

Stats sa

Statistics South Africa REPUBLIC OF SOUTH AFRICA

Private Bag X44, Pretoria, 0001, South Africa, ISIbalo House, Koch Street, Salvokop, Pretoria, 0002 www.statssa.gov.za, info@statssa.gov.za, Tel +27 12 310 8911

STATISTICAL RELEASE P0318.3

General Household Survey, Selected development indicators, Metros 2020

Embargoed until: 2 December 2021 11:30

ENQUIRIES: User Information Services Tel.: (012) 310 8600 FORTHCOMING ISSUE: GHS 2021 EXPECTED RELEASE DATE May 2022

Dipalopalo tsa Aforikaborwa • Dipalopalo tsa Aforika Borwa • Ezazibalo zaseNingizimu Afrika • Tshitatistika Afrika Tshipembe • Tinhlayo Afrika-Dzonga

Statistieke Suid-Afrika + Dipalopalo tša Aforika Borwa + Telubalo zaseNingizimu Afrika + EzeeNkcukacha maNani zoMzantsi Afrika + limbalobalo zeSewula Afrika



IMPROVING LIVES THROUGH DATA ECOSYSTEMS

Contents

List o	of Abbreviations	2
1	Introduction and methodology	. 3
1.1	Background	3
1.2	Methodology and fieldwork	3
1.3	Data revisions	3
2		
2		4
2.1		4
2.2	Healtn	5
2.3	Ruman Settlement	07
2.4	Transport	/ Q
2.5	Water sanitation and environment	g
2.0		0
3	Indicator tables	10
3.1	MFMA Circular No. 88 metro indicator data elements, 20201	0
4	Technical notes	13
4.1	Target population1	3
4.2	Sample design 1	3
4.3	Allocating sample sizes to strata1	4
4.4	Weighting1	6
4.5	Bias-adjustment procedure1	6
4.6	Final survey weights1	7
4.7	Sampling and the interpretation of the data	8
4.8	Definitions of terms1	8
5	Specific departmental indicators and question linkages	20

List of Abbreviations

ASER	Age-specific Enrolment Ratio
CVe	Coefficient of Variations
	Department of Agriculture
DUA	
DUs	Dwelling Units
EAs	Enumeration Areas
GHS	General Household Survey
PSUs	Primary Sampling Units
RDP	Reconstruction and Development Programme
UN	United Nations
VIP	Pit Toilet with ventilation
WSA	Water Services Authorities
MAFA	Municipal Finance Management Act
MTREF	Medium Term Revenue and Expenditure Framework

1 Introduction and methodology

1.1 Background

This report presents selected findings from GHS 2020 on a set of development indicators at metropolitan level. Although the GHS was first introduced in 2002, Metro level reporting only became possible with the introduction of a new master sample for the GHS 2015 collection. The first report was released in May 2016 as a discussion document.

The current report is the sixth in the series and summarises the data for each metro and metros as a whole as measured by GHS 2020.

1.2 Methodology and fieldwork

Stats SA suspended face-to-face data collection for all its surveys on 19 March 2020 as a result of the COVID-19 pandemic and restricted movement. This was to ensure that the field staff and respondents were not exposed to the risk of contracting the coronavirus and to contain its spread.

To facilitate data collection, Stats SA changed the mode of collection for collecting GHS 2020 data from Computer Assisted Personal Interviews (CAPI) to Computer-assisted Telephone Interviewing (CATI). Since Stats SA uses a dwelling unit sample, the GHS 2019 sample was reused and households that provided operational telephone numbers in 2019 were contacted by Survey Officers (SOs). Many households, however, did not provide useable contact numbers in 2019 and many contact numbers were found to be invalid while some calls were not answered. Some households also indicated that they were not residing in the dwelling units they were sampled in during 2019 anymore. All of these were regarded as non-contacts and were adjusted for during the weighting processes. Dwellings that were out-of-scope in 2019 remained so in 2020.

More details of how the adjustment was done are contained in the Technical notes section of GHS 2020 report (P0318).

Given the change in the survey mode of collection and the fact that the GHS 2020 estimates are not based on a full sample, comparisons with previous years should be made with caution.

1.3 Data revisions

Editing and imputation was done using a combination of manual and automated editing procedures. Details about this process can be found in the GHS 2020 report (P0318).

