" The idea is that, in some places, there is no waiting time because people spend only a short time with the physician. This, together with the waiting time, would have given some additional information on the quality of the service being provided. In addition, we should have included a question in the family planning section on whether the source of supplies/consultation was government or non-government (this problem was fixed in the Zanzibar questionnaire).

4. **Plans for The Future.** We believe that this survey contributed substantially to the infrastructure available for future efforts of this type, both at the University of Dar es Salaam and at Muhimbili Hospital. It is also part of our agenda to make certain that this survey will contribute to the development of the human capital required to analyze the survey and apply it to policy making in Tanzania. For that purpose we are preparing a proposal for a six-month series of lectures and seminars to build capacity in household economics, survey analysis, and policy applications. A series of joint papers produced during these seminars, and other papers using the household survey, will be presented at an International Workshop to be held in Tanzania. We believe that this two-part project will facilitate fully analyzing the survey in a short period of time.

REFERENCES

- Ainsworth, M., G. Koda, G. Lwihula, P. Mujinja, M. Over, and I. Semali 1992, "Measuring the Impact of Fatal Adult Illness in Sub-Saharan Africa: An Annotated Household Questionnaire", *Living Standards Measurement Study*, WP No. 90.
- Delaine, G., L. Demery, J-L. Dubois, B. Grdjic, C. Grootaert, C. Hill, T. Marchant, A. McKay, J. Round, and C. Scott 1992, "The Social Dimensions of Adjustment Integrated Survey: A Survey to Measure Poverty and Understand the Effects of Policy Change on Households" , *Social Dimensions of Adjustment* Working Paper No. 14.
- Grosh, M. 1991, "The Household Survey as a Tool of Policy Change: Lessons from the Jamaican Survey of Living Conditions", *Living Standards Measurement Study*, Working Paper No. 80, May.
- Grosh, M., Q. Zhao, and H-P Jeancard 1994, "The Sensitivity of Consumption Aggregates to Questionnaire Formulation: Some Preliminary Evidence from the Jamaican and Ghanaian LSMS Surveys", *Policy Research Department*, The World Bank, Washington D.C., January.
- Knight, J. and R. Sabot 1990, *Education, Productivity, and Inequality*, Oxford University Press for the World Bank.

ANNEX 1

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ANNEX II

- **Basic Information on How to Use the Data**
- **Basic Statistics for the Data**
- **Survey Instruments**
 - **Survey (English version)**
 - **Price Questionnaire**
 - **Sabot's Test (English version)**

Some General Comments on the File Structure and Contents

1. The questionnaire is divided into three sections, and each section is divided into several parts. The files are organized as follows:

DATA SET	SECTION	QUESTIONS IN SURVEY	PAGES
HR.DAT	Survey execution notes	1	
HR1.DAT	1	2-24	5-9
HR2.DAT	1	25-32	11
HR3.DAT	1	33-83	13-18
HR4.DAT	1	84-126	20-25
HR5.DAT	1	127-175	27-32
HR6.DAT	2	1-46	35-40
HR7.DAT	2	47-116	42-49
HR8.DAT	2	117-183	51-58
HR9.DAT	3	1-11	59-60
HR10.DAT	3	13-20	61
HR11.DAT	3	21-61	63-65
HR12.DAT	3	62-140	67-77
HR13.DAT	3	141-151	78-79
HR14.DAT	3	152-198	80-84
HR15.DAT	3	200-207	85-86
HR16.DAT	Sabot's Test	1-16	
HR17.DAT	Price Questionnaire	1-20	
DISTRICT.DAT	District Data		

2. Identification variables. In each file, there is adequate information to uniquely match, as appropriate, all individual, household, and cluster observations. HHN (household number) is imbedded in **HR1 thru HR16** data files and uniquely identifies each household. Within each household, each member has a unique identification number--ID--in the individual level files (e.g., HR1 dataset). In the HR dataset, each cluster can be uniquely identified by the CLUSTER code together with the REGION code.
3. Rules for Linking Files. Files HR, HR6, HR7, HR8, HR9, HR10, HR11, HR12, HR13, HR14, and HR15 are household level files and can be merged together by using the variable HHN (household number). Files HR1, HR2, HR3, HR4, HR5, and HR16 are individual level files, and can be uniquely matched by using simultaneously the variables HHN and ID. Files HR17 and DISTRICT are uniquely identified by the simultaneous use of the variable REGION and CLUSTER, and can be merged with file HR, which contains these two variables.
4. The variable name consists of the question number prefixed by:
 - I for section 1 (Questions for Individuals)
 - C for section 2 (Contingent Valuation Questions)
 - H for section 3 (Questions for the Household)
5. For questions with two parts a suffix indicates the part:
 - D for distance

C for code
A for amount
U for unit
T for Time

For example, Question 168 on Section 3, Part F (Household Questions on Housing), asks for the amount of time that "it takes to walk from your house to this road" and for the unit that the respondent is using. Thus, we have two variables: H168A for amount of time and H168U for unit used. A value of 30 for H168A, and of 1 for H168U means that it takes the household 30 minutes to walk from the house to the road.

6. For questions requiring time and minutes, the minutes were entered as a decimal part of the time. Hence, 1.4 equals 1 hour and 40 minutes.
7. Variables starting with RE and ending with a number are the respondent ID codes. The number indicates the starting page for the sections answered by the respondent. For example, variable RE13 (file HR3) contains the ID code of the household member that answered the questions in Section 1, Part C (pages 13-18).
8. New codes: If a household member's response was OTHER/SPECIFY, the interviewer recorded the full response on the survey tally sheet. On the basis of this information, some new codes were added to the existing variables. They are:

FILE	VARIABLE	CODE	DESCRIPTION
3	I39	3	waiting for results
3	I41	Y	waiting for results
3	I41	1	got married/got pregnant
3	I41	Z	handicapped
4	I89	0	shop/first aid
4	I92	0	shop/first aid
4	I95	12	shopkeeper
4	I100	0	shop/first aid
4	I103	12	shopkeeper
5	I167	5	did not pay
5	I169	14	traditional method
11	ITEM	615	fruit
11	ITEM	355	outside contribution/ family member
11	CA	99	no harvest this year
11	RA	99	no harvest this year
12	ITEM	141	salt/sugar/tea leaves
14	H159C	4	flat rate (water)
14	H160C	4	flat rate (water)
14	H197	5	pagan

9. Other codes were added to the variables throughout the questionnaire. The data entry program fills all blanks with -9. A value of -6 is different from a **value of -9** (default value). A **value of -6** indicates an out of range value, a skip rule error, or a hard copy error. When a skip rule applies and a question was left blank, the variable will have a value of -9. For example, in section 1, question 13 "What is the highest grade in school that ...[NAME] completed", if a respondent gave a response

of 1, he should have answered question 14 "What type of primary school...". If a respondent did not give an answer to question 14 or the interviewer did not record the response to that some question, then a value of -9 was entered automatically by the data entry program, and no modification was made, though this is a mistake. However, if the respondent gave a response of 1 to question 13, then he should not have answered question 15 "What type of Secondary School..." and the interviewer should not have recorded a response. If a response was recorded then a modification was made and a value of -6 was assigned. In summary, a -6 value always corresponds to a mistake, while -9 corresponds to a blank value in the questionnaire, whether it should have been filled by the enumerator with a "valid" value, or not.

10. File 8--the Contingent Valuation Section: Child Spacing--a value of 99 for the variable FOS indicates that more than 1 child spacing form was completed for the household.
11. Some members gave more than one response for questions that only required one. For example, question i169 asked for one type of birth control used. A member gave two answers, 56. This indicates the member uses both condoms (5) and spermicides (6) . Thus, the following variables could contain more than one response:

FILE	VARIABLES
4	I90, I95, I103, I111
5	I145, I169, I172,
14	H164, H166A, H166B.

12. **Weighted Estimates.** In the HR.DAT file, the variable household weight--WEIGHT_H--was added. This variable is based on the National Master Sample of Tanzania, and on the number of households in each cluster. When the weights are summed over all the households in the dataset they will add to the number of households in Tanzania. When producing weighted statistics using the household weight variable one will obtain nationally representative statistics. Thus, to obtain statistics that mimic census-type results, in any statistical package use the **WEIGHTING OPTION**. For example, in STATA to compute the means write "**summ list of variables [w=weight_h]**".
13. The sampling framework allow obtaining statistics broken down by location--rural, urban (non-Dar es Salaam), and Dar es Salaam. The variable RURAL containing the code can be found in file HR. In files with records at the household level weighted basic statistics will reflect the number of households. In files with individual level records, weighted statistics will reflect the population of the country. Note that the variable WEIGHT_H times the family size will yield a variable whose sum will be the population of Tanzania. For more details on the National Master Sample framework see Bureau of Statistics publication on the National Master Sample (The National Master Sample, Technical Report, Bureau of Statistics, The United Republic of Tanzania, June 1993; the publication is also available in Volume II of the Project Completion Report).
14. **Variables added and dropped**
 - a. Variable I170A was added to File 5, the Prenatal and Delivery Services Section. This question on family planning facility type was only asked for the survey conducted in Zanzibar, so for the households in the mainland the variable will have a value of -6.

- b. Some modifications were done during the data cleaning phase. The shamba and garden variables H1S, H2S, H3S, H1G, H2G, H3G were replaced with variable H1, H2, H3, H4, which represent a combination of the number of shambas and gardens owned and used. In file 10, the Livestock Section, variable H12 was dropped because only those households with livestock were included in the file.
- c. In File HR1--the Household Roster--those listed that were not household members were removed.
- d. File HR4--Acute Illness Section--contains only those household members who were sick, or the information was incorrect or left blank, i.e., when question 84 takes the values 1,2,3,-9,-8, or -6.
- e. File HR9--the Land Section--only households who use or own shambas, gardens or livestock were included in the file.
- f. File HR15--the Mortality--contains only households with members that have died in the in the last 12 months. Thus, variables H199 and H200 were dropped from the dataset.
- g. File HR--variable rural takes 4 values:
 - 1=Rural (Mainland Tanzania)
 - 2=Urban (Mainland Tanzania and Zanzibar)
 - 3=Rural-coral (Zanzibar)
 - 4=Rural-non coral (Zanzibar)

Problems

- 15. District Data. No district data was collected for the NJOMBE district. The district data was collected in 1993 and was the most recent data available. In the cases where the year is known it is indicated in the variable label. The district data for Dar es Salaam is not broken down by district, except for population.
- 16. Outliers. Extreme values for variables like distances, time, expenditures, area of land owned, or number of livestock owned were left in the dataset. They were compared against the paper copy to double check for any data entry errors. This way, each researcher can decide how to handle this problem and how to use the information.
- 17. Problems with Membership. According to the instructions in the survey, interviewers were supposed to ask question 7 (age) and subsequent questions (Part 1--file HR1) only for members, where household membership was defined according to the requirements in question 6. There were about 550 individuals that had been coded as non-members, despite the fact that according to questions 4 (number of months in residency) and 5 (away at secondary school) they should have been classified as members. Since they were originally coded as non-members, no data were collected for those individuals. We left them in the HR1 dataset. This way, each researcher can decide how to handle this problem and how to use the information.

