

CUBA'S HOUSING SITUATION: A PERSPECTIVE FROM THE 2002 AND 2012 CENSUSES

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Among the most important sources of information on a country's housing stock and characteristics are population and housing censuses. Their usefulness is enhanced when comparable statistics from successive censuses are available, as it is then possible to assess trends on the nature of the housing stock. More generally—and in the case of Cuba specifically—these analyses can be further refined by examining census data in conjunction with other information, such as annual statistical series on housing construction, sector-specific academic studies, government policy documents, and qualitative housing-related accounts found in official and independent journalistic sources.

The recently-released results from the 2012 Cuban census (Oficina Nacional de Estadística e Información 2013), the latest available, opens these analytical windows as its figures can be contrasted with data from the 2002 census (Oficina Nacional de Estadísticas 2004). For the first time in more than sixty years (the 1943–53 period), conduct and release of 2012 census results aligns Cuba with the international recommend practice that national censuses be conducted every ten years to update statistical information on a periodic basis to support longitudinal analyses of demographic and housing trends.

COMPARABILITY AND LIMITATIONS OF THE 2002 AND 2012 CENSUS HOUSING DATA

In most respects, housing data from both censuses are comparable, as the majority of housing-related questions included in the 2002 exercise were repeated in 2012. The earlier census included 13 housing-related questions, plus a question on type of occupancy (whether a residency is permanently or temporarily occupied, or unoccupied) and one on the furnishings (e.g., type and number of appliances, as well as vehicles) found within residences. Six of the housing-related questions had sub-questions.

The 2012 census, in turn, has 14 housing-related questions, 12 of them comparable (except for minor exceptions) to those from the earlier enumeration. Questions on type of occupancy and furnishings were included, as well as new questions (number 3) on housing ownership (i.e., whether the residence was owned by a resident or by one of several state entities) and disposal of residential waste (question number 12). As in 2002, six of the housing-related questions in the 2012 census had sub-questions.

Responses to all questions were not made available in the published 2002 and 2012 census reports. Among the most glaring omissions is the failure to release data on the structural condition (e.g., supporting columns, external or internal supports) or maintenance status (i.e., roofs, floors, walls) of dwelling's components, although such items were included in both

1. I am grateful to Mario González-Corzo and Mirian Leiva for valuable observations regarding the contents of this paper.

census questionnaires (question 5 in 2002, and question 6 in 2012). Another significant omission is not providing results regarding frequency with which dwellings were supplied with water (e.g., daily, weekly), asked in Questions 9D and 10C in 2002 and 2012, respectively. Likewise, data on type of sanitary facilities (toilets, latrines, etc.) went unpublished (Questions 12 in 2002 and 14 in 2012). These omissions prevent a more thorough analysis and conceal a well-known reality: since the early 1960s, the limited allocation of resources to housing construction, shoddy construction practices, and inadequate maintenance stand behind Cuba's deteriorating and worsening residential housing stock (for a recent discussion of maintenance issues, see, Reyes García and Barredo Medina 2014).

Regardless of these limitations, by comparing housing data from both censuses with other information sources, it is possible to derive some useful, if limited, conclusions pertaining to the evolution of the housing sector during the intercensal period. The overview that follows is limited to national aggregates although the availability of provincial data allows for more detailed examination of conditions in particular areas of the country, including inter-provincial comparisons. The presentation begins with an examination of trends in the overall housing stock by residential unit type and occupancy status.

EVOLUTION OF THE RESIDENTIAL HOUSING STOCK

How the housing stock evolved between 2002 and 2012 is shown in Table 1. Of most relevance are the

figures for private residences, in effect, those permanently occupied. While the total number of residences increased by 351,573 units (10%) between 2002 and 2012 (column 11, the difference between columns 1 and 6), the number of private residences rose somewhat more to 354,430 (also about 10%). However, the number of permanently occupied residences increased less, by 274,337, or 7.9%. The difference is largely accounted for by spectacular growth in temporarily or seasonally occupied residences, the former increasing by 9,236 units (or 433%), and the latter by 68,196 units (264%).² Of note are the declining number of units classified as work place (-47.3%) and collective (-26.6%) residences,³ and the 44% drop in officially denoted substandard residential units (listed as *solares*, *bohíos*, improvised housing, etc. in the 2012 census, and grouped under "other" in the 2002 census).⁴ The number of apartments actually declined by about 11,000 units between the two censuses, even though the government has traditionally assigned priority to the fabrication of multi-family structures.

Growth in temporarily occupied residences may largely be attributed to a major increase in foreign medical students (from Venezuela, Bolivia, other countries), while declines in work place and collective residences most likely arose from changes in agricultural practices (demise of collective farms?) and, most importantly, by educational policy changes that did away with residential Schools in the Countryside (*Escuelas en el Campo*). Most surprising is the 146,956 decline in substandard housing, as numerous journalistic sources suggest this type of housing

2. According to the 2012 census, temporarily occupied residences are those that, at the time of the census, housed individuals temporarily in the country, such as foreign technicians and students, diplomatic personnel and their relatives, etc., whereas seasonally occupied residences are those inhabited during certain times of the year, such as beach or country houses (Oficina Nacional de Estadística e Información 2013:103). Seasonally occupied residences may also include so-called *casas de visita*, residences previously restricted for use by government officials while traveling on official business, or temporarily assigned to them while on vacation. The government just announced that henceforth such residences will be rented to nationals and foreign tourists for leisure purposes (Agendas 2014).

3. Work place residences (in Spanish, *local de trabajo*) is defined as a residence in a work center that does not constitute a separate housing unit, whereas a collective residence (in Spanish, *vivienda colectiva*) is a special residential unit, whether temporary or permanent, used by a group of usually unrelated individuals, that while sharing living quarters for the sake of convenience, health, work, education, military discipline, religion or other cause, must follow common rules (Oficina Nacional de Estadística e Información 2013:102).