Section 4 describes the methods used to calculate each indicator value. When calculating percentages, missing and do not know values were discarded from the denominator unless otherwise stated.

lobe

Risenga Maluleke Statistician-General

2 Indicator tables

2.1 Education

Table 2.1: Education indicators by metro

					Metro				
Indicators	City of Cape Town	Buffalo City	Nelson Mandela Bay	Mangaung	eThekwini	Ekurhuleni	City of Johannes -burg	City of Tshwane	All Metros
Age-specific Enrolment Ratio (ASER) expre	ssed as a per	centage							
Primary School	97,9	98,4	100	98,0	97,8	98,1	98,3	98,8	98,3
All	96,2	97,2	99,5	94,8	96,2	93,9	96,4	97,1	96,2
% of 16-18-year-olds who attend any institution	89,2	96,8	98,0	85,3	90,5	80,9	89,6	89,6	89,5
% of learners in public schools that do not pay school fees	55,1	72,2	41,7	66,8	51,2	62,5	75,3	59,7	60,7
% of learners in schools receiving social grants	49,4	59,5	53,2	64,1	63,3	58,1	58,9	54,0	57,0
Numbers of learners enrolled (16–18) in any institution N ('000)	163	38	71	40	147	143	194	128	923
Adult literacy rates (persons 20 years and older with less than Grade 7 as highest level of education)	5.0	0.4	2.5		7.0	4.5	1.0	5.0	
level of education)	5,3	9,4	3,5	8,2	7,0	4,5	4,9	5,2	5,5
educational institutions	90,5	100,0	96,3	100,0	95,1	92,3	96,8	100,0	95,8

2.2 Health

Table 2.2: Health Indicators by metro

		Metro										
Indicators	City of Cape Town	Buffalo City	Nelson Mandela Bay	Mangaung	eThekwini	Ekurhuleni	City of Johannes- burg	City of Tshwane	All Metros			
% of persons with medical aid		40.0		05.0	10.0	00.5	40.0					
coverage	28,3	18,9	26,0	25,0	16,6	23,5	16,3	28,9	22,4			
% of households for which the usual												
place of consultation is a public												
facility	52,5	73,6	60,6	59,9	68,8	64,3	71,4	54,2	63,3			

2.3 Human settlement

Table 2.3: Human settlement indicators by metro

	Metro										
Indicators	City of Cape Town	Buffalo City	Nelson Mandela Bay	Mangaung	eThekwini	Ekurhuleni	City of Johannes- burg	City of Tshwane	All Metros		
% of households who live in an RDP or state-subsidised house	20,0	25,6	32,8	22,5	23,0	17,8	11,4	16,5	18,2		
% of households living in informal dwellings/tents/caravans	18,8	27,2	6,1	9,5	6,0	16,7	19,0	16,2	15,5		
% of households who fully own their dwellings	50,5	74,8	73,3	67,9	78,1	43,3	35,9	39,2	50,7		

2.4 Social development

Table 2.4: Social development indicators by metro

Indicators	City of Cape Town	Buffalo City	Nelson Mandela Bay	Mangaun g	eThekwin i	Ekurhuleni	City of Johannes- burg	City of Tshwane	All Metros
Number of persons 60 years and older N('000)	463	84	137	84	371	275	436	319	2 169
Number of households with at least one person 60 years and older N ('000)	331	71	109	67	248	229	305	239	1 599
% of persons 60 years and older who are disabled (UN definition)	13,9	20,6	20,8	41,0	20,5	10,7	19,0	7,1	16,4
% of people 60 years and older who received old-age grant	100,0	100,0	100,0	100,0	100,0	100,0	99,5	99,0	99,8
% of people 60 years and older who received social grants	50,6	75,9	44,1	58,6	70,5	76,4	64,1	45,5	60,2
% of households with persons 60 years a	and older a	Ind classifie	d as:						
Food access adequate	85,5	88,2	95,8	75,5	99,6	89,5	88,7	88,5	89,7
Number of households classified as N (000)			_					
Food access adequate	905	205	320	183	1 193	1 053	1 635	1 025	6 520
% of poor households with children aged 7– 18 who do not spend money on school fees	70,1	92,3	69,8	97,0	59,8	73,9	88,9	64,0	76,1
Number of households classified as poor using household monthly expenditure of below R2 500 as the cut-off N ('000)	225	107	102	97	245	400	573	360	2 109
Number of households classified as poor using household monthly expenditure of below R2 500 as the cut-off and who have children aged 7–18 N ('000)	90	34	51	51	90	147	203	126	791

2.5 Transport

Table 2.5: Transport indicators by metro

	Metro										
Indicators	City of Cape Town	Buffalo City	Nelson Mandela Bay	Mangaung	eThekwini	Ekurhuleni	City of Johannes- burg	City of Tshwane	All Metros		
# of passenger trips made per month with each public transport mode N ('000):											
Minibus/taxi	4 550	687	1 115	604	7 404	4 907	7 632	4 256	31 156		
Bus	754	*	147	351	95	25	236	218	1 832		
% of the household's income spent on transport per month											
1–10%	42,1	59,5	61,7	59,1	54,5	55,7	44,0	42,1	49,0		
11–20%	27,3	28,7	25,3	24,8	21,9	29,5	30,8	22,5	26,7		