Basic Statistics for the Raw Data Sets

 *****BASIC STATISTICS FOR THE DATA SET *****

*****; FILE HR *****

Variable	Label	N	Mean	Maximum	Std Dev
HHN	Household number	5184	4746.30	9920.00	2511.86
IMO	Interview month	5184	9.7202932	12.0000000	3.0564950
IDA	Interview day	5184	16.7876157	31.0000000	8.6869713
IRE	Result code	5184	1.1001157	2.0000000	0.9801267
IQU	Quality of interview	5184	0.9322917	2.0000000	0.9283864
CLUSTER	Cluster code	5184	7106079.68	55211105.00	12070901.94
REGION	Region code	5184	11.6288580	55.0000000	10.5258419
RURAL	Type of cluster	5184	1.6240355	4.0000000	0.5737598
DISTRICT	District code	5184	49.7314815	205.0000000	56.3632383
VILLAGE	Village code	2366	11.5680473	262.0000000	33.7281041
WEIGHT_H	Household specific weight	5184	831.9001172	4318.04	718.1905926

 ***** FILE HR1 *****

Variable	Label	N	Mean	Maximum	Std Dev
HHN	Household number	29914	4548.38	9920.00	2482.50
RE5	Respondent Id code: Section 1A	29914	1.6311760	16.0000000	1.5278400
ID	Id code	29914	4.1563816	32.0000000	2.9329327
I2	Sex	29914	1.5108310	2.0000000	0.5108063
I3	Relationship to head	29914	3.1273317	13.0000000	2.2010564
I4	In residence	29914	11.3642776	12.0000000	2.4845827
I5	Away at school	29914	1.9324397	2.0000000	0.7242951
I6	HH member test	29914	1.0000000	1.0000000	0
I7	Age	29914	20.2288895	120.0000000	17.6081685
I8	Marital status	29914	4.0633483	6.0000000	2.9438235
I9	Reading	29914	1.2046533	2.0000000	1.6380124
I10	Writing	29914	1.2225045	2.0000000	1.6480220
I11	Arithmetic	29914	1.2130775	2.0000000	1.6525479
I12	Ever School	29914	1.1711573	2.0000000	1.6472984
I13	Schooling	29914	3.1329478	22.0000000	4.8967416
I14	Primary	29914	-3.4717524	21.0000000	5.0164328
I15	Secondary	29914	-8.1609949	21.0000000	2.9297064
I16T	Time to fetch water	29914	4.1508558	250.0000000	11.3622771
I16U	Time unit	29914	-5.3564217	2.0000000	4.8288871
I17	Owns a watch	29914	1.5645183	2.0000000	1.6617282
I18	Owns a bicycle?	29914	1.7019121	2.0000000	1.6043575
I19	Owns shoes?	29914	0.9385906	2.0000000	1.4999548
I20	Owns any book?	29914	1.4291302	2.0000000	1.6173417
I21	Owns a radio/cassette?	29914	2.2704754	3.0000000	1.7644209
I22	Owns a camera?	29914	1.7282878	2.0000000	1.6510470
I23	Expenditure on health	29914	3042.24	150000.00	17040.66
I24	Economic activity	29914	8.0972454	17.0000000	5.3032598

¹ These basic statistics are solely provided to let the researchers verify that no problems occurred when converting the files. They are not weighted, and so are not valid for inference.

 ***** FILE HR2 *****

Variable	Label	N	Mean	Maximum	Std Dev
ID	Id code	7026	5.4706803	32.0000000	2.4186835
HHN	Household number	7026	4498.07	9919.00	2465.83
I25	Father living here	7026	1.2532024	2.0000000	0.4525221
I26	Father's id code	7026	-1.5673214	13.0000000	4.4411960
I27	Father a live	7026	-6.3720467	2.0000000	4.4945118
I28	Father's schooling	7026	-5.5350128	22.0000000	6.6690755
I29	Mother living here	7026	1.1493026	2.0000000	0.7778409
I30	Mother's Id code	7026	-0.0468261	19.0000000	4.6941410
I31	Mother a live	7026	-6.9713920	2.0000000	4.0583862
I32	Mother's schooling	7026	-6.4306860	22.0000000	5.5686047
RE11	Respondent Id code: Section 1B	7026	1.6754910	16.0000000	1.5919781

 ***** FILE HR3 *****

Variable	Label	N	Mean	Maximum	Std Dev
HHN	Household number	12519	4548.07	9919.00	2480.08
ID	Id code	12519	5.4031472	32.0000000	2.7373190
I33	Attended 12 months	12519	1.5248822	2.0000000	0.4994004
I34	Year started school	12519	633.7894401	1992.00	929.0288300
I35	Year stopped school	12519	640.1310808	1993.00	935.4605577
I36	Breaks in school	12519	-5.4959661	2.0000000	5.0576288
I37	Go back to school	12519	-3.3048167	2.0000000	5.3180579
I38	Did final examination?	12519	-5.5803179	2.0000000	4.7870367
I39	Selected for further studies?	12519	-5.8221104	3.0000000	4.9586148
I40	Considered private school?	12519	-5.9048646	2.0000000	4.8309470
I42	When started school?	12519	922.8132439	1993.00	996.8193413
I43	Any school breaks	12519	-3.8503874	2.0000000	5.4503875
I44	School type	12519	-3.5669782	11.0000000	5.8650586
I45	Operator of school	12519	-4.3616104	4.0000000	5.0636466
I46	Government assistance	12519	-8.8610911	2.0000000	0.7341790
I47	Lives in compound	12519	-4.4030673	2.0000000	5.0312343
I48D	School distance	12519	44.5531888	2000.00	157.0829468
I48C	Distance code	12519	-3.9363368	4.0000000	5.8097896
I49	Food before school	12519	-4.3283010	2.0000000	5.1422541
I50	Food during school	12519	-4.2098410	6.0000000	5.2479787
I51	Misses school	12519	-3.6597172	3.0000000	5.8579772
I54	Expenditure on contributions	12519	296.2950715	120000.00	1895.32
I55	Expenditure on school uniforms	12519	904.1992971	60000.00	2259.01
I56	Expenditure on books/supplies	12519	444.5810368	70000.00	1870.27
I57	Expenditure on transport to school	12519	268.1558431	87360.00	2412.05
I58	Expenditure on school food/board	12519	149.7361610	135000.00	2110.24
I59	Expenditure on registration fees	12519	356.2416327	312000.00	4252.84
I60	Other school expenses e.g. exam fees	12519	124.7305695	45000.00	1632.58
I61	Other school expenses e.g. tuition	12519	276.2338046	60000.00	2176.17
I62	Total school expenses	12519	1782.39	700000.00	11615.54
I63	Sponsorship	12519	-3.8603722	2.0000000	5.4549084
I64	Type of sponsor	12519	-8.6228932	6.0000000	2.0397214
I65	Sponsor - contributions	12519	-3.1413052	30000.00	281.4950482
I66	Sponsor - uniforms	12519	20.2323668	20000.00	389.7019702
I67	Sponsor - books/supplies	12519	-1.4507549	10000.00	182.1260305
I68	Sponsor - transport	12519	-5.4358176	24000.00	231.0556330
I69	Sponsor - food/board	12519	-6.6018851	24000.00	216.3505728
I70	Sponsor - registration fees	12519	14.2220625	60000.00	862.3737052
I71	Sponsor - other fees	12519	-5.2115984	8000.00	144.6952112
I72	Sponsor - other expenses	12519	-3.6333573	10000.00	172.4888833
I73	Sponsor - total	12519	256.2101606	300000.00	5927.35

I74	Tutored?	12519	-3.8732327	2.0000000	5.4379080
I75	Type of teacher	12519	-8.4533908	5.0000000	2.3409385
I76	Tuition cost for household	12519	340.1426632	77000.00	2724.32
I77	Tuition cost for others	12519	7.7888010	27500.00	435.4475716
I78	Sponsorship	12519	-3.9416088	2.0000000	5.4353255
I79	Type of sponsor	12519	-8.2976276	7.0000000	3.0458896
I80	Why sponsorship	12519	-8.4022686	4.0000000	2.5979482
I81	Value of sponsorship	12519	-1.9877786	60000.00	546.4825799
I82	Other support	12519	-3.9129323	2.0000000	5.4700677
I83	Value of other support	12519	54.9587028	90000.00	1583.87
RE13	Respondent ID code	12519	1.7336049	16.0000000	1.6282224

 ***** FILE HR4 *****

Variable	Label	N	Mean	Maximum	Std Dev
ID	Id code	5175	3.4857971	27.0000000	2.5983814
I84	Illness/injury code	5175	0.8571981	3.0000000	1.2597873
I85A	Time since illness/injury began	5175	3.7676522	365.0000000	9.1539361
I85U	Time unit	5175	3.3760386	6.0000000	2.3962923
I86	Days of illness/injury	5175	28.1574879	7300.00	237.0742197
I87	Day with no usual activity	5175	10.1901449	5840.00	135.1406938
I88	Anyone consulted	5175	1.0865700	2.0000000	1.6220609
I89	Did something at?	5175	1.6284058	348.0000000	20.7422771
I90	Why no treatment	5175	-5.2359420	104.0000000	6.0204990
I91	Expenditure on illness/injury	5175	109.4320773	30000.00	700.6545002
I92	First health facility	5175	-1.3661836	9.0000000	5.5267400
I93	First health facility type	5175	-1.9561353	5.0000000	5.2080979
I94D	First health facility distance	5175	39.5585121	1500.00	133.3430159
I94C	First health facility distance code	5175	-1.4942995	4.0000000	5.7209896
I95	First health facility practitioner	5175	-1.3839614	12.0000000	5.6567871
I96	First health facility wait time	5175	-2.3145874	48.0000000	5.1446275
I97	First health facility visit amount	5175	224.7205894	180000.00	2710.88
I98	First health facility drugs/supplies?	5175	-2.3487923	2.0000000	4.7618473
I99	First health facility drugs amount	5175	527.8454106	92000.00	2731.52
I100	Second health facility	5175	-7.8295652	9.0000000	3.7340481
I101	Second health facility type	5175	-7.9750725	5.0000000	3.2793465
I102D	Second health facility distance	5175	-1.9916039	1000.00	52.3990381
I102C	Second health facility distance code	5175	-7.9600000	4.0000000	3.3571897
I103	Second health facility practitioner	5175	-7.7864734	12.0000000	3.9220530
I104	Second health facility wait time	5175	-8.1220386	30.0000000	2.8285275
I105	Second health facility visit amount	5175	24.2363285	16000.00	443.5491605
I106	Second health facility drugs/supplies?	5175	-8.0811594	2.0000000	2.8946158
I107	Second health facility drugs amount	5175	122.3723671	50000.00	1339.22
I108	Third health facility	5175	-8.8985507	9.0000000	1.1468971
I109	Third health facility type	5175	-8.9120773	5.0000000	0.9825492
I110D	Third health facility distance	5175	-8.4207246	750.0000000	14.6708247
I110C	Third health facility distance code	5175	-8.9057005	4.0000000	1.0584011
I111	Third health facility practitioner	5175	-8.8952657	11.0000000	1.2035923
I112	Third health facility wait time	5175	-8.9054976	72.0000000	1.4445431
I113	Third health facility visit amount	5175	-7.4821256	5000.00	71.3558921
I114	Third health facility drugs/supplies	5175	-8.9240580	2.0000000	0.8638640
I115	Third health facility drugs amount	5175	-1.6030918	10000.00	215.5867663
I116	Total transport cost	5175	240.4830918	200000.00	3265.89
I117	Nights admitted	5175	-2.1559420	1460.00	26.3074179
I118	Places admitted	5175	-0.9317874	23.0000000	6.1186712
I119	Employer/insurance?	5175	-1.9733333	2.0000000	5.1590535
I120	Employer/insurance amount	5175	45.6419324	48000.00	1039.47
I121	Outside help	5175	-1.9918841	2.0000000	5.1818806
I122	Outside amount	5175	61.0220290	75000.00	1400.44
I123	Any part to be paid?	5175	-8.7364251	2.0000000	1.5195215
I124	Amount to be repaid	5175	-8.2894686	700.0000000	17.7974602
I125	Source of own funds	5175	-2.0898551	12.0000000	5.3512354
I126	Long term problems	5175	0.9039614	2.0000000	3.0102026
HHN	Household number	5175	4688.70	9920.00	2582.40
RE20	Respondent Id code: Section 1D	5175	1.6231884	16.0000000	1.4156627