4. Definitions for 2012 may be found in *ibid*:103–104 and for 2002 in Oficina Nacional de Estadísticas 2004:91–92 and footnote to Table V.2, but not as detailed. It is reasonable to assume the 2002 definitions across all housing categories correspond to those explicitly defined in the 2012 census.

Table 1. Housing stock by type and occupancy; 2002 and 2012 censuses

	2002			%	2012			%	2002–12	Difference		
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]			[9]	[10]
Total lodging units	3,534,327			100.0		3,885,900			100.0		351,573	
Private residences	3,527,994			99.82		3,882,424			99.91		354,430	10.00%
Occupied by residents												
Permanently		3,460,232		98.10		3,734,569			96.19		274,337	7.90%
Houses			2,576,459		74.45		3,008,818		80.57		432,359	16.80%
Apart.			622,400		18.00		611,334		16.37		11,066	1.80%
Solares			—		—		18,365		0.49			
Bohios			—		—		82,607		2.21			
Improvised.			—		—		11,727		0.31			
Other			261,373		7.55		1,718		0.05			
						(sum other 2012)	114,417		3.06		-146,956	-43.80%
Temporarily		2,131		0.06		11,367		0.30			9,236	433.40%
Seasonally		25,797		0.74		93,993		2.52			68,196	264.40%
Unoccupied		39,834		1.13		42,495		1.14			2,661	6.70%
Work Places	5,674			0.16		2,992		0.08			-2,682	-47.30%
Collectives	659			0.02		484		0.01			-175	-26.60%

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Cuadro V.1, and Oficina Nacional de Estadísticas e Información, 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Cuadro V.1.

Table 2. Housing units constructed, total and state and non-state sectors; 2002 to 2012

Year	Total	State	Non-State	Non-State				Percent Non-State
				UBPC	CPA	CCS	Private	
2002	27,460	19,643	7,817	365	96	195	7,161	28.5
2003	15,590	7,318	8,272	120	39	26	8,087	53.1
2004	15,352	8,295	7,057	168	63	65	6,761	46.0
2005	39,919	14,585	25,334	452	392	132	24,358	63.5
2006	111,373	29,692	81,681	1,473	1,392	976	77,840	73.3
2007	52,607	22,419	30,188	1,108	831	874	27,375	57.4
2008	44,775	18,729	26,046	1,013	744	666	23,623	58.2
2009	35,085	19,437	15,648	560	681	227	14,180	44.6
2010	33,901	21,687	12,214	216	311	254	11,433	36.0
2011	32,540	22,966	9,574	255	166	220	8,933	29.4
2012	32,103	22,343	9,760	143	208	145	9,264	30.4
Total	440,705	207,114	233,591	5,873	4,923	3,780	219,015	53.0

Source: Oficina Nacional de Estadísticas, *Anuario Estadístico de Cuba 2012*, Tabla 12.1, <http://www.one.cu/>

may have been on the increase during the decade in question.

The increase of 275 thousand permanently occupied residences recorded by the censuses is far less (by 37.8%) than the 440,705 housing units officially reported to have been constructed by the state and non-state sectors between 2002 and 2012, as shown in Table 2, with about half of all units built by the non-state sector. Such comparison assumes an equivalency between housing units constructed, as reported in the *Anuarios Estadísticos*, and census data on permanently occupied private residences. Much of the difference between both sets of figures is likely to

have resulted from the housing stock loss occasioned by a succession of destructive hurricanes that crisscrossed Cuba in the late 2000s (Díaz-Briquets 2009). The difference is somewhat minimized as the housing construction figures for 2006 were not downwardly adjusted to reflect what former Vice Minister Carlos Lage denounced as a grossly exaggerated construction estimate that year, inflated by as much as 50% (“Insuperable” 2008). Within the non-state sector, the declining importance of housing construction in agricultural entities is apparent, a trend consistent with census findings.

Table 3. Occupied houses and apartments with permanent residents by period of construction,^a and place of residence; 2002 and 2012 censuses

Period of construction	Cuba					
	2002	2012	Difference		Urban 2012	Rural 2012
			Absolute	Percent		
Total	3,198,859	3,620,152	421,293	13.2	2,813,572	806,580
Before 1920	128,627	112,776	-15,851	-12.3	103,926	8,850
1920–1933	89,672	70,749	-18,923	-21.1	66,089	4,660
1934–1945	131,595	109,182	-22,413	-17.0	101,674	7,508
1946–1958	300,468	248,003	-52,465	-17.5	227,865	20,138
1959–1970	317,339	281,259	-36,080	-12.0	221,982	59,277
1971–1981	498,071	417,708	-80,363	-16.1	328,951	88,757
1982–1989	601,479	542,842	-58,637	-9.7	406,016	136,826
1990–2001	568,700	444,739	-123,961	-21.8	315,827	128,912
2002–2012	—	485,671	—	—	304,684	180,987
don't know	562,908	907,223	344,315	61.2	736,558	170,665

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Cuadro V.7, and Oficina Nacional de Estadísticas e Información, 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Cuadro V.11.

a. Not available by place of residence in the 2002 census report

DURABILITY OF THE RESIDENTIAL STOCK

A variable that to some extent may account for differences between the number of enumerated residences and statistics on residential construction, even when considering the declining number of apartments, is the durability of the housing stock. Collapsing buildings are frequently reported—in Havana and other cities—and not only among older pre-revolutionary structures. In one weekend, in November 2013, heavy rains led to the collapse of 135 buildings in the city of Havana alone (“Lluvias” 2013). Collapses have been occasionally noted even among post-1959 pre-fabricated buildings that were often assembled by poorly qualified construction brigades.