2.6 Water, sanitation and environment

Table 2.6: Water, sanitation and environment variables by metro

					Metro				
Indicators	City of Cape Town	Buffalo City	Nelson Mandela Bay	Mangaung	eThekwini	Ekurhuleni	City of Johannes- burg	City of Tshwane	All Metros
Number of households with water									
supply infrastructure of RDP									
standard or higher N ('000)	1 279	211	359	230	1 173	1 265	1 948	1 153	7 617
Number of households with water									
supply infrastructure less than									
RDP standard N ('000)	*	36	*	41	35	42	18	61	240
Consumer perception index of wat	er quality N ('	000)							
Number of households with access to a functioning basic sanitation facility (strategic framework) N ('000)	1 185	231	355	224	969	1 222	1 824	1 008	7 018
% households with access to improved sanitation facilities	92,2	93,7	98,9	84,1	80,2	93,6	92,8	83,4	89,4
% of households whose refuse is removed by a local authority or private company or municipality	87,3	67,3	90,8	80,4	88,4	93,7	86,2	76,6	85.9

3 Indicator tables

3.1 MFMA Circular No. 88 metro indicator data elements, 2020

Table 3.1: MFMA Circular No. 88 metro indicator data elements, 2020

	Metro									
Indicators	City of Cape Town	Buffalo City	Nelson Mandela	Mangaung	eThekwini	Ekurhuleni	City of Johannes-	City of Tshwane		
			Вау				burg			
EE1.1 (1) Number of households with										
access to electricity	1 194 415	196 662	355 284	259 415	1 091 589	1 135 979	1 532 536	1 097 340		
EE1.1 (2) Total number of households in										
the municipality	1 285 162	246 251	359 412	266 370	1 207 536	1 306 346	1 963 604	1 209 322		
ENV3.1 (1) Number of households who										
have their refuse removed at least once a										
week.	1 120 637	164 866	326 182	182 573	982 292	1 218 040	1 684 184	907 491		
ENV3.1 (2) Total number of households in										
the municipality	1 285 162	246 251	359 412	266 370	1 207 536	1 306 346	1 966 084	1 209 322		
HS1.1 (1) Number of households residing										
in formal dwellings in the municipality	1 037 194	166 451	335 380	239 339	1 113 336	1 059 630	1 569 552	1 013 091		
HS1.1 (2) Total number of households in										
the municipality	1 287 118	246 251	359 412	271 189	1 207 536	1 306 346	1 966 084	1 213 642		
HS2.3 (1) Number of households in formal										
dwellings 'renting'	307 571	11 235	50 251	43 169	142 818	311 492	555 283	236 415		
HS2.3 (2) Number of households residing										
in formal dwellings in the municipality	1 037 194	166 451	335 380	239 339	1 113 336	1 059 630	1 569 552	1 013 091		

Table 3.2: MFMA Circular No. 88 metro indicator data elements, 2020 (Concluded)

	Metro									
Indicators	City of Cape Town	Buffalo City	Nelson Mandela Bay	Mangaung	eThekwini	Ekurhuleni	City of Johannes- burg	City of Tshwane		
WS2.1 (1) Number of households with the										
water inside dwelling/institution	986 879	129 069	320 084	109 103	786 485	833 671	1 136 681	798 646		
WS2.1 (2) Number of households with the main source of drinking water piped (tap)		05.004		440.004	007.000	070 504	070.004	005 000		
Water Inside yard	149 042	35 981	30 692	110 894	297 280	370 501	678 904	295 829		
main source of drinking water piped (tap) water on community stand: distance less										
than 200m from dwelling/institution	136 286	45 576	6 314	*	69 949	51 516	126 023	34 790		
WS1.1 (1) Number of households using a flush toilet (connected to sewerage										
system)	1 169 361	175 494	346 683	175 545	938 690	1 185 129	1 738 175	976 238		
WS1.1 (4) Total number of households in the municipality	1 285 162	246 251	359 412	266 370	1 207 536	1 306 346	1 966 084	1 209 322		
Total number of households in the municipality (estimate)	1 287 118	246 251	359 412	271 189	1 207 536	1 306 346	1 966 084	1 213 642		
Total population of the municipality (estimates)	4 388 035	788 043	1 251 575	819 668	3 892 101	3 826 317	5 897 662	3 768 747		

General Household Survey, Selected development indicators, 2020

Table 3.3: Basic household and population data used for benchmarking the GHS 2020

	Metro										
Indicators	City of Cape Town	Buffalo City	Nelson Mandela Bay	Mangaung	eThekwini	Ekurhuleni	City of Johannes- burg	City of Tshwane	All Metros		
# of persons N ('000)	4 388 035	788 043	1 251 575	819 668	3 892 101	3 826 317	5 897 662	3 768 747	24 632 148		
# of households N ('000)	1 287 118	246 251	359 412	271 189	1 207 536	1 306 346	1 966 084	1 213 642	7 857 578		

4 Technical notes

4.1 Target population

The target population of the survey consists of all private households in all nine provinces of South Africa and residents in workers' hostels. The survey does not cover other collective living quarters such as students' hostels, old-age homes, hospitals, prisons and military barracks, and is therefore only representative of non-institutionalised and non-military persons or households in South Africa.