 ***** FILE HR5 *****

Variable	Label	N	Mean	Maximum	Std Dev
HHN	Household number	7189	4664.36	9920.00	2478.90
ID	Id code	7189	3.6578105	27.0000000	2.8299076
I127	Given birth?	7189	1.2477396	2.0000000	0.8103202
I128	Children ever born	7189	0.2304910	16.0000000	6.4586683
I129	Children died	7189	-2.2392544	13.0000000	4.5745917
I130	Infant deaths	7189	-6.2584504	8.0000000	4.3815931
I131	Birth last 12 months?	7189	-1.4391431	2.0000000	4.9852959
I132	Born alive?	7189	-7.9514536	2.0000000	3.0623746
I133	Still alive?	7189	-7.9712060	2.0000000	3.0374458
I134	Baby Id code	7189	-7.6582278	34.0000000	4.2908203
I135M	Month born	7189	-7.3819725	12.0000000	4.8783918
I135Y	Year born	7189	187.6145500	1993.00	595.7837133
I136	Months pregnant	7189	-7.1392405	10.0000000	5.4920596
I137	Any antenatal consultation?	7189	-7.9471415	2.0000000	3.0694501
I138M	Month at first antenatal consultation	7189	-7.4807345	12.0000000	4.6256131
I138Y	Year at first antenatal consultation	7189	190.3630547	1993.00	599.4398833
I139	Treated antenatal at	7189	-7.4506886	1478.00	18.2366491
I140	Why no antenatal care?	7189	-8.9624426	8.0000000	0.6503134
I141	Antenatal expenditure	7189	-6.6448741	9000.00	119.2122285
I142	Antenatal health facility	7189	-7.7642231	7.0000000	3.6829964
I143	Antenatal health facility type	7189	-7.9650855	4.0000000	3.0850997
I144D	Antenatal health facility distance	7189	-2.4006955	1200.00	53.0080632
I144C	Antenatal facility distance code	7189	-7.8353039	4.0000000	3.5342548
I145	Antenatal practitioner	7189	-7.8713312	11.0000000	3.3615800
I146	Antenatal wait time	7189	-7.9693685	20.2000000	3.0984568
I147	Antenatal visit amount	7189	26.4629295	40000.00	817.9675338
I148	Antenatal drugs/supplies	7189	-7.9719015	2.0000000	3.0642881
I149	Antenatal drugs/supplies amount	7189	15.6055084	45000.00	658.5771073
I150	Antenatal transport cost	7189	17.0111281	20000.00	419.3395357
I151	Delivery health facility	7189	-7.6878564	9.0000000	3.9141729
I152	Delivery health facility type	7189	-8.2763945	5.0000000	2.6173569
I153D	Delivery health facility distance	7189	-5.4934831	1200.00	35.0521324
I153C	Delivery facility distance code	7189	-8.1829183	4.0000000	3.0027918
I154	Delivery practitioner	7189	-7.6508555	11.0000000	4.1155346
I155	Delivery by caesarian operation?	7189	-7.8519961	2.0000000	3.3458694
I156	Delivery visit amount	7189	37.2459313	40000.00	854.1467355
I157	Delivery drugs/supplies	7189	-7.9090277	2.0000000	3.1941120
I158	Delivery drugs/supplies amount	7189	21.6630964	40000.00	704.7391060
I159	Delivery transport costs	7189	85.8678537	29500.00	801.5278248
I160	Delivery nights admitted	7189	-7.8454583	84.0000000	4.0161975
I161	Delivery employer/insurance	7189	-7.8479622	2.0000000	3.3583264
I162	Delivery employer/insurance amount	7189	1.5169008	40000.00	523.3573929
I163	Prenatal/delivery outside help?	7189	-7.8570038	2.0000000	3.3433836
I164	Prenatal/delivery outside amount	7189	2.8314091	10000.00	256.6250368
I165	Prenatal/delivery repay?	7189	-8.9329531	2.0000000	0.8459274
I166	Prenatal/delivery repay amount	7189	-7.5854778	5000.00	76.2741890
I167	Prenatal/delivery source of own funds	7189	-7.8003895	5.0000000	3.5708615
I168	Current family planning	7189	1.4071498	2.0000000	1.6239920
I169	Family planning method	7189	-4.3363472	85.0000000	6.9978802
I170	Family planning health facility	7189	-5.5566838	9.0000000	4.8802315
I171D	Family planning distance	7189	0.8587954	1000.00	65.0315621
I171C	Family planning distance code	7189	-7.6014745	4.0000000	3.8077262
I172	Family planning practitioner	7189	-7.5747670	11.0000000	3.8323424
I173	Family planning visit costs	7189	10.5571011	70000.00	835.5786203
I174	Family planning transport costs	7189	16.0130755	20000.00	388.2553343
I175	Family planning medicines/test costs	7189	31.3402420	30000.00	531.9319169
RE27	Respondent Id code: Section 1E	7189	1.9945750	16.0000000	1.7034936
I170A	Family planning health facility type	7189	-5.9770483	3.0000000	0.4064062

 ***** FI LE HR6 *****

Variable	Label		N	Mean	Maximum	Std Dev
RE35	Respondent Id code:	Section 2A	5184	1.5682870	15.0000000	1.3055209
C1T1	Trial 1N: Needed dru	gs available	5184	5.2127701	20.0000000	2.3118079
C2T1	Trial 1N: Qualified	doctors/nurses	5184	4.5366512	20.0000000	2.0703914
C3T1	Trial 1N: Facility i	n village or ward	5184	3.2966821	20.0000000	2.0851867
C4T1	Trial 1N: Good envir	onment/facility	5184	3.1082176	20.0000000	1.8231839
C5T1	Trial 1N: Health-pro	motion activities	5184	3.7527006	20.0000000	2.0904200
C6T1	Trial 1N: Quality of	response	5184	0.9778164	4.0000000	0.6940180
C1R1	Trial 1R: Needed dru	gs available	5184	2.8896605	5.0000000	1.5197514
C2R1	Trial 1R: Qualified	doctors/nurses	5184	2.5594136	5.0000000	1.4502956
C3R1	Trial 1R: Facility i	n village or ward	5184	1.8709491	5.0000000	1.3314829
C4R1	Trial 1R: Good envir	onment/facility	5184	1.7746914	5.0000000	1.2455469
C5R1	Trial 1R: Health-pro	motion activities	5184	2.1109182	5.0000000	1.3674097
C1T2	Trial 2N: Needed dru	gs available	5184	-8.5999228	16.0000000	2.3751170
C2T2	Trial 2N: Qualified	doctors/nurses	5184	-8.6167052	16.0000000	2.2926618
C3T2	Trial 2N: Facility i	n village or ward	5184	-8.6628086	8.0000000	2.0213309
C4T2	Trial 2N: Good envir	onment/facility	5184	-8.6556713	10.0000000	2.0643877
C5T2	Trial 2N: Health-pro	motion activities	5184	-8.6466049	10.0000000	2.1210056
C6T2	Trial 2N: Quality of	response	5184	-8.7249228	3.0000000	1.6397378
C1R2	Trial 2R: Needed dru	gs available	5184	-8.6774691	5.0000000	1.9329254
C2R2	Trial 2R: Qualified	doctors/nurses	5184	-8.6830633	5.0000000	1.8974415
C3R2	Trial 2R: Facility i	n village or ward	5184	-8.7010031	5.0000000	1.7900919
C4R2	Trial 2R: Good envir	onment/facility	5184	-8.7029321	5.0000000	1.7846925
C5R2	Trial 2R: Health-pro	motion activities	5184	-8.6919367	5.0000000	1.8468793
FOH	Health form number		5184	1.7220293	3.0000000	0.9918094
RE36	Respondent Id code:	Health form 1	5184	-4.0806327	15.0000000	5.0904286
C7T1	Trial 1: Pay for tre	atment 6000	5184	-4.3433642	2.0000000	5.3223472
C8T1	Trial 1: Pay for tre	atment 16000	5184	-7.7702546	2.0000000	3.3817893
C9T1	Trial 1: Pay for tre	atment 8000	5184	-8.3233025	2.0000000	2.6028578
C10T1	Trial 1: Pay for tre	atment 12000	5184	-8.8211806	2.0000000	1.3705112
C11T1	Trial 1: Pay for tre	atment 100	5184	-5.7831790	2.0000000	4.7249710
C12T1	Trial 1: Pay for tre	atment 4000	5184	-6.0650077	2.0000000	4.8289094
C13T1	Trial 1: Pay for tre	atment 1000	5184	-6.5264275	2.0000000	4.4776199
C14T1	Trial 1: Pay for tre	atment 2000	5184	-7.9006559	2.0000000	3.2366271
C15T1	Trial 1: Quality of	response	5184	-4.7127701	3.0000000	4.9488472
C7T2	Trial 2: Pay for tre	atment 6000	5184	-8.9940201	2.0000000	0.2277382
C8T2	Trial 2: Pay for tre	atment 16000	5184	-9.0000000	-9.0000000	0
C9T2	Trial 2: Pay for tre	atment 8000	5184	-9.0000000	-9.0000000	0
C10T2	Trial 2: Pay for tre	atment 12000	5184	-9.0000000	-9.0000000	0
C11T2	Trial 2: Pay for tre	atment 100	5184	-8.9961420	1.0000000	0.1963996
C12T2	Trial 2: Pay for tre	atment 4000	5184	-8.9957562	2.0000000	0.2160396
C13T2	Trial 2: Pay for tre	atment 1000	5184	-8.9959491	2.0000000	0.2064533
C14T2	Trial 2: Pay for tre	atment 2000	5184	-8.9978781	2.0000000	0.1527778
C15T2	Trial 2: Quality of	response	5184	-8.9942130	1.0000000	0.2405162
RE37	Respondent Id code:	Health form 2	5184	-4.9209105	12.0000000	4.9404240
C16T1	Trial 1: Pay for tre	atment 16000	5184	-5.1743827	2.0000000	5.1843566
C17T1	Trial 1: Pay for tre	atment 100	5184	-5.9884259	2.0000000	4.6345785
C18T1	Trial 1: Pay for tre	atment 12000	5184	-6.1849923	2.0000000	4.7931472
C19T1	Trial 1: Pay for tre	atment 1000	5184	-6.3730710	2.0000000	4.5457454
C20T1	Trial 1: Pay for tre	atment 8000	5184	-7.5796682	2.0000000	3.6656810
C21T1	Trial 1: Pay for tre	atment 2000	5184	-7.7854938	2.0000000	3.3633137
C22T1	Trial 1: Pay for tre	atment 6000	5184	-8.4006559	2.0000000	2.4755348
C23T1	Trial 1: Pay for tre	atment 4000	5184	-8.5084877	2.0000000	2.2383373
C24T1	Trial 1: Quality of	response	5184	-5.4922840	3.0000000	4.7736675
C16T2	Trial 2: Pay for tre	atment 16000	5184	-8.9938272	2.0000000	0.2568012
C17T2	Trial 2: Pay for tre	atment 100	5184	-8.9961420	1.0000000	0.1963996
C18T2	Trial 2: Pay for tre	atment 12000	5184	-8.9957562	2.0000000	0.2160396
C19T2	Trial 2: Pay for tre	atment 1000	5184	-8.9961420	1.0000000	0.1963996
C20T2	Trial 2: Pay for tre	atment 8000	5184	-8.9957562	2.0000000	0.2160396
C21T2	Trial 2: Pay for tre	atment 2000	5184	-8.9961420	1.0000000	0.1963996
C22T2	Trial 2: Pay for tre	atment 6000	5184	-8.9959491	2.0000000	0.2064533