For purposes of answering the question of how much of the housing stock is lost due to accidental or intentional demolition of buildings, comparing housing data by period of construction in both censuses would be ideal. However, this comparison is fraught with difficulties as the magnitudes of the “unknown” construction date categories in both censuses are significant (17.6% in 2002, and 25.1% in 2012), as shown in Table 3. Interestingly, the percent unknown for the most recent period (1990–2001) is the highest, even though recall should be more favorable regarding more recently constructed structures. The 485,671 census estimate of houses and apartments built between 2002 and 2012 is relatively close

to the estimate of 440,705 houses and apartments constructed during a comparable period (Table 2). The former figure also approximates the estimated 432,359 intercensal increase in the number of residences in Table 1.

What is perplexing, given what is known about the deteriorating housing situation—and might be explained by considering the data in tables 1 and 3—is the failure of the statistical authorities to identify a separate category to denote substandard housing, even as the number of permanently occupied residences increased by less than the estimated number of new houses and apartments built.

Another contributing factor to this statistical anomaly could be found in increasingly frequent *desalojos* (forcible removals) the independent press is reporting to be occurring throughout Cuba. The government alleges that dismantling urban shantytowns is necessary if urbanization regulations are to be enforced (see, for example, Espinosa Medrano 2014). Shantytown inhabitants are likely to be migrants to urban areas displaced from former *bateyes*, as the government's decision to restructure the sugar industry led to the shutting down of nearly half of the country's mills around the turn of the century (Mesa-Lago and Pérez-López 2013:18–19). That many shantytowns residents may have departed previously productive sugar regions is suggested by the geographic disper-

Table 4. Households in private residences by type of residence; 2002 and 2012 censuses

	2002				2012			
	[1]	[2] Percent	[3]	[4] Ratio	[5]	[6] Percent	[7]	[8] Ratio
Total households	3,526,210	100.0			3,785,196	100.0		
Individual	488,523	13.9			708,749	18.7		
Nuclear	1,912,557	54.3			1,985,465	52.5		
Extended	1,003,340	28.4			1,003,062	26.5		
Nuclear households			1,285,131	1.28			1,153,220	1.15
Compound	121,790	3.4			87,920	2.3		
Nuclear households			142,386	1.17			94,688	1.08
Total nuclear families ^a			3,340,074				3,233,373	

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Tabla II.11, and Oficina Nacional de Estadísticas e Información, 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Tabla II.12.

a. Sum of all nuclear families whether living singly in a private residence or as part of an extended or compound household. Excluded by definition are individual households.

sion of marginal neighborhoods, reportedly found across the length of the island.

Since Havana is the epicenter of Cuba's urban landscape, perhaps it would have been possible to assess why these statistical anomalies occurred by using data from this city. However, this proved unfeasible as data for the capital region were tabulated in the 2002 and 2012 census reports according to different geographical criteria, given the 2011 establishment of two new provinces, Artemisa and Mayabeque, largely, but not exclusively, carved out of the former Ciudad de la Habana province.

TRENDS IN CENSUS HOUSEHOLD COMPOSITION AND OCCUPANCY PATTERNS

With one exception, only relatively modest changes in census household composition patterns by household type—including individual, nuclear, extended (a nuclear family plus other related individuals), and compound (a nuclear family plus unrelated individuals)—were recorded over the time span of the two censuses, as shown in Table 4. The most significant change was a 45.1% increase in individual households, compensated by smaller declines in other household types, except for nuclear households solely occupying permanent residences. The former may have been influenced by limited housing availability.

These changes, partly driven by population growth, also likely responded to unprecedented emigration rates as multi-generational households were able to

establish separate residences in housing units that were vacated and became available, a development likely to also have been involved in the growth of single residence nuclear households. This interpretation is suggested by the declining ratios of nuclear household to extended household and of nuclear household to compound household presented in columns 4 and 8 of Table 4.

CHARACTERISTICS OF THE RESIDENTIAL STOCK

This section examines statistical indicators on the characteristics of the residential stock in terms of access to basic services such as lighting source, cooking facilities, access to water, bathing facilities, drainage, and waste disposal, and how they evolved between the 2002 and 2012 censuses. Whenever possible, absolute figures and percentages are shown for:

- Cuba as a whole,
- urban and rural areas, and,
- occupied private residences, and households and population within them.

The treatment focuses solely on the statistic as reported in the census reports and does not address quality, efficiency or adequacy of service issues. As is well-known and amply documented in numerous sources, such residential services are often highly deficient, insufficient and/or obsolete, and lacking in many instances.

As noted earlier, the Cuban census authorities collected adequacy of services data; however, results

Table 5. Private occupied residences with permanent residents, and households and population within them, with access to selected services, by place of residence, absolute and percent distributions; 2002 and 2012 censuses

