

## **The 1994 ERH Survey**

In 1994, the Centre for the Study of African Economies and the Economics Department of Addis Ababa University started a panel survey incorporating six of the seven villages earlier surveyed in 1989 by IFPRI. (the remaining village in a semi-pastoralist area in Southern Ethiopia could not be revisited again because of violent conflict in the area). Nine additional villages were selected allowing for a total of 15 village studies, covering 1477 households. They were interviewed thrice: in the first part of 1994, again later in the same year and in the first part of 1995.

The nine additional communities were selected to account for the diversity in the farming systems in the country, including the grain-plough areas of the Northern and Central highlands, the enset-growing areas and the sorghum-hoe areas. The practical constraints of running a panel household survey had to be squared with the methodological problems related to sampling. Farming systems were considered a much more important stratification basis than administrative boundaries. Nevertheless, the division of the country into agro-ecological zones is not self-evident. A sample of 15 villages remains too small to be representative for all villages, although the actual choice of villages does cover some of the diversity of communities in each zone. In the context of sampling theory, one could argue that the sampling frame to select the villages was strictly stratified in the main agro-ecological zones and sub-zones, and one to three villages per strata was selected.

Within each village, random sampling was used, stratified by female headed and non-female headed households, including an attempt to re-randomise the 1989 in the panel villages, via extra sampling from new entrants, splits and newly formed households. The information available for ex-ante or ex-post weighing of the sample when pooled is limited. The available population figures for Ethiopia at the time of the survey were based on a questionable census of 1984, while linking farming systems to population figures turned out not to be straightforward. In most panel villages in which interviews took place in 1989 this procedure also implied an increase of the sample size in those villages. A complete redrawing of administrative boundaries since then has meant that linking the provisional census figures from the 1994 census to the farming systems was just as difficult. Sampling size in each village was governed by an attempt to obtain a self-weighting sample, when considered in terms of farming system: each person (approximately) represents the same number of persons from the main farming systems. The advantage is that pooling of the data is simplified, although alternative procedures could easily have been implemented.

The resulting sample can be considered broadly representative of the households in the different farming systems in the country. Obviously, with only 15 communities, but relatively large samples within each village, the interpretation of the results in terms of rural Ethiopia as a whole has to be done with care. No other sources allowing a comparison over time exist, however, so that the current data set is probably the only one currently available to make any statements about change in Ethiopia.

Note that in the same year, the Central Statistical Office collected a data set as part of the Welfare Monitoring System. Many of the average outcome variables, in terms of health and nutrition were very similar to the results in the ERHS, suggesting that the resulting sample may well be broadly representative of the general situation in rural Ethiopia. See Collier et al. (1997).

Table A.1 gives the details of the sampling frame and the actual proportions in the total sample. It also gives information on the 1989 sample and the actual panel linking 1989 and 1994. First, it is clear that, broadly speaking, the sample is broadly consistent with the population shares in the 3 main sedentary farming systems. The classification used is based on Westphal (1976) and Getahun (1978). For the 1989 sample, however, the sampling proportions deviate more due to the absence of Northern Highlands villages which were at that time inaccessible because of war activity.

The sampling in the villages newly included in 1994 was relatively straightforward. A list of all households was constructed with the help of the local Peasant Association (PA) officials. (PAs were set up in the aftermath of the 1974 revolution, after which a programme of land reform had been started. Villages were organised in Peasant Associations, usually comprising one or a few villages. The PA was made responsible for the implementation of the land reform and holds up to now wide ranging powers as a local authority. All land is owned by the government. To obtain land, households have to register with the PA and lists of the households allocated land are kept.) Up to the late 1980s, they were responsible for the programme of continuous land redistribution which was meant to keep land tenure closely linked to household size and needs. Although this continuous land redistribution is not, in principle, meant to take place any more, registration with the PA remains essential for farm households<sup>1</sup>. In virtually all villages, therefore, there were good lists of the households in the village which could be used as a sampling frame.