4.2 Sample design

The General Household Survey (GHS) uses the Master Sample frame which has been developed as a generalpurpose household survey frame that can be used by all other Stats SA household-based surveys having design requirements that are reasonably compatible with the GHS. The GHS 2020 collection was based on the 2013 Master Sample. This Master Sample is based on information collected during the 2011 Census conducted by Stats SA. In preparation for Census 2011, the country was divided into 103 576 enumeration areas (EAs). The census EAs, together with the auxiliary information for the EAs, were used as the frame units or building blocks for the formation of primary sampling units (PSUs) for the Master Sample, since they covered the entire country and had other information that is crucial for stratification and creation of PSUs. There are 3 324 primary sampling units (PSUs) in the Master Sample with an expected sample of approximately 33 000 dwelling units (DUs). The number of PSUs in the current Master Sample (3 324) reflect an 8,0% increase in the size of the Master Sample compared to the previous (2008) Master Sample (which had 3 080 PSUs). The larger Master Sample of PSUs was selected to improve the precision (smaller coefficients of variation, known as CVs) of the GHS estimates.

The Master Sample is designed to be representative at provincial level and within provinces at metro/nonmetro levels. Within the metros, the sample is further distributed by geographical type. The three geography types are Urban, Tribal and Farms. This implies, for example, that within a metropolitan area, the sample is representative of the different geography types that may exist within that metro. The sample for the GHS is based on a stratified two-stage design with probability proportional to size (PPS) sampling of PSUs in the first stage, and sampling of dwelling units (DUs) with systematic sampling in the second stage.

	2007 Master Sample (GHS 2008-2014)	2013 Master Sample (GHS 2015 onwards)
Design	Two-stage stratified design	Two-stage stratified design
Number of primary sampling units (PSUs)	3 080 PSUs	3 324 PSUs
Number of dwelling units (DUs)	Approximately 30 000 DUs	Approximately 33 000 DUs
Stratification	No stratification by geo-type within metros/non-metros	Stratification by geo-type within metros/non-metros
Geo-types	4 geo-types, namely urban formal, urban informal, tribal areas, and rural formal	3 geo-types, namely urban, traditional, and farms
Sample	Sample representative at national, provincial and metro levels, but estimates only produced to provincial level	Sample representative at national, provincial and metro levels Weights produced to publish estimates at metro level

Table 4.1: Comparison between the 2007 (old) Master Sample and the new Master Sample (designed in 2013)

There are a number of aspects in which the two Master Samples differ. The number of geo-types were, firstly, reduced from four to three (excluding urban informal, and keeping urban, rural traditional and rural farms). The new Master Sample, furthermore, allows for the publication of estimates at metro level.

Primary stratification occurred at provincial and metro/non-metro levels, for mining, and geography type, while the secondary strata were created within the primary strata based on the demographic and socio-economic characteristics of the population.

Given the change in the provincial distribution of the South African population between 2001 and 2011, the Master Sample was accordingly adjusted. This is presented in Figure 18.1. There was also an 8% increase in the sample size of the Master Sample of PSUs to improve the precision of the GHS estimates. In particular, the sample sizes increased most notably in Gauteng, Eastern Cape and KwaZulu-Natal.

4.3 Allocating sample sizes to strata¹

The randomised PPS systematic sampling method is described below, This procedure was applied independently within each design stratum.

Let N be the total # of PSUs in the stratum, and the # of PSUs to be selected from the stratum is denoted by

^{*n*}, Also, let ^{*X*_{*i*}} denote the size measure of the PSU ^{*i*} within the stratum, where ^{*i*=1, 2, 3, ..., *N*. Then, the method for selecting the sample of ^{*n*} PSUs with the Randomised PPS systematic sampling method can be described as follows:}

Step 1: Randomise the PSUs within the stratum

The list of N PSUs within the stratum can be randomised by generating uniform random between 0 and 1, and then by sorting the N PSUs in ascending or descending order of these random numbers. Once the PSUs have been randomised, we can generate permanent sequence #s for the PSUs.