	2002										
	Total	Lightning source	Percent	Cooking facilities	Percent	Piped water	Percent	Drainage	Percent	Bathing facilities or showers	Percent
Cuba											
Occupied residences	3,458,476	3,306,177	95.6	3,333,818	96.4	2,643,310	76.4	2,419,786	70.0	2,399,331	69.4
Households	3,524,447	3,371,873	95.7	3,398,648	96.4	2,703,045	76.7	2,476,876	70.3	2,453,463	69.6
Population	11,117,878	10,691,253	96.2	10,826,972	97.4	8,665,306	77.9	7,925,186	71.3	7,896,298	71.0
Urban											
Occupied residences	2,578,096	2,564,331	99.5	2,502,580	97.1	2,251,247	87.3	2,176,716	84.4	2,085,726	80.9
Households	2,640,468	2,626,533	99.5	2,563,747	97.1	2,308,658	87.4	2,232,157	84.5	2,138,201	81.0
Population	8,431,377	8,042,431	95.4	8,244,749	97.8	7,424,467	88.1	7,154,265	84.8	6,898,756	81.8
Rural											
Occupied residences	880,380	741,846	84.2	831,238	94.4	392,063	44.5	243,070	27.6	313,605	35.6
Households	883,979	745,340	84.3	834,901	94.4	394,387	44.6	244,719	27.9	315,262	35.7
Population	2,686,501	2,297,555	85.5	2,582,223	96.1	1,240,839	46.2	770,921	28.7	997,542	37.1
2012											
	Total	Lightning source	Percent	Cooking facilities	Percent	Piped water	Percent	Drainage	Percent	Bathing facilities or showers	Percent
Cuba											
Occupied residences	3,732,851	3,682,311	98.7	3,647,110	97.7	3,141,382	84.1	2,976,207	79.7	2,904,366	77.8
Households	3,783,468	3,732,722	98.7	3,696,860	97.7	3,188,245	84.3	3,021,792	79.9	2,947,852	77.9
Population	11,126,804	11,001,781	98.9	10,809,700	97.2	9,348,793	84.0	8,885,167	79.8	8,690,301	78.1
Urban											
Occupied residences	2,846,784	2,834,420	99.6	2,797,687	98.3	2,630,772	90.9	2,557,131	89.8	2,462,720	86.5
Households	2,893,434	2,880,923	99.6	2,843,594	98.3	2,674,987	92.4	2,600,429	89.9	2,503,930	86.5
Population	8,543,736	8,512,720	99.6	8,314,434	97.3	7,822,051	91.6	7,617,117	89.2	7,359,791	86.1
Rural											
Occupied residences	886,067	827,881	93.4	849,423	95.9	510,610	57.6	419,076	47.3	441,646	49.8
Households	890,034	851,799	95.7	853,268	95.9	513,258	57.7	421,363	47.3	443,922	49.9
Population	2,583,068	2,489,061	96.4	2,495,266	96.6	1,526,742	59.1	1,268,050	49.1	1,330,510	51.5

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Tabla II.11, and Oficina Nacional de Estadísticas e Información, 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Tabla II.12.

have not been released. When appropriate, reference will be made to the literature documenting shortcomings detracting from the quality of residential housing.

Availability and Source of Lighting

In 2002, as shown in the second set of columns in Table 5,⁵ about 96% of all private occupied residences

had access to electricity for lighting and other needs, mostly provided by the national utility (Table 6). In urban areas, coverage was nearly universal. In rural areas only 85% of beneficiaries (to simplify the narrative, henceforth the term “beneficiaries” will collectively refer, unless otherwise noted, to private occupied residences, households, and inhabitants)

5. The calculations presented on Table 5 were predicated on the assumption that data not shown as reported indicated that the service in question was not available. In the 2012 census questionnaire, for example, enumerators asked residents if their residences had a separate space for cooking. Interviewees were allowed three possible responses: yes, exclusive to the residence; yes, common to various residences; and no, residence does not have one. Not tabulated responses were assumed to correspond to residences reported as not having separate cooking spaces. Thus, for 2012, it was estimated that 2.3% of all private occupied residences in Cuba in that year did not have cooking spaces. A similar logic was followed for the other four services shown in the table. Corresponding 2012 figures for lighting were 1.3%; for piped water, 15.9%; for drainage, 20.3%; and for bathing facilities and/or showers, 22.8%.

Table 6. Private occupied residences with permanent residents, and households and population within them, by lighting source, by place of residence, absolute and percent distributions; 2002 and 2012 censuses