It had been suggested that in some areas landlessness is increasing, since with the absence of redistribution and a ban on land sales and rental against fixed payment no legal mechanisms exist for young households to acquire land in land constrained areas. To make sure that these households were properly represented we stratified the sample within each village to ensure a representative number of landless households to be included. In practice, in most areas this resulted only in a very small number of landless households to be included. Similarly, we made sure that an exact proportion of female headed households was included via stratification.

Note that although the consumption information from the six villages surveyed in 1994 is available for 363 households, due to the extremely difficult survey conditions, data on both food and non-food consumption were collected in only four villages (i.e. for 213 households), while only food consumption data were collected in the other two villages.

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<sup>1</sup> Recently, evidence is emerging that redistribution has restarted, especially in Amhara Region. The process is politically very sensitive but has already led to demonstrations of peasants in Addis Ababa.

## **Linking 1989 IFPRI and 1994a ERHS : panel data**

In the villages included in 1989 as well, we first traced the earlier households. A household was kept in the sample even if the head of the household had left or died. A panel household was defined as a household which had still members of the 1989 household living in the village. Of the 445 households which were attempted to be traced, only less than 7 percent was lost. About 8 percent of the households had a different head, in most cases the spouse of the earlier head. The fact that households cannot obtain land when moving to other areas is clearly part of the explanation of the low attrition rate. In the panel villages, we also attempted to randomise the sample again by including an exact proportion of newly formed or arrived households in the sample, as well by replacing the lost households by households which were considered by village elders and officials as broadly similar to in demographic and wealth terms as the households which could not be traced. Also, households formed out of households interviewed in 1989 were also interviewed, usually sons or daughters who after marriage formed their own household.

Table A.2 gives some characteristics of the sample areas included in the panel between 1989 and 1994.

Although the 1994-questionnaire is modelled on the 1989 one questionnaire, differences have to be taken into account. The files in the 1989 survey all contain the variable HHID, which identifies the household. This variable is also the key to link with 1994a ERHS data. Because the 1989 survey used other price information, conversion codes and other principles for the data cleaning that could not be replicated in 1994, most of the variables are not directly comparable between 1989 and 1994a. To solve this problem, a series of variables were recalculated using the initial 1989 raw data and questionnaire. This information is available in the two SPSS files: the file cons89.sav contains aggregate information on consumption data in 89; the file demo89.sav contains aggregate information on household characteristics. Note that linking information from 1989 to 1994a may lead to spurious or unreliable results for the reasons mentioned above.

Note that even for the recalculated information, difficulties arise when comparing the 1989 data with the 1994a ERHS data. First of all the survey was not conducted in exactly the same months in each site, so that comparison has to be done with care. Table A.3 gives details of the timing of the survey.

Other differences have to be taken into account as well. For the consumption data for example, the list of items prompted for in 1994 was slightly longer, since following piloting it was found that more items were commonly consumed than asked for in 1989. The 1989 survey contains less specific information on this issue. Some of the items you find in the 1994a survey are in principle in the 'other items' in the 1989 questionnaire. The fact that the list was shorter ex-post in 1989 than 1994 could simply be due to shortages before the reforms and at the height of the economic crisis of the late 1980s.

Table A.1: The sampling frame of the Ethiopian Rural Household Survey

	Population share* in 1994	Sampling share 94 in 1994	Number of villages in 1989	Number of villages in 89 and 94	Sampling share 89	Panel households
Grain-plough complex Highlands						
Grain plough complex - Northern Highl	21.2%	20.2%	3	0		
Grain plough complex - Central Highl	27.7%	29.0%	4	2	31.0%	32.4%
Grain-plough/hoe complex						
Grain plough Arsi/Bale	9.3%	14.3%	2	1	25.4%	25.6%
Sorghum plough/hoe Hararghe	9.9%	6.6%	1	1	15.0%	12.4%
Enset (with or without coffee/cereals)	31.9%	29.9%	5	2	8.7%	29.6%
Total	100.0%	100.0%	15	6	100.0%	100.0%

- percentage of rural sedentary population; pastoralist population is about 10 percent of total rural pop.
- Sources: CSA Population estimates, own estimated and Westphal, (1977).