Step 2: Define normalised measures of size for the PSUs

We denote by X_i the measure of size (MOS) of PSU i within the design stratum. Then, the measure of size $X = \sum_{i=1}^{N} x_i$ for the stratum is given by $X = \sum_{i=1}^{N} x_i$. We define the normalised size measure p_i of PSU i as $p_i = \frac{x_i}{X}$; i = 1, 2, 3, --N, where N is the total # of PSUs in the design stratum. Then, p_i is the

relative size of the PSU i in the stratum, and $\sum_{i=1}^{n} p_i = 1$ for all strata. It should be noted that the value of $n \times p_i$, which is the selection probability of PSU i must be less than one.

Step 3: Obtain inverse sampling rates (ISRs)

Let R be the stratum inverse sampling rate (ISR). The stratum ISR is the same as the corresponding provincial ISR because of the proportional allocation within the province. It should also be noted that the proportional allocation within the province also results in a self-weighting design.

Then, the PSU inverse sampling rates (ISRs) are obtained as follows:

¹ Source: Sample Selection and Rotation for the Redesigned South African Labour Force Survey by G. Hussain Choudhry, 2007.

First, define N real #s $Z_i = n \times p_i \times R$; i = 1, 2, 3, ---, N. It is easy to verify that $\sum_{i=1}^{N} Z_i = n \times R$. Next, round the N real #s Z_i ; i = 1, 2, 3, ..., N to integer values R_i ; i = 1, 2, 3, ..., N such that each R_i is as close as possible to the corresponding Z_i value and the R_i values add up to $n \times R$ within the stratum. In other words, the sum of the absolute differences between the R_i and the corresponding Z_i values is minimised subject to the constraint that the R_i values add up to $n \times R$ within the stratum. Drew, Choudhry and Gray (1978) provide a simple algorithm to obtain the integer R_i values as follows:

Let "d" be the difference between the value $n \times R$ and the sum $S = \sum_{i=1}^{N} [Z_i]$, where [·] is the integer function, then R_i values can be obtained by rounding up the "d" Z_i values with the largest fraction parts, and by rounding down the remaining (N-d) of them. It should be noted that the integer sizes R_i ; i = 1, 2, 3, ..., N are also the PSU inverse sampling rates (ISRs) for systematic sampling of dwelling units.

Step 4: Obtain cumulative ISR values

We denote by C_i ; i = 1, 2, 3, ..., N cumulative ISRs of the PSUs within the stratum. It should be noted that the PSUs within the stratum have been sorted according to the sequence numbers that were assigned after the randomisation. Then, the cumulative ISRs are defined as follows:

$$C_1 = R_1,$$

 $C_j = C_{(j-1)} + R_j; \quad j = 2, 3, ---, N.$

It should be noted that the value C_N will be equal to $n \times R$, which is also the total # of systematic samples of dwelling units that can be selected from the stratum.

Step 5: Generate an integer random # r between 1 and R, and compute ^{*n*} integers $r_1, r_2, -\overline{as}$ follows:

$$r_{1} = r$$

$$r_{2} = r_{1} + R$$

$$r_{3} = r_{2} + R$$

$$\cdot$$

$$\cdot$$

$$r_{i} = r_{(i-1)} + R$$

$$\cdot$$

$$r_{i} = r_{(i-1)} + R$$

General Household Survey, Selected development indicators, 2020

15

Step 6: Select ^{*n*} PSUs out of the ^{*N*} PSUs in the stratum with the labels (sequence numbers) number i_1, i_2 such *i* that:

16

 $C_{i_1-1} < r_1 \le C_{i_1}$ $C_{i_2-1} < r_2 \le C_{i_2}$

 $C_{i_n-1} < r_n \le C_{i_n}.$

Then, the ^{*n*} PSUs with the labels $i_1, i_2, ..., i_n$ would get selected with probabilities proportional to size, and the selection probability of the PSU *i* will be given by R_i .

4.4 Weighting²

The sample weights were constructed in order to account for the following: the original selection probabilities (design weights), adjustments for PSUs that were sub-sampled or segmented, excluded population from the sampling frame, non-response, weight trimming, and benchmarking to known population estimates from the Demographic Analysis Division within Stats SA.

The sampling weights for the data collected from the sampled households were constructed so that the responses could be properly expanded to represent the entire civilian population of South Africa. The design weights, which are the inverse sampling rate (ISR) for the province, are assigned to each of the households in a province.

Mid-year population estimates produced by the Demographic Analysis Division were used for benchmarking. The final survey weights were constructed using regression estimation to calibrate to national level population estimates cross-classified by 5-year age groups, gender and race, and provincial population estimates by broad age groups. The 5-year age groups are: 0-4, 5-9, 10-14, 55-59, 60-64; and 65 and over. The provincial level age groups are 0-14, 15-34, 35-64; and 65 years and over. The calibrated weights were constructed such that all persons in a household would have the same final weight.

The Statistics Canada software StatMx was used for constructing calibration weights. The population controls at national and provincial level were used for the cells defined by cross-classification of Age by Gender by Race. Records for which the age, population group or sex had item non-response could not be weighted and were therefore excluded from the dataset. No additional imputation was done to retain these records.