C23T2	Trial 2: Pay for treatment 4000	5184	-8.9980710	1.0000000	0.1388889
C24T2	Trial 2: Quality of response	5184	-8.9922840	1.0000000	0.2776974
RE38	Respondent Id code: Health form 3	5184	-6.4066358	10.0000000	4.2085974
C25T1	Trial 1: Pay for treatment 100	5184	-6.8960262	2.0000000	4.1105446
C26T1	Trial 1: Pay for treatment 16000	5184	-7.0289352	2.0000000	4.1834191
C27T1	Trial 1: Pay for treatment 1000	5184	-7.4081790	2.0000000	3.7651563
C28T1	Trial 1: Pay for treatment 12000	5184	-8.1207562	2.0000000	2.9775158
C29T1	Trial 1: Pay for treatment 2000	5184	-8.2064043	2.0000000	2.7707141
C30T1	Trial 1: Pay for treatment 8000	5184	-8.5418596	2.0000000	2.1804968
C31T1	Trial 1: Pay for treatment 4000	5184	-8.6290509	2.0000000	1.9525366
C32T1	Trial 1: Pay for treatment 6000	5184	-8.8591821	2.0000000	1.2225929
C33T1	Trial 1: Quality of response	5184	-6.9457948	3.0000000	4.0429340
C25T2	Trial 2: Pay for treatment 100	5184	-8.9955633	1.0000000	0.2007597
C26T2	Trial 2: Pay for treatment 16000	5184	-8.9957562	2.0000000	0.2160396
C27T2	Trial 2: Pay for treatment 1000	5184	-8.9959491	2.0000000	0.2064533
C28T2	Trial 2: Pay for treatment 12000	5184	-8.9978781	2.0000000	0.1527778
C29T2	Trial 2: Pay for treatment 2000	5184	-9.0000000	-9.0000000	0
C30T2	Trial 2: Pay for treatment 8000	5184	-9.0000000	-9.0000000	0
C31T2	Trial 2: Pay for treatment 4000	5184	-9.0000000	-9.0000000	0
C32T2	Trial 2: Pay for treatment 6000	5184	-9.0000000	-9.0000000	0
C33T2	Trial 2: Quality of response	5184	-8.9961420	1.0000000	0.1963996
RE39	Respondent Id code: Section 2/Q34-46	5184	1.5563272	15.0000000	1.2434317
C34D	Dispensary/health centre distance	5184	51.3950424	1500.00	150.8164460
C34C	Dispensary/health centre distance code	5184	3.9585262	6.0000000	3.7001776
C36	Rank drug availability	5184	1.6417824	5.0000000	2.7160917
C37	Rank quality of doctors	5184	2.4182099	5.0000000	2.9019384
C38	Rank distance from home	5184	2.2056327	5.0000000	2.9682478
C39	Rank environment	5184	2.1311728	5.0000000	3.0608594
C40	Rank health promotion	5184	2.2675540	5.0000000	2.9258606
C41D	Government hospital distance	5184	32.0581308	1500.00	85.6885438
C41C	Government hospital distance code	5184	4.4660494	6.0000000	2.9568256
C43D	Mission hospital distance	5184	18.7664641	1000.00	60.5996791
C43C	Mission hospital distance code	5184	0.5385802	6.0000000	6.6225703
C45D	Mission health centre distance	5184	61.9386053	1600.00	161.0197848
C45C	Mission health centre distance code	5184	1.7775849	6.0000000	5.7940164
HHN	Household number	5184	4746.30	9920.00	2511.86

***** FILE HR7 *****						

Variable	Label		N	Mean	Maximum	Std Dev
RE42	Respondent Id code:	Section 2B/Q47-52	5184	1.5661651	18.0000000	1.3654388
C47T1	Trial 1N: Qualified	teachers	5184	5.0011574	20.0000000	2.0633416
C48T1	Trial 1N: Excellent	headmaster	5184	3.7627315	20.0000000	1.9722246
C49T1	Trial 1N: Each pupil	has textbooks	5184	4.8458719	20.0000000	2.0281566
C50T1	Trial 1N: Clean buil	ding	5184	3.2235725	20.0000000	1.8916166
C51T1	Trial 1N: No self re	liance work	5184	2.9430941	17.0000000	2.1326913
C52T1	Trial 1N: Quality of	response	5184	0.9519676	4.0000000	0.8021580
C47R1	Trial 1R: Qualified	teachers	5184	2.8449074	5.0000000	1.5422099
C48R1	Trial 1R: Excellent	headmaster	5184	2.1498843	5.0000000	1.4120659
C49R1	Trial 1R: Each pupil	has textbooks	5184	2.7449846	5.0000000	1.6072423
C50R1	Trial 1R: Clean buil	ding	5184	1.8246528	5.0000000	1.3182997
C51R1	Trial 1R: No self re	liance work	5184	1.6963735	5.0000000	1.3698676
C47T2	Trial 2N: Qualified	teachers	5184	-8.7517361	10.0000000	1.8640606
C48T2	Trial 2N: Excellent	headmaster	5184	-8.7814429	6.0000000	1.6568065
C49T2	Trial 2N: Each pupil	has textbooks	5184	-8.7702546	10.0000000	1.7426217
C50T2	Trial 2N: Clean buil	ding	5184	-8.7760417	10.0000000	1.7074806
C51T2	Trial 2N: No self re	liance work	5184	-8.7885802	15.0000000	1.6299746
C52T2	Trial 2N: Quality of	response	5184	-8.8319830	2.0000000	1.2862275
C47R2	Trial 2R: Qualified	teachers	5184	-8.7918596	5.0000000	1.5744693
C48R2	Trial 2R: Excellent	headmaster	5184	-8.8067130	5.0000000	1.4602804
C49R2	Trial 2R: Each pupil	has textbooks	5184	-8.7995756	5.0000000	1.5151661
C50R2	Trial 2R: Clean buil	ding	5184	-8.8020833	5.0000000	1.4894923
C51R2	Trial 2R: No self re	liance work	5184	-8.8125000	5.0000000	1.4184195
FOE	Education form numbe	r	5184	1.7152778	3.0000000	1.0212625
RE43	Respondent Id code:	Education form 1	5184	-4.0680941	15.0000000	5.0819440
C53T1	Trial 1: Pay school	fees 10000	5184	-4.4211034	2.0000000	5.2366665
C54T1	Trial 1: Pay school	fees 25000 B	5184	-6.9479167	2.0000000	4.1780722
C55T1	Trial 1: Pay school	fees 13000	5184	-7.8609182	2.0000000	3.2987092
C56T1	Trial 1: Pay school	fees 20000	5184	-8.6396605	2.0000000	1.9412004
C57T1	Trial 1: Pay school	fees 1000	5184	-6.5424383	2.0000000	4.3863368
C58T1	Trial 1: Pay school	fees 7000	5184	-7.0983796	2.0000000	4.1309789
C59T1	Trial 1: Pay school	fees 5000	5184	-7.3886960	2.0000000	3.8235180
C60T1	Trial 1: Pay school	fees 3000	5184	-7.9550540	2.0000000	3.1540464
C61T1	Trial 1: Quality of	response	5184	-4.7210648	3.0000000	4.9468458
C53T2	Trial 2: Pay school	fees 10000	5184	-8.9982639	-6.0000000	0.0721549
C54T2	Trial 2: Pay school	fees 25000	5184	-9.0000000	-9.0000000	0
C55T2	Trial 2: Pay school	fees 13000	5184	-9.0000000	-9.0000000	0
C56T2	Trial 2: Pay school	fees 20000	5184	-9.0000000	-9.0000000	0
C57T2	Trial 2: Pay school	fees 1000	5184	-9.0000000	-9.0000000	0
C58T2	Trial 2: Pay school	fees 7000	5184	-9.0000000	-9.0000000	0
C59T2	Trial 2: Pay school	fees 5000	5184	-9.0000000	-9.0000000	0
C60T2	Trial 2: Pay school	fees 3000	5184	-9.0000000	-9.0000000	0
C61T2	Trial 2: Quality of	response	5184	-9.0000000	-9.0000000	0
RE44	Respondent Id code:	Education form 2	5184	-4.9488812	12.0000000	4.9440523
C62T1	Trial 1: Pay school	fees 25000	5184	-5.2349537	2.0000000	5.1303259
C63T1	Trial 1: Pay school	fees 1000	5184	-6.3389275	2.0000000	4.4864257
C64T1	Trial 1: Pay school	fees 20000	5184	-6.7482639	2.0000000	4.4296652
C65T1	Trial 1: Pay school	fees 3000	5184	-6.9463735	2.0000000	4.1364693
C66T1	Trial 1: Pay school	fees 13000	5184	-7.6545139	2.0000000	3.5767874
C67T1	Trial 1: Pay school	fees 5000	5184	-7.8983410	2.0000000	3.2136426
C68T1	Trial 1: Pay school	fees 10000	5184	-8.3964120	2.0000000	2.4668504
C69T1	Trial 1: Pay school	fees 7000	5184	-8.5869985	2.0000000	2.0563527
C70T1	Trial 1: Quality of	response	5184	-5.5536265	4.0000000	4.7525513
C62T2	Trial 2: Pay school	fees 25000	5184	-8.9942130	2.0000000	0.2186670
C63T2	Trial 2: Pay school	fees 1000	5184	-8.9974923	1.0000000	0.1449966
C64T2	Trial 2: Pay school	fees 20000	5184	-8.9978781	2.0000000	0.1527778
C65T2	Trial 2: Pay school	fees 3000	5184	-8.9980710	1.0000000	0.1388889
C66T2	Trial 2: Pay school	fees 13000	5184	-8.9978781	2.0000000	0.1527778
C67T2	Trial 2: Pay school	fees 5000	5184	-8.9978781	2.0000000	0.1527778
C68T2	Trial 2: Pay school	fees 10000	5184	-9.0000000	-9.0000000	0
C69T2	Trial 2: Pay school	fees 7000	5184	-9.0000000	-9.0000000	0