	2002								
	Total	Electric Union	Industrial Plant	Own Plant	Mini-hydro	Solar panels	Biogas	Kerosene	Other
Residences									
Cuba	3,458,476	3,270,696	23,553	1,984	9,160	546	238	137,495	14,804
		94.57%	0.68%	0.06%	0.26%	0.02%	0.01%	3.98%	0.43%
Urban	2,578,096	2,553,437	9,754	46	1,046	13	35	10,638	3,127
		99.04%	0.38%	0.00%	0.04%	0.00%	0.00%	0.41%	0.12%
Rural	880,380	717,259	13,799	1,938	8,114	533	203	126,857	11,677
		81.47%	1.57%	0.22%	0.92%	0.06%	0.02%	14.41%	1.33%
Households									
Cuba	3,524,447	3,336,155	23,769	1,986	9,179	545	239	137,775	14,799
		94.66%	0.67%	0.06%	0.26%	0.02%	0.01%	3.91%	0.42%
Urban	2,640,468	2,615,445	9,929	43	1,067	13	36	10,803	3,132
		99.05%	0.38%	0.00%	0.04%	0.00%	0.00%	0.41%	0.12%
Rural	883,979	720,710	13,840	1,943	8,112	532	203	126,972	11,667
		81.53%	1.57%	0.22%	0.92%	0.06%	0.02%	14.36%	1.32%
Population									
Cuba	11,117,878	10,580,069	73,597	6,345	29,061	1,564	617	390,064	36,561
		95.16%	0.66%	0.06%	0.26%	0.01%	0.01%	3.51%	0.33%
Urban	8,431,377	8,358,844	31,124	129	3,474	27	100	30,890	6,789
		99.14%	0.37%	0.00%	0.04%	0.00%	0.00%	0.37%	0.08%
Rural	2,686,501	2,221,225	42,473	6,216	25,587	1,537	517	359,174	29,772
		82.68%	1.58%	0.23%	0.95%	0.06%	0.02%	13.37%	1.11%
2012									
	Total	Electric Union	Industrial Plant	Own Plant	Mini-hydro	Solar panels	Biogas	Kerosene	Other
Residences									
Cuba	3,732,851	3,650,254	23,484	418	7,098	800	257	42,392	8,148
		97.79%	0.63%	0.01%	0.19%	0.02%	0.01%	1.14%	0.22%
Urban	2,846,784	2,827,718	5,905	70	600	32	95	9,752	2,612
		99.33%	0.21%	0.00%	0.02%	0.00%	0.00%	0.34%	0.09%
Rural	886,067	822,536	17,579	348	6,498	768	162	32,640	5,536
		92.83%	1.98%	0.04%	0.73%	0.09%	0.02%	3.68%	0.62%
Households									
Cuba	3,783,468	3,700,500	23,629	419	7,113	801	260	42,573	8,173
		97.81%	0.62%	0.01%	0.19%	0.02%	0.01%	1.13%	0.22%
Urban	2,893,434	2,874,110	6,007	70	606	32	98	9,886	2,625
		99.33%	0.21%	0.00%	0.02%	0.00%	0.00%	0.34%	0.09%
Rural	890,034	826,390	17,622	349	6,507	769	162	32,687	5,548
		92.85%	1.98%	0.04%	0.73%	0.09%	0.02%	3.67%	0.62%
Population ^a									
Cuba	11,126,804	10,781,119	67,188	1,131	20,021	2,183	716	108,565	16,458
		96.89%	0.60%	0.01%	0.18%	0.02%	0.01%	0.98%	0.15%
Urban	8,543,736	8,373,665	17,321	193	1,690	82	258	26,028	4,988
		98.01%	0.20%	0.00%	0.02%	0.00%	0.00%	0.30%	0.06%
Rural	2,583,068	2,407,454	49,867	938	18,331	2,101	458	82,537	11,470
		93.20%	1.93%	0.04%	0.71%	0.08%	0.02%	3.20%	0.44%

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Tabla V.13, and Oficina Nacional de Estadísticas e Información, 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Tabla V.14.

a. The sum of population figures for 2012 do not correspond to the total shown in the table.

had access to electricity, with higher percentages accessing the service through smaller generating plants. Most beneficiaries without access to electricity relied on kerosene (14.4% of private occupied residences) to satisfy lighting needs.

By 2012, electric coverage had greatly improved, service being available to approximately 99% of all Cubans. The figure only increased marginally in the historically better served urban areas, with most of the gains accruing to rural areas; in the latter, the percentage of private occupied residences served by the national utility rose from 81.5% in 2002 to 92.8% in 2012 (Table 6). This increase resulted from the government's decision to import and deploy 265 diesel generating plants, as well as an additional 4,158 "electricity generation groups," placed throughout the country and integrated into the national grid, primarily to prevent the recurring blackouts affecting Cuba since the Soviet Union's collapse. As a result of this investment in electricity generation, Cuba in 2009 was producing more electricity than ever (Mesa-Lago and Pérez-López 2013: 51).⁶

As electricity access grew, there was a substantial decline in kerosene use—from 14.1% in 2002 to 3.7% in 2012. As a result, the number of Cubans illuminating their homes with sources other than electricity (i.e., kerosene and other) dropped from 388,946 in 2002, to 94,007 in 2012, or by 76%. Of note in Table 6 is the limited increase over time in the utilization of alternative electricity sources: solar panels were available in only .02% of private occupied residences. Over the long haul, greater reliance on solar power, rather than on polluting and inefficient diesel plants, may have proved to be a more economical and lasting solution to improve service in underserved rural areas. It is unlikely, however, that large-scale embrace of solar energy (not as developed then as it is today) would have minimized the recurrent urban blackout issue.

Availability and Location of Cooking Facilities

As expected, most private occupied residences, whether located in urban or rural areas, have cooking facilities (second panel of Table 5). Such facilities are defined by the censuses as separate spaces within a structure whose sole purpose is to prepare meals, store foodstuffs, and store and clean eating utensils. Cooking facilities were found in excess of 96% of occupied residences, the percentages being slightly higher in urban than rural locations, and rising between censuses. In 2002, only 290,000 citizens reported not having access to such facilities, a figure that increased, however, to 317,000 by 2012, even though—in relative terms—the percent of private residences with no separate cooking facility declined from 3.6% to 3.3%. The absolute increase, aside from being associated with population growth, is probably connected with a rise in construction of precarious self-built housing, as indicated.

In residences with exclusive spaces for cooking facilities, the vast majority (99% and higher) are for the sole use of an occupied private residence (Table 7). Interestingly, the number of occupied residences with permanent residents reporting the use of common cooking facilities rose between 2002 and 2012, in both rural and urban Cuba, albeit modestly. In urban Cuba, in fact, it doubled from 16,631 to 32,200. These statistics are also suggestive of the proliferation of precarious housing, a phenomenon most in evidence in the country's cities.

Availability and Source of Residential Water

In 2002, only about three-quarters of private occupied residences had access to piped water (Table 5), the percentage being twice as high in urban (87.3%) as in rural (44.5%) areas. Population-wise, in 2002, close to 2.5 million Cubans were not connected to a piped water distribution system, three-fifths of them residing in rural areas. The 2012 census portrays a relative improvement, connectivity rising to 84%. Reported gains were more substantial in rural areas, with percentages reaching the upper seventies, while in urban areas they were in the low nineties. These

6. This development was undoubtedly facilitated by the availability of Venezuelan subsidies and the continuous flow of low-cost petroleum to Cuba as these plants are highly inefficient and heavy consumers of diesel fuel.