Household estimates that were developed using the UN headship ratio methodology were used to weight household files. The databases of Census 1996, Census 2001, Community Survey 2007 Census 2011 were used to analyse trends and develop models to predict the number of households for each year. The weighting system was based on tables for the expected distribution of household heads for specific age categories, per population group and province.

4.5 Bias-adjustment procedure

The GHS 2020 data was collected using Computer-Assisted Telephone Interviews (CATI) due to COVID-19. The data collection was based on the 2019 sample, from which only households that provided contact information (i.e. telephone/cellphone) were enumerated. Therefore, this may attribute biasness in the sample

² Source: Sampling and Weighting System for the Redesigned South African Labour Force Survey, by G. Hussain Choudhry, 2007

due to differences in the characteristics of households and persons within households that provided contact information and those that did not.

The bias adjustment factors were computed using the GHS 2019 data, and the adjustment was applied to the GHS 2020 calibrated survey weights. The bias adjustment factors were computed for various household level, person level, and demographic characteristics at provincial, and metropolitan and nonmetropolitan area levels within provinces. The bias adjustment factors were computed as the ratio between the estimates for each cell of the selected variables (or cross-classification of the selected variables) for the full sample households (households that provided contact information and those that did not) and households that provided contact information. Bias adjustment factor R^{j} is given as:

$$R^{j} = \frac{X_{full}^{j}}{X_{tel}^{j}}$$

Where X_{full}^{j} is the domain estimate derived from the full sample and X_{tel}^{j} is the domain estimate derived from the households or persons within households that provided contact information.

The GHS 2020 bias adjusted weights were used to compute the GHS 2020 estimates. These GHS 2020 estimates will not be consistent with the demographic population estimates because the bias adjustment factors are non-linear statistics. Therefore, the GHS 2020 estimates that were based on the bias adjusted weights were further adjusted to achieve consistency simultaneously with the known total population, and the internal consistency across all variables (or cross-classification of variables). These adjusted estimates were then used as control totals to compute the final survey weights as described in the next sub-section.

4.6 Final survey weights

In the final step of constructing the sample weights, the calibrated sample weights were raked by applying the raking procedure twice with different sets of control totals at each stage of raking. The person level and household level sample weights were raked independently.

In the first application of the raking procedure, the following control totals were used to compute the intermediate raked weights:

Control totals set for person level weights

- Child Care arrangement (36 cells)
- Attendance of educational institution (9 cells)
- Highest level of education (8 cells)
- Disability by gender (58 cells)
- Medical aid coverage (27 cells)
- Benefit from social grants (3 cells)

Control totals set for household level weights

- Main dwelling type (22 cells)
- Tenure status (45 cells)
- Main source of energy or cooking (30 cells)
- Main source of water (18 cells)
- Access to sanitation (22 cells)
- Access to refuse removal (40 cells)
- Main source of household income (54 cells)
- Vulnerability to hunger (26 cells)

The intermediate raked weights computed above were further raked with the following control totals to compute

the final survey weights:

Control totals set for person level weights

• Age by Gender (32 cells)

- Age by Population Group (64 cells)
- Age by Province (54 cells)
- Age by Metro/Non-metro (68 cells)
- Gender by province (18 cells)

Control totals set for household level weights

- Age by Gender (8 cells)
- Age by Population Group (16 cells)
- Age by Province (36 cells)
- Age by Metro/Non-metro (68 cells)

The advantage of applying the raking procedure twice would be that the population estimates would be consistent with the known population totals from Demographic Analysis. Moreover, the second application of raking would introduce variability in the survey estimates while correcting for the bias due to non-coverage of the households that did not provide contact information.

4.7 Sampling and the interpretation of the data

Caution must be exercised when interpreting the results of the GHS at low levels of disaggregation. The sample and reporting are based on the provincial boundaries as defined in census 2011. These new boundaries resulted in minor changes to the boundaries of some provinces, especially Gauteng, North West, Mpumalanga/Limpopo and Eastern and Western Cape. In previous reports the sample was based on the provincial boundaries as defined in 2001, and there will therefore be slight comparative differences in terms of provincial boundary definitions.

Given the change in the survey mode of collection and the fact that the GHS 2020 estimates are not based on a full sample, comparisons with previous years should be made with caution.