C70T2	Trial 2: Quality of response	5184	-8.9972994	2.0000000	0.1583499
RE45	Respondent Id code: Education form 3	5184	-6.4002701	10.0000000	4.2320871
C71T1	Trial 1: Pay school fees 1000	5184	-6.8709491	2.0000000	4.1384179
C72T1	Trial 1: Pay school fees 25000	5184	-7.1203704	2.0000000	4.0823306
C73T1	Trial 1: Pay school fees 3000	5184	-7.6761188	2.0000000	3.4632439
C74T1	Trial 1: Pay school fees 20000	5184	-8.1186343	2.0000000	2.9790587
C75T1	Trial 1: Pay school fees 5000	5184	-8.2062114	2.0000000	2.7637911
C76T1	Trial 1: Pay school fees 13000	5184	-8.5117670	2.0000000	2.2449498
C77T1	Trial 1: Pay school fees 7000	5184	-8.6186343	2.0000000	1.9711913
C78T1	Trial 1: Pay school fees 10000	5184	-8.8271605	2.0000000	1.3365790
C79T1	Trial 1: Quality of response	5184	-6.9378858	3.0000000	4.0478519
C71T2	Trial 2: Pay school fees 1000	5184	-8.9980710	1.0000000	0.1388889
C72T2	Trial 2: Pay school fees 25000	5184	-8.9978781	2.0000000	0.1527778
C73T2	Trial 2: Pay school fees 3000	5184	-8.9980710	1.0000000	0.1388889
C74T2	Trial 2: Pay school fees 20000	5184	-8.9978781	2.0000000	0.1527778
C75T2	Trial 2: Pay school fees 5000	5184	-8.9980710	1.0000000	0.1388889
C76T2	Trial 2: Pay school fees 13000	5184	-8.9980710	1.0000000	0.1388889
C77T2	Trial 2: Pay school fees 7000	5184	-9.0000000	-9.0000000	0
C78T2	Trial 2: Pay school fees 10000	5184	-9.0000000	-9.0000000	0
C79T2	Trial 2: Quality of response	5184	-8.9969136	1.0000000	0.1508549
RE46	Respondent Id code; Section 2B/Q80-85	5184	1.5565201	18.0000000	1.3201886
C80T1	Trial 1N: Written & spoken Kiswahili	5184	3.6512346	20.0000000	1.9639542
C81T1	Trial 1N: Written & spoken English	5184	4.0586420	20.0000000	1.8905093
C82T1	Trial 1N: Morals/respect/behavior	5184	3.3701775	20.0000000	2.0641193
C83T1	Trial 1N: Technical skills	5184	4.5927855	20.0000000	2.1128389
C84T1	Trial 1N: Mathematics & science	5184	4.1032022	20.0000000	1.9827438
C85T1	Trial 1N: Quality of response	5184	0.9743441	4.0000000	0.6707108
C80R1	Trial 1R: Written & spoken Kiswahili	5184	2.0081019	5.0000000	1.4875948
C81R1	Trial 1R: Written & spoken English	5184	2.2073688	5.0000000	1.5105315
C82R1	Trial 1R: Morals/respect/behavior	5184	1.8076775	5.0000000	1.4185218
C83R1	Trial 1R: Technical skills	5184	2.5090664	5.0000000	1.6312342
C84R1	Trial 1R: Mathematics & science	5184	2.2542438	5.0000000	1.5526584
C80T2	Trial 2N: Written & spoken Kiswahili	5184	-8.8005401	10.0000000	1.6010414
C81T2	Trial 2N: Written & spoken English	5184	-8.8020833	10.0000000	1.6048437
C82T2	Trial 2N: Morals/respect/behavior	5184	-8.8115355	15.0000000	1.5394278
C83T2	Trial 2N: Technical skills	5184	-8.7955247	12.0000000	1.6634241
C84T2	Trial 2N: Mathematics & science	5184	-8.7997685	12.0000000	1.6333964
C85T2	Trial 2N: Quality of response	5184	-8.8508873	2.0000000	1.2116974
C80R2	Trial 2R: Written & spoken Kiswahili	5184	-8.8290895	5.0000000	1.3801446
C81R2	Trial 2R: Written & spoken English	5184	-8.8269676	5.0000000	1.3985598
C82R2	Trial 2R: Morals/respect/behavior	5184	-8.8329475	5.0000000	1.3503798
C83R2	Trial 2R: Technical skills	5184	-8.8229167	5.0000000	1.4339559
C84R2	Trial 2R: Mathematics & science	5184	-8.8271605	5.0000000	1.3967200
C86D	Gov. primary school distance	5184	123.5645737	2000.00	219.0754895
RE47	Respondent Id code: Section 2B/Q86-116	5184	1.5576775	15.0000000	1.2552613
C86C	Gov. primary school distance	5184	4.5420525	6.0000000	1.5986943
C88	Gov. primary school quality	5184	3.0497685	5.0000000	1.4661371
C89	Gov. primary school headmaster	5184	3.1695602	5.0000000	1.8574491
C90	Gov. primary school supplies	5184	2.2826003	5.0000000	1.6628287
C91	Gov. primary school environment	5184	2.5883488	5.0000000	1.6037974
C92	Gov. primary school self reliance	5184	2.9646991	5.0000000	1.6811504
C93	Gov. primary school teaching Kiswahili	5184	3.1902006	5.0000000	1.4365789
C94	Gov. primary school teaching English	5184	2.6682099	5.0000000	1.5971541
C95	Gov. primary school teaching religion	5184	2.7351466	5.0000000	1.8844365
C96	Gov. primary school teaching science	5184	2.8487654	5.0000000	1.7291763
C97	Gov. primary school parents involved	5184	0.9409722	2.0000000	1.2383306
C98	Gov. primary school parents committee	5184	0.8848380	2.0000000	1.3118913
C99	Gov. primary school map	5184	0.4824460	2.0000000	2.2265305
C100	Gov. primary school parents day	5184	1.1915509	2.0000000	1.5824372
C101	Gov. primary school sports teams	5184	1.0177469	2.0000000	1.2042410
C102	Gov. primary school band	5184	1.0997299	2.0000000	1.5746545
C103	Gov. primary school end of term report	5184	0.9475309	2.0000000	1.6443196
C104	Gov. primary school report grades	5184	0.8726852	2.0000000	1.6678673
C105D	NGO primary school distance	5184	-5.0663580	700.0000000	27.2665297
C105C	NGO primary school distance code	5184	-7.4747299	6.0000000	4.2950395
C107D	Gov. secondary school distance	5184	27.9646316	2000.00	77.3774479

C107C	Gov. secondary school distance code	5184	3.7920525	6.0000000	4.1203633
C109D	NGO secondary school distance	5184	24.0324267	1500.00	88.2951634
C109C	Distance Code	5184	2.0208333	6.0000000	5.7921379
C111	Any committee members?	5184	0.7393904	2.0000000	2.6244416
C112	Importance of health/education	5184	3.4193673	5.0000000	1.1907010
C113	Health services better than 2 years	5184	2.1425540	4.0000000	1.2177265
C114	Primary school better than 2 years	5184	1.8981481	4.0000000	1.4749972
C115	Water available better than 2 years	5184	1.9581404	4.0000000	1.0424074
C116	Roads better than 2 years	5184	1.9645062	4.0000000	1.0548775
HHN	Household number	5184	4746.30	9920.00	2511.86
C108	Government secondary school	5184	141.4890046	999.0000000	211.7827289
C110	NGO secondary school	5184	203.3784722	999.0000000	300.3658948
C87	Government primary school	5184	153.5787037	428.0000000	101.8423609

 ***** FILE HR8 *****

Variable	Label	N	Mean	Maximum	Std Dev
RE51	Respondent Id code: Spacing form 1	5184	0.8996914	16.0000000	2.4782223
C117T1	Trial 1: Child spacing for 50000	5184	1.0003858	2.0000000	1.9924612
C118T1	Trial 1: Child spacing for 25000	5184	-2.8595679	2.0000000	5.2525228
C119T1	Trial 1: Child spacing for 1000	5184	-5.0592207	2.0000000	5.1197284
C120T1	Trial 1: Child spacing for 8000	5184	-7.4839892	2.0000000	3.7290199
C121T1	Trial 1: Child spacing for 250000	5184	-4.8358410	2.0000000	5.2837908
C122T1	Trial 1: Child spacing for 100000	5184	-8.4427083	2.0000000	2.3214967
C123T1	Trial 1: Child spacing for 200000	5184	-8.8663194	2.0000000	1.1697815
C124T1	Trial 1: Child spacing for 50000	5184	-6.8813657	2.0000000	4.1763194
C125T1	Trial 1: Child spacing for 150000	5184	-8.9241898	2.0000000	0.8893225
C126T1	Trial 1: Quality of response	5184	0.4606481	4.0000000	2.2551834
C117T2	Trial 2: Child spacing for 50000	5184	-8.9859182	2.0000000	0.3701093
C118T2	Trial 2: Child spacing for 25000	5184	-8.9953704	2.0000000	0.2106049
C119T2	Trial 2: Child spacing for 1000	5184	-8.9974923	1.0000000	0.1449966
C120T2	Trial 2: Child spacing for 8000	5184	-8.9978781	2.0000000	0.1527778
C121T2	Trial 2: Child spacing for 250000	5184	-8.9913194	2.0000000	0.2948557
C122T2	Trial 2: Child spacing for 100000	5184	-8.9955633	1.0000000	0.2007597
C123T2	Trial 2: Child spacing 200000	5184	-9.0000000	-9.0000000	0
C124T2	Trial 2: Child spacing for 50000	5184	-8.9978781	2.0000000	0.1527778
C125T2	Trial 2: Child spacing for 150000	5184	-9.0000000	-9.0000000	0
C126T2	Trial 2: Quality of response	5184	-8.9822531	3.0000000	0.3759013
RE52	Respondent Id code: Spacing form 2	5184	-2.6840278	20.0000000	5.8374078
C127T1	Trial 1: Child spacing for 25000	5184	-3.0798611	2.0000000	5.3686217
C128T1	Trial 1: Child spacing for 250000	5184	-4.4544753	2.0000000	5.1905102
C129T1	Trial 1: Child spacing for 8000	5184	-6.4456019	2.0000000	4.5909813
C130T1	Trial 1: Child spacing for 200000	5184	-7.0912423	2.0000000	3.9385557
C131T1	Trial 1: Child spacing for 1000	5184	-7.0995370	2.0000000	4.0377497
C132T1	Trial 1: Child spacing for 150000	5184	-8.1556713	2.0000000	2.7929852
C133T1	Trial 1: Child spacing for 50000	5184	-8.2337963	2.0000000	2.6614432
C134T1	Trial 1: Child spacing for 50000	5184	-7.8086420	2.0000000	3.3146222
C135T1	Trial 1: Child spacing for 100000	5184	-8.9600694	2.0000000	0.6262528
C136T1	Trial 1: Quality of response	5184	-3.5725309	4.0000000	4.9964434
C127T2	Trial 2: Child spacing for 25000	5184	-8.9893904	2.0000000	0.3101027
C128T2	Trial 2: Child spacing for 250000	5184	-8.9938272	2.0000000	0.2568012
C129T2	Trial 2: Child spacing for 8000	5184	-8.9980710	1.0000000	0.1388889
C130T2	Trial 2: Child spacing for 200000	5184	-9.0000000	-9.0000000	0
C131T2	Trial 2: Child spacing for 1000	5184	-9.0000000	-9.0000000	0
C132T2	Trial 2: Child spacing for 150000	5184	-9.0000000	-9.0000000	0
C133T2	Trial 2: Child spacing for 50000	5184	-9.0000000	-9.0000000	0
C134T2	Trial 2: Child spacing for 50000	5184	-8.9978781	2.0000000	0.1527778
C135T2	Trial 2: Child spacing for 100000	5184	-9.0000000	-9.0000000	0
C136T2	Trial 2: Quality of response	5184	-8.9891975	2.0000000	0.2996541
RE53	Respondent Id code: Spacing form 3	5184	-6.5437886	19.0000000	5.1592068
C137T1	Trial 1: Child spacing for 250000	5184	-7.4774306	2.0000000	3.6671087
C138T1	Trial 1: Child spacing for 25000	5184	-7.9604552	2.0000000	3.1780677
C139T1	Trial 1: Child spacing for 200000	5184	-8.2760417	2.0000000	2.5950570
C140T1	Trial 1: Child spacing for 8000	5184	-8.2488426	2.0000000	2.7500195
C141T1	Trial 1: Child spacing for 150000	5184	-8.4224537	2.0000000	2.3394554
C142T1	Trial 1: Child spacing for 1000	5184	-8.4324846	2.0000000	2.3826650
C143T1	Trial 1: Child spacing for 100000	5184	-8.6957948	2.0000000	1.7220113
C144T1	Trial 1: Child spacing for 50000	5184	-8.6396605	2.0000000	1.9107465
C145T1	Trial 1: Child spacing for 50000	5184	-8.8138503	2.0000000	1.3559429
C146T1	Trial 1: Quality of response	5184	-7.5549769	4.0000000	3.5302593
C137T2	Trial 2: Child spacing for 250000	5184	-8.9951775	2.0000000	0.2200098
C138T2	Trial 2: Child spacing for 25000	5184	-9.0000000	-9.0000000	0
C139T2	Trial 2: Child spacing for 200000	5184	-9.0000000	-9.0000000	0
C140T2	Trial 2: Child spacing for 8000	5184	-9.0000000	-9.0000000	0
C141T2	Trial 2: Child spacing for 150000	5184	-9.0000000	-9.0000000	0
C142T2	Trial 2: Child spacing for 1000	5184	-9.0000000	-9.0000000	0
C143T2	Trial 2: Child spacing for 100000	5184	-9.0000000	-9.0000000	0