Table 7. Private occupied residences with permanent residents, and households and population within them, by whether cooking facilities are exclusive or shared, by place of residence, absolute and percent distributions; 2002 and 2012 censuses

	2002			2012		
	Total	Exclusive	Common	Total	Exclusive	Common
Residences						
Cuba	3,338,818	3,317,187	16,631	3,647,110	3,614,910	32,200
%		99.4%	0.5%		99.1%	0.9%
Urban	2,502,580	2,492,487	10,093	2,797,687	2,774,337	23,350
%		99.6%	0.4%		99.2%	0.8%
Rural	831,238	824,700	6,538	849,423	840,573	8,850
%		99.2%	0.8%		99.0%	1.0%
Households						
Cuba	3,398,648	3,380,338	18,310	3,696,860	3,663,639	33,221
%		99.5%	0.5%		99.1%	0.9%
Urban	2,563,747	2,552,196	11,551	2,843,594	2,819,337	24,257
%		99.5%	0.5%		99.1%	0.9%
Rural	834,901	828,142	6,759	853,266	844,302	8,964
%		99.2%	0.8%		98.9%	1.1%
Population						
Cuba	10,826,972	10,773,899	53,073	10,809,700	10,715,334	94,366
%		99.5%	0.5%		99.1%	0.9%
Urban	8,244,749	8,210,507	34,242	8,314,434	8,245,152	69,282
%		99.6%	0.4%		99.2%	0.8%
Rural	2,582,223	2,563,392	18,831	2,495,266	2,470,182	25,084
%		99.3%	0.7%		99.0%	1.0%

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Tabla V.14, and *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Tabla V.15.

percentage gains, in absolute terms, were matched by a decline in the number of Cubans lacking access to piped water from 2,452,572 in 2002, to 1,778,011 in 2012.

Access to piped water does not necessarily entail direct household connections, as shown in Table 8. About one quarter of residential housing units with access to piped water in 2002 obtained their supplies through pipes located outside their residences. In rural areas, more than half did so, whereas in urban areas, only about twenty percent did. While the number of residences served by water pipes increased by about 500,000 units between the two censuses, in relative terms those accessing water via direct residential connections declined in both urban and rural areas, but more so in cities (from 81.2% to 75.9%). An additional 635,000 residential units, or about one-quarter of all urban households, relied on outside sources of piped water. In population terms (lower panel of Table 8), about 500,000 more people in urban areas depended on external piped water in 2012 than in 2002.

Another perspective on water access for residential use is provided by census data on its availability by type of abode, as shown in Table 9. The overall population served between 2002 and 2012, particularly among house residents, rose, just as availability deteriorated among apartment dwellers, whether reliant on inside or outside pipes. Apartments, not surprisingly, are almost universally served by internal pipe connections drawing water from aqueducts. That was not the case for stand-alone houses, as only about three-quarters obtained their water through internal connections. In 2002, about 2 million Cubans depended on water supplied by wells, rivers and other sources, the number declining to about 1.25 million by 2012. Of note is that between 2002 and 2012, there was an increase of about 250,000 house occupants dependent on well, river and other sources of water, other than pipes. More striking is the rise in the number of apartment dwellers (about 125,000) that came to depend on outside piped water sources between the two censuses.

Table 8. Private occupied residences with permanent residents, and households and population within them, with access to piped water, whether within or outside the dwelling, by place of residence, absolute and percent distributions; 2002 and 2012 censuses

	2002		Total	2012	
	Within	Outside		Within	Outside
Cuba	2,013,879	629,431	3,141,382	2,231,464	909,918
%	76.2%	23.8%		71.0%	29.0%
Urban	1,827,323	423,924	2,630,772	1,995,550	635,222
%	81.2%	18.8%		75.9%	24.1%
Rural	186,556	205,507	510,610	235,914	274,696
%	47.6%	52.4%		46.2%	53.8%
Households					
Cuba	2,061,288	641,757	3,188,245	2,267,329	920,916
%	76.3%	23.7%		71.1%	28.9%
Urban	1,873,505	435,153	2,674,987	2,030,035	644,952
%	81.2%	18.8%		75.9%	24.1%
Rural	187,783	206,604	513,258	237,294	275,964
%	47.6%	52.4%		46.2%	53.8%
Population					
Cuba	6,644,696	2,020,610	9,348,793	6,698,518	2,650,275
%	76.7%	23.3%		71.7%	28.3%
Urban	6,048,058	1,376,409	7,822,051	5,977,524	1,844,527
%	81.5%	18.5%		76.4%	23.6%
Rural	596,638	644,201	1,526,742	720,994	805,748
%	48.1%	51.9%		47.2%	52.8%

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Cuadro V.14, and *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Cuadro V.15.

Access to pipe connections, of course, does not translate into water availability, as can be attested by any observer of the Cuban scene. In Cuba, and not only in Havana, regular water access is a challenge. According to an official report, 58% of water pumped from aqueducts is lost in transmission, be it because of the rundown condition of master distribution pipes or deteriorated residential connections (Ceballos et. al. 2014). Some residences with internal pipes only receive water sporadically, if at all, while others are forced to rely on supplies delivered by tank trucks. At certain times of the year, some reservoirs only manage to hold sub-optimal amounts of water resulting in shortages. When taken into account, these limitations provide a far less optimistic outlook regarding water access than suggested by census figures. Residential water availability in Cuba is in a state of crisis.