Term	Definition
Household	A household is defined as a person, or group of persons, who occupy a common dwelling unit (or part of it) for at least four nights in a week on average during the past four weeks prior to the survey interview. Basically, they live together and share resources as a unit. Other explanatory phrases can be 'eating from the same pot' and 'cook and eat together'.
	Persons who occupy the same dwelling unit but do not share food or other essentials, are regarded as separate households. For example, people who share a dwelling unit, but buy food separately, and generally provide for themselves separately, are regarded as separate households within the same dwelling unit.
	Conversely, a household may occupy more than one structure, If persons on a plot, stand or yard eat together, but sleep in separate structures (e.g., a room at the back of the house for single young male members of a family), all these persons should be regarded as one household.
Multiple households	Multiple households occur when two or more households live in one sampled dwelling unit. If there are two or more households in the selected dwelling unit and they do not share resources, all households are to be interviewed. The whole dwelling unit has been given one chance of selection and all households located there were interviewed using separate questionnaires.

4.8 Definitions of terms

Term	Definition		
Household head/Acting household head	The head of the household is the person identified by the household as the head of that household and must (by definition of 'household') be a member of the household. If there is difficulty in identifying the head, the head must be selected in order of precedence as the person who:		
	Owns the household accommodation,		
	Is responsible for the rent of the household accommodation,		
	 Has the household accommodation as an allowance (entitlement), etc., 		
	 Has the household accommodation by virtue of some relationship to the owner, lessee, etc., who is not in the household, 		
	Makes the most decisions in the household.		
	If two or more persons have equal claim to be head of the household, or if people state that they are joint heads or that the household has no head, then denote the eldest as the head.		
Formal dwellings	Include a house on a separate stand, a flat or apartment in a block of flats, a townhouse, a room in a backyard, and a room or flatlet on a shared property.		
Informal dwellings	Refer to shacks or shanties in informal settlements or in backyards		
Piped water in dwelling or on site	Includes piped water inside the household's own dwelling or in their yard, It excludes water from a neighbour's tap or a public tap that is not on site.		
Electricity for cooking, heating and/or lighting	Refers to electricity from the public supplier.		
UN disability	Concentrating and remembering are grouped together as one category. If an individual has 'Some difficulty' with two or more of the 6 categories then they are disabled. If an individual has 'A lot of difficulty' or is 'Unable to do' for one or more category they are classified as disabled.		
Severe disability	If an individual has 'A lot of difficulty' or is 'Unable to do' for one or more category they are classified as severely disabled.		
Poor household	Poor households have been defined households who spend less than R2 500 per month.		
Water of RDP standard or higher	'Piped water in dwelling or in yard' and 'Water from a neighbour's tap or public/communal tap' are also included provided that the distance is less than 200 metres.		
Improved sanitation facility	Flush toilet connected to a public sewerage system or septic tank or a pit latrine with ventilation pipe.		

5 Specific departmental indicators and question linkages

Table 5.1: Education

Indicator	Annual reporting level	Questions in the GHS	GHS relative to other sources	Definitions and/or formulas
Age-specific Enrolment Ratio (ASER)	National Provincial UNESCO	EDU_GRD E, D	Main source	<pre># (persons aged 7–13 attending educational institutions)/ # persons aged 7–13 * 100 # (persons aged 7–18 attending</pre>
				educational institutions)/ # persons aged 7–18 *100
Enrolment for 16–18-year-olds	National Provincial	EDU_GRD E, EDU_EDUI	Validation Data confrontation	 # aged 16–18 who are enrolled in any institution # who attend any institution/(# 16–18 years old) *100
Percentage of learners in public schools that do not pay school fees	National Provincial	EDU_TOTF EES	Validation Data confrontation	# persons attend public school who do not pay school fees/# of persons attending public schools*100
Percentage of learners in schools receiving social grants	National Provincial	EDU_EDUI SOC_GRA NT	Main source Data confrontation	# persons attending school who receive any grant/# of persons who attend school and answered the question*100
% of orphans aged 7–18 years attending educational institutions	National and provincial	HHC_FAT H_ALIVE, HHC_MOT H_ALIVE, EDU_ATTE ND	Main source	# of children aged 7–18 years who lost one or both of their biological parents attending school/ # of children aged 7–18 who lost one or both of their biological parents*100

Table 5.2: Health

Indicator	Annual reporting level	Questions in the GHS	GHS relative to other sources	Definitions and/or formulas
% of persons with medical aid coverage	National and provincial	HLT_MEDI	Main source	# of persons who responded 'Yes' in HLT_MEDI/# of persons who responded to the question*100
% of households for which the usual place of consultation is a public facility	National and provincial	HHW_HLTF AC	Descriptive/ interpretive One of the sources	# of persons who responded 'Yes' to options 1–3 in HHW_HLTFAC/# of persons who responded to the question*100

Table 5.3: Human settlement

Indicator	Annual reporting level	Questions in the GHS	GHS relative to other sources	Definitions and/or formulas
Percentage of households who live in an RDP or state subsidised house	National and provincial	HSG_RDP	Main source	# of households who replied 'Yes' in HSG_RDP/# of households who answered the question*100
Percentage of households who living in informal dwellings/tents/caravans	National and provincial	HSG_MAIND	Main source	# of households option (8, 9 and 11) /# of households who answered the question*100
Percentage of households who fully own their dwellings	National and provincial	HSG_TENU RE	Main source	# of households options 5 in HSG_TENURE/# of households who answered the question*100