C144T2	Trial 2: Child spacing for 50000	5184	-9.00000000	-9.00000000	0
C145T2	Trial 2: Child spacing for 50000	5184	-9.00000000	-9.00000000	0
C146T2	Trial 2: Quality of response	5184	-8.9955633	1.00000000	0.2007597
RE54	Respondent Id code: Spacing form 4	5184	-7.8260031	26.00000000	3.5803140
C147T1	Trial 1: Child spacing for 25000	5184	-8.4546682	2.00000000	2.3613122
C148T1	Trial 1: Child spacing for 8000	5184	-8.5657793	2.00000000	2.1305804
C149T1	Trial 1: Child spacing for 1000	5184	-8.6157407	2.00000000	1.9913258
C150T1	Trial 1: Child spacing for 50000	5184	-8.7530864	2.00000000	1.5825080
C151T1	Trial 1: Child spacing for 100000	5184	-8.9012346	2.00000000	1.0280113
C152T1	Trial 1: Child spacing for 150000	5184	-8.9162809	2.00000000	0.9502039
C153T1	Trial 1: Child spacing for 200000	5184	-8.9203318	2.00000000	0.9276444
C154T1	Trial 1: Child spacing for 50000	5184	-8.8777006	2.00000000	1.1221433
C155T1	Trial 1: Child spacing for 250000	5184	-8.9402006	2.00000000	0.8048500
C156T1	Trial 1: Quality of response	5184	-8.5005787	3.00000000	2.1760274
C147T2	Trial 2: Child spacing for 25000	5184	-8.9978781	2.00000000	0.1527778
C148T2	Trial 2: Child spacing for 8000	5184	-8.9978781	2.00000000	0.1527778
C149T2	Trial 2: Child spacing for 1000	5184	-8.9980710	1.00000000	0.1388889
C150T2	Trial 2: Child spacing for 50000	5184	-9.00000000	-9.00000000	0
C151T2	Trial 2: Child spacing for 100000	5184	-9.00000000	-9.00000000	0
C152T2	Trial 2: Child spacing for 150000	5184	-9.00000000	-9.00000000	0
C153T2	Trial 2: Child spacing for 200000	5184	-9.00000000	-9.00000000	0
C154T2	Trial 2: Child spacing for 50000	5184	-9.00000000	-9.00000000	0
C155T2	Trial 2: Child spacing for 250000	5184	-9.00000000	-9.00000000	0
C156T2	Trial 2: Quality of response	5184	-8.9974923	1.00000000	0.1449966
FOS	Spacing form	5184	53.9899691	99.00000000	48.8648600
FOI	Income form number	5184	1.7195216	3.00000000	0.9876904
RE56	Respondent Id code: Income form 1	5184	-4.0273920	12.00000000	5.0456552
C157T1	Trial 1: Required income 40000	5184	-4.3431713	2.00000000	5.2764315
C158T1	Trial 1: Required income 10000	5184	-7.2033179	2.00000000	4.0320849
C159T1	Trial 1: Required income 30000	5184	-7.5314429	2.00000000	3.6546053
C160T1	Trial 1: Required income 15000	5184	-8.3557099	2.00000000	2.5653741
C161T1	Trial 1: Required income 300000	5184	-6.2642747	2.00000000	4.4695454
C162T1	Trial 1: Required income 100000	5184	-6.3152006	2.00000000	4.4924307
C163T1	Trial 1: Required income 150000	5184	-8.4594907	2.00000000	2.3180246
C164T1	Trial 1: Required income 250000	5184	-8.7509645	2.00000000	1.5861337
C165T1	Trial 1: Quality of response	5184	-4.6751543	3.00000000	4.9596279
C157T2	Trial 2: Required income 40000	5184	-8.9978781	2.00000000	0.1527778
C158T2	Trial 2: Required income 10000	5184	-9.00000000	-9.00000000	0
C159T2	Trial 2: Required income 30000	5184	-9.00000000	-9.00000000	0
C160T2	Trial 2: Required income 15000	5184	-9.00000000	-9.00000000	0
C161T2	Trial 2: Required income 300000	5184	-8.9980710	1.00000000	0.1388889
C162T2	Trial 2: Required income 100000	5184	-8.9980710	1.00000000	0.1388889
C163T2	Trial 2: Required income 150000	5184	-9.00000000	-9.00000000	0
C164T2	Trial 2: Required income 250000	5184	-9.00000000	-9.00000000	0
C165T2	Trial 2: Quality of response	5184	-8.9980710	1.00000000	0.1388889
RE57	Respondent Id code: Income form 2	5184	-5.0312500	12.00000000	4.9257449
C166T1	Trial 1: Required income 20000	5184	-5.2428627	2.00000000	5.1488969
C167T1	Trial 1: Required income 10000	5184	-8.2841435	2.00000000	2.6738043
C168T1	Trial 1: Required income 18000	5184	-8.4949846	2.00000000	2.2584277
C169T1	Trial 1: Required income 15000	5184	-8.8126929	2.00000000	1.3914602
C170T1	Trial 1: Required income 200000	5184	-6.1793981	2.00000000	4.5174039
C171T1	Trial 1: Required income 50000	5184	-6.2175926	2.00000000	4.6168779
C172T1	Trial 1: Required income 75000	5184	-7.8186728	2.00000000	3.3216980
C173T1	Trial 1: Required income 125000	5184	-8.4211034	2.00000000	2.3676925
C174T1	Trial 1: Quality of response	5184	-5.6003086	3.00000000	4.7399241
C166T2	Trial 2: Required income 20000	5184	-8.9959491	2.00000000	0.2064533
C167T2	Trial 2: Required income 10000	5184	-8.9978781	2.00000000	0.1527778
C168T2	Trial 2: Required income 18000	5184	-8.9978781	2.00000000	0.1527778
C169T2	Trial 2: Required income 15000	5184	-9.00000000	-9.00000000	0
C170T2	Trial 2: Required income 200000	5184	-8.9980710	1.00000000	0.1388889
C171T2	Trial 2: Required income 50000	5184	-8.9978781	2.00000000	0.1527778
C172T2	Trial 2: Required income 75000	5184	-8.9978781	2.00000000	0.1527778
C173T2	Trial 2: Required income 125000	5184	-8.9980710	1.00000000	0.1388889
C174T2	Trial 2: Quality of response	5184	-8.9955633	1.00000000	0.2007597
RE58	Respondent Id code: Income form 3	5184	-6.4544753	10.00000000	4.2283658
C175T1	Trial 1: Required income 15000	5184	-6.7326389	2.00000000	4.4097361

C176T1	Trial 1: Required income 10000	5184	-8.6658951	2.0000000	1.8453277
C177T1	Trial 1: Required income 28000	5184	-8.8223380	2.0000000	1.3181361
C178T1	Trial 1: Required income 12000	5184	-8.8119213	2.0000000	1.4048800
C179T1	Trial 1: Required income 230000	5184	-7.2193287	2.0000000	3.8333413
C180T1	Trial 1: Required income 80000	5184	-7.2455633	2.0000000	3.8579944
C181T1	Trial 1: Required income 100000	5184	-8.5873843	2.0000000	2.0283736
C182T1	Trial 1: Required income 180000	5184	-8.8452932	2.0000000	1.2573477
C183T1	Trial 1: Quality of response	5184	-6.9380787	3.0000000	4.0448270
C175T2	Trial 2: Required income 15000	5184	-8.9978781	2.0000000	0.1527778
C176T2	Trial 2: Required income 10000	5184	-9.0000000	-9.0000000	0
C177T2	Trial 2: Required income 28000	5184	-9.0000000	-9.0000000	0
C178T2	Trial 2: Required income 12000	5184	-9.0000000	-9.0000000	0
C179T2	Trial 2: Required income 230000	5184	-8.9980710	1.0000000	0.1388889
C180T2	Trial 2: Required income 80000	5184	-8.9980710	1.0000000	0.1388889
C181T2	Trial 2: Required income 100000	5184	-9.0000000	-9.0000000	0
C182T2	Trial 2: Required income 180000	5184	-9.0000000	-9.0000000	0
C183T2	Trial 2: Quality of response	5184	-8.9974923	1.0000000	0.1449966
HHN	Household number	5184	4746.30	9920.00	2511.86

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*****
***** FILE HR9 *****
*****
Variable  Label                                N          Mean          Maximum          Std Dev
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HHN      Household number                        7586        4013.85         9919.00         2299.89
H5N      Shamba/garden size                          7586        1.8470446      100.0000000     3.7652084
H5C      Shamba/garden size code                     7586        0.5767203       2.0000000     2.1493924
H6       Shamba/garden owner                         7586        1.7222515       4.0000000     0.8484181
H7A      Shamba/garden owner Id code                 7586       -5.5668336      10.0000000     4.7954414
H7B      Shamba/garden owner Id code                 7586       -8.2693119      10.0000000     2.7400397
H8       Shamba/garden how acquired                  7586        2.8188769       8.0000000     4.3107558
H9       Shamba/garden quality                       7586        2.1244398       3.0000000     0.8968214
H10      Shamba/garden rent in                       7586        1.8568416       2.0000000     0.9587765
H11      Shamba/garden rent out                     7586        1.9260480       2.0000000     0.8202700
RE60     Respondent Id code: Section 3A/Q1-11        7586        1.5337464      12.0000000     1.2176390
H1       Shambas/gardens:# owned by household        7586        2.7943580      12.0000000     1.8195162
H2       Shambas/gardens:# used by household         7586        0.2484840       8.0000000     0.7517598
H3       Shams/gars:# owned by hhold/other hholds    7586        0.0067229       4.0000000     0.1312468
H4       Total shambas/gardens: owned and used       7586        3.0495650      12.0000000     1.7236715

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*****
***** FILE HR10 *****
*****
Variable  Label                                N          Mean          Maximum          Std Dev
-----
HHN      Household number                        4665        3573.20         9919.00         2103.55
RE61     Respondent Id code: Section 3A/Q12-20       4665        1.6188639      12.0000000     1.4775580
H14      Livestock: sold any?                     4665        1.7161844       2.0000000     0.8515736
H16      Livestock: bought any?                   4665        1.7882101       2.0000000     0.9124110
H18      Livestock: number born                    4665        4.8068596      700.0000000    16.8968657
H19      Livestock: number eaten                   4665        2.1453376      400.0000000     9.3770076
H20      Livestock: number lost                    4665        2.6546624      200.0000000     8.3457996
H13      Livestock: current number                 4665       12.2977492     15000.00       220.5656417
H15      Livestock: number sold                    4665        8.6572347     11000.00       236.0477550
H17      Livestock: number bought                   4665        4.9185423     12000.00       187.1971637

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*****
***** FILE HR11 *****
*****
Variable  Label                                N          Mean          Maximum          Std Dev
-----
ITEM      Economic activities: Code for Item          22990       36.4235320     615.0000000    25.3079112
RA        Economic activities: Importance             22990       2.5039582       99.0000000     5.1014466
CA        Economic activities: Sales for cash?        22990      -3.3566768      99.0000000     6.9788282
RE        Respondent Id code: Section 3B              22990       1.5462810      15.0000000     1.2400065
HHN      Household number                           22990        4234.31        9920.00       2351.90

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 ***** FILE HR12*****

Variable	Label	N	Mean	Maximum	Std Dev
ITEM	Expenditures: Code for Item	131564	102.6642851	141.0000000	23.4319822
CA	Expenditures: payment in cash	131564	5140.94	5000000.00	41654.41
KI	Expenditures: payment in kind	131564	280.7486774	500000.00	3690.12
GI	Expenditures: given as gift/loan	131564	193.3113314	5000000.00	14719.18
RE	Respondent Id code: Section 3C&3D	131564	1.5660591	15.0000000	1.1532038
HHN	Household number	131564	4947.14	9920.00	2523.65

 ***** FILE HR13*****

Variable	Label	N	Mean	Maximum	Std Dev
HHN	Household number	6455	4432.68	9920.00	2488.28
H141	Type of housing	6455	2.1606507	5.0000000	1.3497699
H142	Number of buildings	6455	1.5332301	10.0000000	1.3108816
H146	Building: windows	6455	3.2804028	6.0000000	1.3367393
H147	Building: number of rooms	6455	2.7665376	15.0000000	1.6238830
H148Y	Building: how long: years	6455	10.1623548	79.0000000	9.9949309
H148M	Building: how long: months	6455	1.9095275	20.0000000	3.1130732
H149	Building: owner	6455	1.8678544	5.0000000	1.9403197
H150A	Building: rent value: amount	6455	2890.33	500000.00	14289.54
H150T	Building: rent value: time	6455	0.0227730	6.0000000	6.6308392
H151A	Building: rent payment: amount	6455	909.5127808	765000.00	11896.30
H151T	Building: rent payment: time	6455	-5.7561580	6.0000000	5.8561703
RE79	Respondent Id code: Section 3F/Q141-151	6455	1.6106894	15.0000000	1.2971007