Still another perspective on the availability of water for residential consumption is provided by data in

Table 10, showing supply sources in marginal housing (defined as *solares*, *bohíos* and improvised housing). The comparative census data (for 2002 the data are only available in the aggregate for the three types of marginal housing) suggests that marginal housing declined by about 450,000 units between 2002 and 2012, a trend inconsistent, as noted earlier, with a growing body of impressionistic evidence. *Solares* and improvised housing (most likely urban shantytowns) appear most often to be served by urban piped water networks, mostly internal to the former, but external to the latter. This is to be expected given their urban locations and the fact that most *solares* are found in former residential compounds subdivided for multi-family use. The vast majority of *bohíos*, traditionally rural housing, relied on well and river water.

Availability and location of bathing facilities and/or showers with access to running water

Nearly four out of every five Cuban residences in 2012 had bathing facilities and/or showers with ac-

Table 9. Population in private occupied residences with permanent residents, by water supply source and type of residence, absolute and percentage distributions; 2002 and 2012 censuses

	Population		House		Apartment							
	2002	2012	2002	2012	2002	2012						
Cuba	11,117,878	%11,126,804	100%	8,413,317	9,078,416	100%	1,972,663	100%	1,765,830	100%		
With piped water	8,665,306	77.94%	9,468,950	85.10%	6,444,301	76.60%	7,599,567	83.71%	1,972,663	100%	1,744,648	98.80%
Within residence	6,444,696	76.68%	6,791,116	71.72%	4,672,899	72.51%	5,195,440	68.36%	1,904,409	96.54%	1,550,787	88.89%
Aqueduct	6,039,918	69.70%	6,059,607	63.99%	4,079,499	63.30%	4,527,204	59.57%	1,904,409	96.54%	1,493,123	85.58%
Well	537,067	6.20%	638,827	6.75%	528,605	8.20%	583,411	7.68%	—	—	51,232	2.94%
River	47,137	0.54%	66,792	0.71%	44,646	0.69%	61,600	0.81%	—	—	3,964	0.23%
Other	20,574	0.24%	25,890	0.27%	20,149	0.31%	23,225	0.31%	—	—	2,468	0.14%
Outside residence	2,020,610	23.32%	2,677,834	28.28%	1,771,402	27.49%	2,404,127	31.64%	68,254	3.46%	193,861	11.11%
Aqueduct	1,672,118	19.30%	2,090,170	22.07%	1,473,533	22.87%	1,849,312	24.34%	53,892	2.73%	183,410	10.51%
Well	244,801	2.83%	490,639	5.18%	222,215	3.45%	465,055	6.12%	—	—	9,357	0.54%
River	74,438	0.86%	74,583	0.79%	62,060	0.96%	68,551	0.90%	—	—	646	0.04%
Other	29,253	0.34%	22,442	0.24%	13,594	0.21%	21,209	0.28%	14,362	0.73%	448	0.03%
Without piped water	2,452,572	22.06%	1,657,854	14.89%	1,969,016	23.40%	1,478,849	16.29%	—	0%	21,182	1.20%
Aqueduct	—	—	232,565	14.02%	—	—	208,774	14.12%	—	—	13,220	62.41%
Well	1,756,793	71.63%	1,194,392	72.04%	1,407,710	71.49%	1,065,495	72.05%	—	—	6,255	29.53%
River	262,748	10.71%	163,145	9.84%	177,423	9.01%	141,155	9.54%	—	—	643	3.04%
Other	433,031	17.66%	67,752	4.09%	383,883	19.50%	63,425	4.29%	—	—	1,064	5.02%

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Cuadro V.10, and Oficina Nacional de Estadísticas e Información. 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Cuadro V.13.

Table 10. Population residing in occupied marginal housing by water supply source; 2002 and 2012 censuses

	Marginal housing		2012		Solar		Bohio		Improvised	
	2002	2012	2002	2012	2002	2012	2002	2012	2002	2012
Cuba	731,898	100%	282,558	100%	47,621	100%	206,297	100%	28,640	100%
With piped water	248,342	33.93%	124,735	44.14%	43,816	92.00%	62,825	30.45%	18,094	63.18%
Within residence	67,388	27.14%	44,889	35.99%	26,791	61.14%	12,217	19.45%	5,881	32.50%
Aqueduct	56,010	22.55%	39,280	31.49%	25,898	59.11%	8,223	13.09%	5,159	28.51%
Well	8,462	3.41%	4,184	3.35%	799	1.82%	2,829	4.50%	556	3.07%
River	2,491	1.00%	1,228	0.98%	52	0.12%	1,077	1.71%	99	0.55%
Other	425	0.17%	197	0.16%	42	0.10%	88	0.14%	67	0.37%
Outside residence	180,954	72.86%	79,846	64.01%	17,025	38.86%	50,608	80.55%	12,213	67.50%
Aqueduct	144,693	58.26%	57,448	46.06%	15,319	34.96%	32,323	51.45%	9,806	54.19%
Well	22,586	9.09%	16,227	13.01%	1,362	3.11%	12,849	20.45%	2,016	11.14%
River	12,378	4.98%	5,386	4.32%	198	0.45%	4,958	7.89%	230	1.27%
Other	1,297	0.52%	785	0.63%	146	0.33%	478	0.76%	161	0.89%
Without piped water	483,556	66.07%	157,823	55.86%	3,805	8.00%	143,472	69.55%	10,546	36.82%
Aqueduct	—	—	10,571	6.70%	2,102	55.24%	6,674	4.65%	1,795	17.02%
Well	349,083	72.19%	122,642	77.71%	1,385	36.40%	114,156	79.57%	7,101	67.33%
River	85,325	17.65%	21,347	13.53%	116	3.05%	20,361	14.19%	870	8.25%
Other	49,148	10.16%	3,263	2.07%	202	5.31%	2,281	1.59%	780	7.40%

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Cuadro V.10, and Oficina Nacional de Estadísticas e Información. 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Cuadro V.13.