Table 5.4: Social development

Indicator	Annual reporting level	Questions in the GHS	GHS relative to other sources	Definitions and/or formulas
% of persons 60 years and older that are disabled	National and provincial	D, DSB	Only source	# of persons aged 60 years and older who are disabled UN definition/# of persons who answered the question *100
% of persons 60 years and older that are severely disabled	National and provincial	D, DSB	Only source	# of persons aged 60 years and older who are severely disabled/# of persons who answered the question *100
% of people 60 years and older who received old-age grant	National and provincial	D, soc_grant_ oag	Only source	# of persons aged 60 years and older who received an old-age grant/# of persons who answered the question *100
% of people 60 years and older who received social grants	National and provincial	D, SOC_GRA NT	Only source	# of persons aged 60 years and older who received a social grant/# of persons who answered the question *100
% of households with persons 60 years and older with: Food access adequate	National and provincial	D, FSD_WOR RIED - FSD_WHL DAY	Descriptive/ interpretive Validation	# of persons aged 60 years and older who answered 'Yes' to FSD_WORRIED - FSD_WHLDAY/# of persons who answered the question *100

Table 5.5: Transport

Indicator	Annual reporting level	Questions in the GHS	GHS relative to other sources	Definitions and/or formulas
# of passenger trips made per month with each public transport mode: Minibus/taxi Bus	National and provincial	TRA_Taxi_tri ps, TRA_bus_tri ps	Validation	Only calculated for household members who made trips using public transport
% of the household's income spent on transport per month: 1-10% 11-20%	National and provincial	TRA_Taxi_c ost, TRA_bus_co st, FIN_INC	Main source	Only calculated for households with valid income and expenditure on transport data

Table 5.6: Water, sanitation and environment

Indicator	Annual reporting level	Questions in the GHS	GHS relative to other sources	Definitions and/or formulas
# of households with water supply infrastructure of RDP standard or higher	National and provincial	WAT_DRINK WAT, WAT_DIST	Validation and data confrontation	On or above RDP is piped water in dwelling or yard or borehole in the yard (options 1,2,3) or tap less than 200 meters from yard (options 5,6&9) and option 1 WAT_DIST; all others are below,
# of households with water supply infrastructure of RDP standard or higher	National and provincial	WAT_DRINK WAT, WAT_DIST	Validation and data confrontation	On or above RDP is piped water in dwelling or yard or borehole in the yard (options 1,2&3) or tap less than 200 meters from yard (options 5,6&9) and option 1 WAT_DIST; all others are below,
# of households with access to a functioning basic sanitation facility (strategic framework)	National and provincial	SAN_TOIL – SAN_LOCAT ION	Main source	'Basic facility' is defined as options 1, 2,3 and 5 in SAN_TOIL
Percentage of households whose refuse or rubbish is removed by a local authority or private company	National and provincial	SWR_RUB	Main source	# of households options 1 and 2 in SWR_RUB/# of households who answered the question*100

General information

Stats SA publishes approximately 300 different statistical releases each year. It is not economically viable to produce them in more than one of South Africa's eleven official languages. Since the releases are used extensively, not only locally but also by international economic and social-scientific communities, Stats SA releases are published in English only.

Stats SA has copyright on this publication. Users may apply the information as they wish, provided that they acknowledge Stats SA as the source of the basic data wherever they process, apply, utilize, publish or distribute the data; and also that they specify that the relevant application and analysis (where applicable) result from their own processing of the data.

Advance release calendar

An advance release calendar is disseminated on www.statssa.gov.za

Stats SA products

A complete set of Stats SA publications is available at the Stats SA Library and the following libraries:

National Library of South Africa, Pretoria Division National Library of South Africa, Cape Town Division Natal Society Library, Pietermaritzburg Library of Parliament, Cape Town Bloemfontein Public Library Johannesburg Public Library Eastern Cape Library Services, King William's Town Central Regional Library, Polokwane Central Reference Library, Mbombela Central Reference Collection, Kimberley Central Reference Library, Mmabatho

Stats SA also provides a subscription service.

Electronic services

A large range of data is available via online services. For more detail about our electronic services, contact Stats SA's user information service at (012) 310 8600.

You can visit us on the Internet at: www.statssa.gov.za

Technical enquires

Niel Roux	Telephone number: (012) 310 2939
	Email address: NielR@statssa.gov.za

General enquiries

User information services	Telephone number: (012) 310 8600 Email address: info@statssa.gov.za
Postal address	Private Bag X44, Pretoria, 0001

Produced by Stats SA