 ***** FILE HR14 *****

Variable	Label	N	Mean	Maximum	Std Dev
RE80	Respondent Id code: Section 3F/Q152-198	5184	1.5401235	12.0000000	1.1502631
H152	Source of drinking water	5184	6.4930556	12.0000000	3.0293360
H153	Amount for last water bill	5184	216.2476852	100000.00	1781.20
H154A	Time for last water bill: amount	5184	-5.4346065	500.0000000	8.6048350
H154U	Time for last water bill: unit	5184	-4.5993441	6.0000000	6.3835664
H155	Sold water?	5184	-4.5700231	2.0000000	5.3719924
H156	Proportion of water sold	5184	-8.9255401	4.0000000	0.8737891
H157D	Source of drinking water: distance	5184	87.7582658	3030.00	174.1732696
H157C	Source of drinking water: distance code	5184	1.7501929	6.0000000	5.2660914
H158	Buys water?	5184	1.8377701	2.0000000	0.9320503
H159A	Water bill in rainy season: amount	5184	-4.3322041	5000.00	90.1009364
H159C	Water bill in rainy season: unit	5184	-8.3364198	4.0000000	2.5296728
H160A	Water bill in dry season: amount	5184	-2.8472144	5000.00	109.6159946
H160C	Water bill in dry season: unit	5184	-8.0993441	4.0000000	2.9479973
H161	Does household have a toilet?	5184	1.0426312	2.0000000	0.3971679
H162	Type of toilet	5184	1.4701003	3.0000000	1.8600134
H163	Is there electricity in village?	5184	1.4457948	2.0000000	0.6122375
H164	Source of electricity in the home	5184	3.9145448	12.0000000	1.8377745
H165	Source of light in the home	5184	1.7222222	5.0000000	0.8889746
H166A	Type of cooker	5184	1.6801698	24.0000000	1.2780310
H166B	Type of cooker	5184	-5.3850309	52.0000000	5.9259935
H167D	Distance to public road	5184	97.9140876	3000.00	169.5067579
H167C	Distance to public road: code	5184	3.6992670	6.0000000	2.2401695
H168A	Time to public road	5184	5.2748611	700.0000000	15.9992147
H168U	Time to public road: unit	5184	0.7525077	5.0000000	1.7097663
H169	Type of public road	5184	1.7058256	4.0000000	1.0143086
H170	Months public road is passable	5184	11.2505787	12.0000000	2.1685445
H171	Public transport on road?	5184	1.3495370	2.0000000	0.6305367
H172	Own television/video?	5184	1.9567901	2.0000000	0.4357905
H173	Own refrigerator/deep freezer?	5184	1.9079861	2.0000000	0.5728956
H174	Sold farm produce/livestock in 12 months	5184	1.5895062	2.0000000	0.6335633
H175D	Distance to farm produce market	5184	16.1157407	2500.00	106.8381604
H175C	Distance to farm produce market: code	5184	-3.2665895	7.0000000	7.1851237
H176A	Time to farm produce market	5184	-4.1159915	150.0000000	11.2103308
H176U	Time to farm produce market: unit	5184	-6.6055170	4.0000000	4.3341583
H177	Transport to farm produce market	5184	-6.5846836	7.0000000	4.3749772
H178	State of road to farm produce market	5184	-6.5949074	2.0000000	4.3411199
H179D	Distance to animal market	5184	-2.4146123	1200.00	36.5104369
H179C	Distance to animal market: code	5184	-4.5071373	7.0000000	6.8806946
H180A	Time to animal market	5184	-6.1994309	400.0000000	9.9489117
H180U	Time to animal market: unit	5184	-7.3211806	3.0000000	3.8836104
H181	Transport to animal market	5184	-7.3277392	7.0000000	3.8397419
H182	State of road to animal market	5184	-7.2947531	2.0000000	3.7811952
H183	Buy outside for sale in village?	5184	1.7415123	2.0000000	0.7302122
H184	Employ any one for farming or bussiness	5184	1.8402778	2.0000000	0.7685892
H185	Employ for how many days in a year?	5184	5.8366127	365.0000000	64.9531490
H186	Rented a shamba to pay in kind?	5184	1.9284336	2.0000000	0.6375069
H187	Own a bank account?	5184	1.6639660	2.0000000	0.8387937
H188	Help to any one outside the household?	5184	1.4569830	2.0000000	0.8955059
H189	How much help given last year?	5184	8847.32	500000.00	25672.01
H190	Where buy food frequently?	5184	0.7945602	5.0000000	2.8381040
H191D	Distance from food market/shop	5184	108.6655575	1600.00	194.8660741
H191C	Distance from food market/shop: code	5184	2.8859954	6.0000000	4.3720832
H192	Days market/shop is open	5184	27.0281636	3578.00	207.8174910
H193	Which days are for shopping?	5184	35.0175540	5713.00	218.3446959
H194	How do you reach the market/shop?	5184	1.3817515	732.0000000	22.1689595
H195A	Time to reach the market/shop	5184	7.4245062	400.0000000	13.2516034
H195U	Time to reach the market/shop: unit	5184	-0.0675154	4.0000000	3.2773985
H196	Cost to reach the market/shop	5184	14.8721065	5000.00	155.0540514
H197	Religion	5184	2.6720679	231.0000000	6.3884258

H198A	First tribe	5184	73.8045910	206.0000000	48.7964090
H198B	Second tribe	5184	9.4550540	205.0000000	40.5739108
H198C	Third tribe	5184	-7.9947917	204.0000000	10.9967534
H198D	Fourth tribe	5184	-8.8462577	145.0000000	4.0238165
H198E	Fifth tribe	5184	-8.9755015	62.0000000	1.1289508
HHN	Household number	5184	4746.30	9920.00	2511.86

 ***** FILE HR15 *****

Variable	Label	N	Mean	Maximum	Std Dev
H201	Sex	329	1.4285714	2.0000000	0.9636241
H202	Relationship to head of household	329	5.4620061	16.0000000	3.4223864
H203Y	Age at death: years	329	29.6595745	98.0000000	28.5174247
H203M	Age at death: months	329	-0.2218845	14.0000000	4.7737859
H204	Live children left in household	329	-2.1610942	2.0000000	4.7416364
H205A	Id codes for left children	329	-5.4589666	11.0000000	5.5297687
H205B	Id codes for left children	329	-7.4376900	13.0000000	4.3808663
H205C	Id codes for left children	329	-8.1003040	11.0000000	3.4551526
H205D	Id codes for left children	329	-8.4042553	13.0000000	2.9328013
H205E	Id codes for left children	329	-8.5805471	6.0000000	2.4545351
H205F	Id codes for left children	329	-8.7477204	7.0000000	1.9662246
H205G	Id codes for left children	329	-8.8784195	8.0000000	1.3424777
H206	Was diseased head of household?	329	-2.0759878	2.0000000	4.9266264
H207	Cause of death	329	1.2310030	7.0000000	1.3024880
HHN	Household number	329	4258.50	9919.00	2279.74
RE86	Respondent Id code: Section 3G	329	1.5015198	9.0000000	1.1999101

 ***** FILE HR16 *****

Variable	Label	N	Mean	Maximum	Std Dev
ID	Respondent Id code: Section Test	808	5.5383663	21.0000000	2.4783600
HHN	Household number	808	4801.45	9899.00	2407.73

 ***** FILE HR17*****

Variable	Label	N	Mean	Maximum	Std Dev
CLUSTER	Cluster code	104	19079618.34	55211105.00	19988352.19
SID	Supervisor Id code	104	2.4423077	5.0000000	2.0040102
PU1	Maize flour: unit price	104	154.6538462	5000.00	508.3201875
F1	Maize flour: conversion factor	104	-5.3750000	50.0000000	6.4862626
PK1	Maize flour: price per kg	104	88.6730769	260.0000000	72.3970233
PU2	Maize grain: unit price	104	803.3846154	7000.00	1098.60
F2	Maize grain: conversion factor	104	7.0408654	100.0000000	15.5572506
PK2	Maize grain: price per kg	104	42.6345085	139.0000000	37.5245882
PU3	Rice: unit price	104	210.2500000	650.0000000	104.7628621
F3	Rice: conversion factor	104	-6.1250000	20.0000000	3.3636766
PK3	Rice: price per kg	104	195.1730769	300.0000000	71.8188717
PU4	Paddy: unit price	104	665.6057692	10000.00	1870.83
F4	Paddy: conversion factor	104	0.5576923	100.0000000	19.5093092
PK4	Paddy: price per kg	104	26.0000000	200.0000000	55.7048393
PU5	Wheat flour: unit price	104	223.7884615	2000.00	247.0172225
F5	Wheat flour: conversion factor	104	-6.2884615	20.0000000	3.3259004
PK5	Wheat flour: price per kg	104	191.6730769	310.0000000	105.5749347
PU6	Millet flour: unit price	104	-1.9615385	180.0000000	25.4779261
F6	Millet flour: conversion factor	104	-6.6250000	1.0000000	1.4759397
PK6	Millet flour: price per kg	104	-1.9615385	180.0000000	25.4779261
PU7	Millet: unit price	104	653.0769231	13000.00	1947.22
F7	Millet: conversion factor	104	1.6538462	100.0000000	21.8173215
PK7	Millet: price per kg	104	45.1430288	185.0000000	59.4824371
PU8	Sorghum flour: unit price	104	-4.9615385	100.0000000	13.5000346
F8	Sorghum flour: conversion factor	104	-6.6250000	1.0000000	1.4759397
PK8	Sorghum flour: price per kg	104	-4.9615385	100.0000000	13.5000346
PU9	Sorghum: unit price	104	136.8365385	6000.00	625.9976443
F9	Sorghum: conversion factor	104	-3.5865385	100.0000000	12.2106197
PK9	Sorghum: price per kg	104	13.4146635	800.0000000	84.2883082
PU10	Cassava: unit price	104	76.4615385	1200.00	173.2497453
F10	Cassava: conversion factor	104	-0.6442308	50.0000000	7.1130514
PK10	Cassava: price per kg	104	51.9391026	200.0000000	45.2388546
PU11	Beans (dry): unit price	104	498.2019231	15000.00	1536.90
F11	Beans (dry): conversion factor	104	-3.1947115	100.0000000	12.3319262
PK11	Beans (dry): price per kg	104	205.6153846	400.0000000	99.0981966
PU12	Cattle meat: unit price	104	469.1250000	1200.00	321.9912767
F12	Cattle meat: conversion factor	104	-6.6923077	-6.0000000	1.2700961
PK12	Cattle meat: price per kg	104	472.0673077	1200.00	318.9916231
PU13	Fish (fresh): unit price	104	139.4615385	1500.00	241.9253645
F13	Fish (fresh): conversion factor	104	-3.7331731	1.0000000	3.1320579
PK13	Fish (fresh): price per kg	104	182.3269231	1500.00	247.1884405
PU14	Fish (dry): unit price	104	232.5192308	3000.00	365.5186229
F14	Fish (dry): conversion factor	104	-3.3029808	20.0000000	4.1764590
PK14	Fish (dry): price per kg	104	343.1442308	3000.00	388.4161870
PU15	Paraffin/kerosene: unit price	104	192.4903846	1000.00	201.2520033
F15	Paraffin/kerosene: conversion factor	104	-3.4001923	20.0000000	6.6913526
PK15	Paraffin/kerosene: price per litre	104	191.2311505	600.0000000	92.5530501
PU16	Sugar: unit price	104	445.7884615	1150.00	324.1615525
F16	Sugar: conversion factor	104	-6.6923077	-6.0000000	1.2700961
PK16	Sugar: price per kg	104	456.3461538	1150.00	314.8595239
PU17	Cooking oil: unit price	104	501.0961538	2000.00	426.1025566
F17	Cooking oil: conversion factor	104	-1.9219231	20.0000000	8.3704756
PK17	Cooking oil: price per litre	104	544.7084089	1000.00	252.0373787
PU18	Matches: unit price	104	24.0384615	40.0000000	5.5335220
F18	Matches: conversion factor	104	-6.6923077	-6.0000000	1.2700961
PK18	Matches: price per box	104	24.0384615	40.0000000	5.5335220
PU19	Bicycles: unit price	104	26314.86	55000.00	19992.10
F19	Bicycles: conversion factor	104	-6.6923077	-6.0000000	1.2700961
PK19	Bicycle: price per unit	104	26314.86	55000.00	19992.10
PU20	Hoes/jembe: unit price	104	931.6250000	2300.00	671.6427938

