

Household counts

These are counts of households throughout the Caprivi in 1996. The data were collected to provide accurate indices of the number of people in different areas.

Sources and processing of data

- 1) Most data were obtained from 1:20 000 aerial photographs taken in 1996. Groups of photographs were assembled into montages. All households on the photographs were marked and counted. The montages were mounted on a digitising tablet and aggregations of households were mapped as polygons with the number of households recorded as an attribute for each polygon. For ease and speed of data analysis, each polygon was later assigned a point object, with the point approximating the centre of the area covered by a group of households.
- 2) Most households were easily identified as a grouping of two or more structures enclosed by a fence, and this definition agreed with local definitions of households and those used in population censuses and surveys. Structures not enclosed by fences were usually ignored as grain storage or bachelors' huts. However, households in some areas are also not fenced and each aggregation of several small huts was designated as a household.
- 3) The 1:20 000 photographs covered the following areas: the whole of eastern Caprivi (east of the Kwando River) and the whole area along the Okavango River from 21 degrees East to Mohembo. For other areas, household counts were obtained as follows:
west Caprivi (Bushman settlements at Omega, Bwabwata, Guiga, Dodge City, Dwarspan, Borila, Ntane-ca, Doppies, Susuwe, Nova, Xharnxhois - all from estimates given by Matthias Brenzinger and Simon Mayes). These estimates were provided as the number of people in each village. Other West Caprivi households at Bagani and Mutjiku were counted from the 1:20 000 aerial photos.
villages south of the tar road through Caprivi west of the Okavango River were counted off photographic slides taken by Environmental Profiles staff. A few small villages right next to the tar road were counted from the ground - GPS positions were recorded for all these villages.
- 4) The data were overlaid with a map of enumeration areas used in the 1991 Population and Housing Census. For each enumeration area, the average number of people per residential household was calculated, allowing average household sizes to be applied to each point count of households. Note that for the West Caprivi "Bushman" villages, the number of people were those estimated by M Brenzinger and S. Mayes, and numbers of households in the database are estimates derived by dividing the number of people by average household size.
- 5) The database contains one other figure for average household size. This is a figure which takes the 1991 Population Census average and inflates it by 12.5%. The adjustment was made because the 1991 population census average of 4.8 people per household was probably an underestimate, while the 1993/94 Income and Expenditure Survey average of 5.4 people (12.5% higher) is considered more

representative. (Note: the 1994/95 Agricultural Census gives a figure of 6.1 people for farming households in **rural** areas.) Thus, to estimate numbers of people, the adjusted average household sizes were multiplied by the number of households.

- 6) The data set include households just across the Kavango/Caprivi border. These were included because they were needed for estimating population density.
- 7) In the Environmental Profile book publication, a total population within the Caprivi is given as 110 704, this being the sum total of numbers estimated by multiplying numbers of households by adjusted average household sizes. In retrospect, there might be a slight error here because they ignore institutional residents - people in hostels, hospitals and prisons. In the 1991 census there was also an institutional population of 3 146 i.e. 3.45% of the total population. An additional 3.45% should thus perhaps be added to the total estimated derived from household counts, giving a total population in 1996 of 114 523. Most of the institutional residents would have been in Katima Mulilo and this would have boosted the estimated population for the town. For interest, Research Triangle Institute in North Carolina produced some population projections for each region in Namibia, based on 1991 Population Census parameters, for the Ministry of Basic Education and Culture. Their estimate for Caprivi in 1996 was 108 140 people. The 1996 Intercensal Demographic Survey puts the population at about 107 900 people, this being an estimate provided verbally by the Central Statistics Office. It was based on a data set that was complete, but some small errors detected during further cleaning and checking of the data might lead to a slightly different estimate.

Description of database

The data are stored in the ArcView database: \hhcounts.dbf. The following fields are available:

HH - number of households counted
SOULS - estimated number of people: $HH * AVGHH$
GEO - code for enumeration area from 1991 Population & Housing Census
COUNT - number of people in residential households in enumeration area
HHCOUNT - number of residential households in enumeration area
AVGHH - average household size: $COUNT / HHCOUNT$
ADJSOULS - adjusted estimate of number of people: $HH * ADJ_HH$
ADJ_HH - adjusted estimate of average household size: $(AVHGG * .125) + AVGHH$

1943 data

To compare the number of households in 1996 with those in 1943, old aerial photographs (1:36 000) were obtained for five areas in Caprivi representing different landscapes (see section on *Mapping of cultivated areas*, too). The households were mapped and counted in each area. Each hut is stored as a point object in \hhcounts\huts43.shp. The numbers of huts in each area are found in huts43.dbf. The sample areas are available as shape files (sample.shp) in the directory \fields.