Table A.2: Characteristics of the sample sites

Survey site	Location	Background	Main crops	Perennial crops?	Mean Rainfall mm
Haresaw	Tigray	Poor and vulnerable area.	Cereals	no	558
Geblen	Tigray	Poor and vulnerable area; used to be quite wealthy.	Cereals	no	504
Dinki	N. Shoa	Badly affected in famine in 84/85; not easily accessible even though near Debre Berhan.	Millet, teff	no	1664
Debre Berhan	N.Shoa	Highland site. Near town.	Teff, barley, beans	no	919
Yetmen	Gojjam	Near Bichena. Ox-plough cereal farming system of highlands.	Teff, wheat and beans	no	1241
Shumsha	S.Wollo	Poor area in neighbourhood of airport near Lalibela.	Cereals	no	654
Sirbana Godeti	Shoa	Near Debre Zeit. Rich area. Much targeted by agricultural policy. Cereal, ox-plough system.	Teff	no	672
Adele Keke	Hararghe	Highland site. Drought in 85/86	Millet, maize, coffee, chat	yes, no food	748
Korodegaga	Arssi	Poor cropping area in neighbourhood of rich valley.	Cereals	no	874
Turfe Kechemane	S.Shoa	Near Shashemene. Ox-plough, rich cereal area. Highlands.	Wheat, barley, teff, potatoes	yes, some	812
Imdibir	Shoa (Gurage)	Densely populated enset area.	Enset, chat, coffee, maize	yes, including food	2205
Aze Deboa	Shoa (Kembata)	Densely populated. Long tradition of substantial seasonal and temporary migration.	Enset, coffee, maize, teff, sorghum	yes, including food	1509
Addado	Sidamo (Dilla)	Rich coffee producing area; densely populated.	Coffee, enset	yes, including food	1417
Gara Godo	Sidamo (Wolayta)	Densely packed enset-farming area. Famine in 83/84. Malaria in mid-88.	Barley, enset	yes, including food	1245
Doma	Gama Gofa	Resettlement Area (1985); Semi-arid; droughts in 85, 88,89,90; remote.	Enset, maize	yes, some	1150

Source: Community survey ERHS, Webb and von Braun (1994), Bevan and Pankhurst (1996).

Table A.3: timing of activities and of the survey in 1994-1995

Survey site	Location	Main Harvest	Time of Interview			
			IFPR 1989	Round 1 1994	Round 2 1994-95	Round 3 1995
Haresaw	Tigray	October-November		June-July	January	March
Geblen	Tigray	October-November		June-July	January	March
Dinki	N. Shoa	December	March-April	March-April	November	January
Debre Berhan	N. Shoa	November-December	March-April	March-April	October	March
Yetmen	Gojjam	November-December		March-April	October	March
Shumsha	S. Wollo	October-December		June-July	December-January	May
Sirbana Godeti	Shoa	November-December		March-April	November	March
Adele Keke	Hararghe	November-December	November-December	May-June	October	April
Koro-degaga	Arssi	October-November	November-December	May-June	November-December	May-June
Turfe Kechemane	S. Shoa	December		March-April	September-October	March-April
Imdibir	Shoa (Gurage)	October-December		March-April	October	March
Aze Deboa	Shoa (Kembata)	October-November		March-April	September-October	March
Addado	Sidamo (Dilla)	December-January		March-April	January	March
Gara Godo	Sidamo (Wolayta)	August-December	March	March-May	October	March
Doma	Gama Gofa	September-December	May-June	April-May	December-January	May-June

Source: Community survey ERHS and Bevan and Pankhurst (1996).

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