F20	Hoes/jembe: conversion factor	104	-6.6923077	-6.0000000	1.2700961
PK20	Hoes/jembe: price per unit	104	931.6250000	2300.00	671.6427938
REGION	Region code	104	20.9423077	55.0000000	18.4100157

 *****DISTRICT*****

Variable	Label	N	Mean	Maximum	Std Dev
CLUSTER	Cluster code	215	5083505.18	20315103.00	7012677.24
REGION	Region	215	9.7023256	20.0000000	5.6415303
DISTRICT	District name	215	50.6558140	205.0000000	56.1193042
POP_88	Population 1988	215	304250.19	1208914.00	198923.51
PE_E1	Educ-personal emolumts, 1990-91	215	61207.92	220940.00	45442.43
OC_E1	Educ-other charges, 1990-91	215	17158.78	85918.00	14254.63
TOT_E1	Educ-total charges, 1990-91	215	78366.62	262121.00	56821.02
PE_H1	Health-personal emolumnts, 1990-91	215	13618.63	41160.00	10870.24
OC_H1	Health-other charges, 1990-91	215	15099.51	40203.00	11720.67
TOT_H1	Health,total charges, 1990-91	215	28718.04	68192.00	20701.85
PE_WS1	Water & sanitat, prsnl emol, 1990-91	215	1917.15	48923.00	3891.06
OC_WS1	Water& sanitat, other chrsgs, 1990-91	215	3552.48	25257.00	5145.95
TOT_WS1	Water & sanitat, total chrsgs, 1990-91	215	5469.64	58867.00	7637.19
PE_SS1	Social sectors, prsnl emol, 1990-91	215	76743.62	247100.00	54090.23
OC_SS1	Social sectors, othr chrsgs, 1990-91	215	35810.62	107701.00	27042.70
TOT_SS1	Social sectors, total chrsgs, 1990-91	215	112554.26	312773.00	77723.13
OTHERS1	Social sectors, other, 1990-91	215	8644.84	175695.00	18082.19
TOTAL1	Social sectors, grand total,1990-91	215	121199.06	351389.00	83825.30
TREVA1	Total revenue, estimated, 1990-91	215	37273.61	201486.00	37038.21
TREVB1	Total revenue, actual, 1990-91	215	28348.93	85728.00	23902.92
PE_E3	Educ-personal emolumts, 1992-93	215	316873.37	849865.00	299291.11
OC_E3	Educ-other charges, 1992-93	215	23454.00	128630.00	20375.81
TOT_E3	Educ-total charges, 1992-93	215	340327.18	902760.00	316070.14
PE_H3	Health-personal emolumnts, 1992-93	215	95453.28	299059.00	112997.27
OC_H3	Health-other charges, 1992-93	215	20731.29	46947.00	15302.43
TOT_H3	Health,total charges, 1992-93	215	116184.48	342328.00	125690.18
PE_WS3	Water & sanitat, prsnl emol, 1992-93	215	4782.09	11866.00	4281.52
OC_WS3	Water & sanitat, other chrsgs, 1992-93	215	2631.60	20283.00	3562.31
TOT_WS3	Water & sanitat, total chrsgs, 1992-93	215	7413.42	28266.00	6122.64
PE_SS3	Social sectors, prsnl emol, 1992-93	215	417108.43	1160411.00	414613.83
OC_SS3	Social sectors, othr chrsgs, 1992-93	215	46816.77	166462.00	35742.13
TOT_SS3	Social sectors, total chrsgs, 1992-93	215	463925.21	1258462.00	444056.55
WARDS	Number of wards	215	29.0139535	53.0000000	14.5917910
L_AREA	Land area, sq km	215	6035.01	47527.00	7976.72
VILLGS	Number of villages	215	73.3488372	216.0000000	56.9430293
DIS_ROAD	Number of district roads	215	238.7023256	1162.00	189.4222271
FEED_RDS	Number of feeder roads	215	583.2697674	7364.00	773.1290783
WS_GRAV	Water service schemes-gravity	215	4.4000000	83.0000000	13.4448684
WS_MOT	Water service schemes-motor	215	7.7488372	96.0000000	13.0960573
WS_OTH	Water service schemes-other	215	117.7627907	708.0000000	131.5568336
CLNWAT	Population with clean water	215	173678.40	474450.00	176261.64
PRIM	Number of primary schools	215	119.4093023	272.0000000	58.2276383
CLASS	Numbr of class rooms	215	1374.93	3949.00	1452.71
STATUS_P	Permanent class rooms	215	938.6139535	3000.00	1155.93
STATUS_T	Temporary class rooms	215	390.2790698	1090.00	358.1156372
TCHR	Number of teachers	215	2051.23	5346.00	1867.35
ELGBLE	Pupils eligible for primary school	215	24369.34	71031.00	26701.77
STDI	Number of pupils in Std I	215	14048.96	41313.00	15366.23
STDVII	Number of pupils in Std VII	215	8173.70	22576.00	8125.02
SIT_PSLE	Pupils sitting for PSLE	215	7713.23	21996.00	8071.38
SEL_F1	Pupils selected for Form I	215	755.4651163	2570.00	1004.50
SCHOOLS	Number of schools	215	2.6744186	30.0000000	16.0386812
GS_OWN	Government owned schools	215	-3.0465116	14.0000000	7.3794153
PS_OWN	Privately owned schools	215	0.5348837	22.0000000	12.8174619
OS_INST	Other educational institutions	215	-8.5534884	15.0000000	3.2505462
HOSP	Number of hospitals	215	4.3767442	13.0000000	4.8281126
HC	Number of health facilities	215	3.5674419	7.0000000	1.9392311
DISP	Number of dispensaries	215	56.6279070	146.0000000	51.0147602
HBEDS	Number of hospital beds	215	350.7023256	1110.00	226.8055587
HCBEDS	Number of health facility beds	215	-0.0744186	138.0000000	22.7364841
MCHAIDS	Maternal and child health aids	215	99.0604651	320.0000000	122.7015263

NURSES	Number of nurses	215	976.6000000	3314.00	1308.48
RMAS	Number of RMAs	215	61.7627907	154.0000000	53.1404814
M_ASSTS	Number of medical assistants	215	54.8139535	152.0000000	54.9405183
MOS	Number of Medical Officers	215	54.9116279	207.0000000	84.8965649
DENTISTS	Number of dentists	215	20.2325581	95.0000000	42.0741653
DOCTORS	Number of doctors	215	11.5116279	31.0000000	12.9516933
PHRMCSTS	Number of pharmacists	215	6.8000000	38.0000000	14.6041858
NG_HOSP	Number of government hospitals	215	-0.3209302	4.0000000	4.6357287
VA_HOSP	Number of vol agency hospitals	215	-0.8046512	6.0000000	5.8867011
PST_HOSP	Number of parastatal hospitals	215	-6.2930233	2.0000000	4.4650981
O_HOSP	Number of other hospitals	215	-6.1860465	2.0000000	4.8106959
T_HOSP	Total hospitals	215	4.3581395	13.0000000	4.8967962
GH_BED	Number of government hospital beds	215	224.0790698	1110.00	209.9398407
VAH_BED	Number of vol agency hospital beds	215	111.7255814	840.0000000	184.5208598
PST_HB	Number of parastatal hospital beds	215	-5.1348837	141.0000000	20.8350316
OH_BED	Number of other hospital beds	215	3.8139535	72.0000000	22.4599912
TH_BED	Number of total hospital beds	215	354.6604651	1110.00	224.8470738
G_HC	Number of government health centers	215	1.8279070	7.0000000	3.9462703
VA_HC	Number of vol agency health centers	215	-8.2325581	2.0000000	2.7158002
PST_HC	Number of parastatal health centers	215	-6.6744186	1.0000000	4.2344875
O_HC	Number of other health centers	215	-8.7674419	1.0000000	1.5106663
T_HC	Number of total health centers	215	3.1441860	7.0000000	1.5262963
GHCBED	Number of health center beds	215	75.8279070	210.0000000	62.0191647
VHCBED	Number of vol agency health center beds	215	-8.1534884	45.0000000	5.1627416
PHCBED	Number of parastatal HC beds	215	-2.7209302	18.0000000	11.4331163
OHCBED	Number of other health center beds	215	-9.0000000	-9.0000000	0
THCBED	Number of total health center beds	215	79.4139535	210.0000000	67.4791819
G_DISP	Number of government dispensaries	215	29.8093023	56.0000000	18.6929420
VA_DISP	Number of vol agency dispensaries	215	9.1813953	27.0000000	11.5280895
PST_DISP	Number of parastatal dispensaries	215	7.2697674	42.0000000	20.1227952
O_DISP	Number of other dispensaries	215	-2.7162791	11.0000000	8.6250269
T_DISP	Number of total dispensaries	215	56.7116279	146.0000000	50.9628837
BRANCH	Nat. Bank of Comm. Branches	215	5.8883721	21.0000000	8.6606104
AGENCY	Nat. Bank of Comm. Agencies	215	-7.8372093	2.0000000	3.2145277
MOB_SERV	Nat. Banks of Comm. Mobile Ser.	215	-9.0000000	-9.0000000	0
TZ_HBANK	Tanzania Housing Bank	215	-3.9395349	3.0000000	5.5350261
CRDB	Cooperative Rural Development Bank	215	-7.6139535	100.0000000	10.6228809
DIST_DAR	Distance (km) from Dar es Salaam	215	531.3255814	1850.00	606.6107900
IMR	Infant mortality rate per 1,000	215	44.7424186	127.9000000	54.7302985
POP_DISP	Population : Dispensary ratio	215	5936.67	112611.00	15323.89
POP_HC	Population : Health center ratio	215	40389.06	214067.00	46468.89
SC_SOC	Saving and credit societies	215	27.9116279	120.0000000	51.9320783
ECR91	Estimated council revenues, 1991	215	42873546.56	177523600	57715512.12
ACR91	Actual council revenues, 1991	215	29926000.10	157124270	43273919.02
ECR92	Estimated council revenues, 1992	215	55918665.88	321187300	77921232.61
ACR92	Actual council revenues, 1992	215	205999388	733510481	295205001
ECR93	Estimated council revenues, 1993	215	411865192	1420720900	569506904
ACR93	Actual council revenues, 1993	215	271359156	1020364485	418713518

ANNEX IV

MANUALS

- **Training Guidelines**
- **Supervisor's Manual**
- **Logbook**
- **Interviewer's Manual**
- **Data Entry (Office Remedies)**
- **Data Entry (with Survey)**

ANNEX V

TERMS OF REFERENCE

- Project Manager
- Supervisors
- Interviewers
- Data Entry (Muhimbili Hospital)
- Data Entry (Office Remedies)
- Person in Charge of Logs

ANNEX III

OTHER DOCUMENTS

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- Letter to Government Statistician
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