cess to running water, as compared to seven out of ten in 2002, as indicated in the last column of Table 5. The percentages were considerably higher in urban areas; in 2012, more than 86% percent of urban occupied residences had such facilities. In contrast, in

rural areas percentages were much lower, with bathing facilities/showers available for only half the population, or some 1.3 million inhabitants. Among residences with access, the percentage with indoor facilities for the country as a whole rose from 87% in

Table 11. Private occupied residences with permanent residents, and households and population within them, with access to bathing facilities and/or showers, whether within or outside the dwelling, by place of residence, absolute and percent distributions; 2002 and 2012 censuses

	2002			2012		
	Total	Within	Outside	Total	Within	Outside
Residences						
Cuba	2,399,331	2,101,444	297,887	2,904,366	2,683,686	220,680
%		87.6%	12.4%		92.4%	7.6%
Urban	2,085,726	1,891,403	194,323	2,462,720	2,336,330	126,390
%		90.7%	9.3%		94.9%	5.1%
Rural	313,605	210,041	103,564	443,922	349,237	94,685
%		67.0%	33.0%		78.7%	21.3%
Households						
Cuba	2,453,463	2,149,431	304,032	2,947,852	2,724,626	223,226
%		87.6%	12.4%		92.4%	7.6%
Urban	2,138,201	1,938,248	199,953	2,503,930	2,375,389	128,541
%		90.6%	9.4%		94.9%	5.1%
Rural	315,262	211,183	104,079	443,922	349,237	94,685
%		67.0%	33.0%		78.7%	21.3%
Population						
Cuba	7,896,298	6,948,208	948,090	8,690,301	8,068,098	622,203
%		88.0%	12.0%		92.8%	7.2%
Urban	6,898,756	6,277,524	621,232	7,359,791	7,006,167	353,624
%		91.0%	9.0%		95.2%	4.8%
Rural	997,542	670,684	326,858	1,330,510	1,061,931	268,579
%		67.2%	32.8%		79.8%	20.2%

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Cuadro V.14, and Oficina Nacional de Estadísticas e Información, 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Cuadro V.15.

2002 to 92% in 2012. In urban localities, improvements were more modest than in rural areas, as in the latter the intercensal increase exceeded 11 percentage points. Still, by 2012, close to 100,000 rural residences—occupied by nearly 270,000 citizens—did not have indoor bathing facilities or showers with access to running water. In absolute terms, however, more people in urban than in rural Cuba lacked indoor bathing facilities, as the most recent census found that more than 350,000 urban citizens only had access to external bathing facilities. To the 600,000 Cubans who only had access to outside bathing facilities, another 3.1 million must be added who lacked any sort of bathing facility (Table 5). In total, about 22% of permanently occupied private residences lacked bathing facilities and/or showers with access to running water.

Availability and type of residential drainage

By 2012, close to 80% of all occupied Cuban residences had some sort of drainage system, overall coverage having risen by about 10 percentage points

since 2002 (from 70% to 80%, according to the data on the 5th column of Table 5). The drainage situation was far better in urban areas, coverage nearing 90% by 2012. While rural areas recorded substantial improvements—coverage nearly doubled during the intercensal period—by 2012 less than 50% percent of the rural population, or 1.3 million people, was covered.

A closer examination of the sanitation status of the Cuban housing stock, as given by the distribution of available drainage systems (sewer, septic tank, other), can be made by consulting the data in Table 12. Among residences with access to drainage systems, sewer lines have been the dominant form of effluent disposal for Cuba and particularly for urban areas since 2002, some further modest improvements having been achieved by 2012. The opposite is true for rural areas. In 2002, only 3.4% of rural residences were connected to sewer lines, seven times as many homes depending on septic tanks. At that time, close to three-quarters of rural occupied residences did not

Table 12. Private occupied residences with permanent residents, and households and population within them, by drainage type, by place of residence; absolute and percent distributions; 2002 and 2012 censuses

	2002				2012		
	Total	Sewer	Septic	Other	Total	Sewer	Septic
Residences							
Cuba	3,458,476	1,212,351	1,207,435	1,038,690	2,976,207	1,546,121	1,430,086
%		35.1%	34.9%	30.0%		41.4%	38.3%
Urban	2,578,096	1,182,168	994,548	401,380	2,557,131	1,461,985	1,095,146
%		45.9%	38.6%	15.6%		51.3%	38.4%
Rural	880,380	30,183	212,887	637,310	419,076	84,136	334,940
%		3.4%	24.2%	72.4%		9.5%	37.8%
Households							
Cuba	3,524,447	1,245,781	1,231,095	1,047,571	3,021,792	1,572,547	1,449,245
%		35.3%	34.9%	29.7%		52.0%	48.0%
Urban	2,640,468	1,215,449	1,016,708	408,311	2,600,429	1,488,022	1,112,407
%		46.0%	38.5%	15.5%		57.2%	42.8%
Rural	883,969	30,322	214,387	639,260	421,363	84,525	336,838
%		3.4%	24.3%	72.3%		20.1%	79.9%
Population							
Cuba	11,117,878	3,986,190	3,938,996	3,192,692	8,885,167	4,611,028	4,274,139
%		35.9%	35.4%	28.7%		51.9%	48.1%
Urban	8,431,377	3,890,779	3,263,486	1,277,112	7,617,117	4,356,820	3,260,297
%		46.1%	38.7%	15.1%		57.2%	42.8%
Rural	2,686,501	95,411	675,510	1,915,580	1,268,050	254,208	1,013,842
%		3.6%	25.1%	71.3%		20.0%	80.0%

Source: Oficina Nacional de Estadísticas. 2005. *Censo de Población y Viviendas: Cuba 2002, Informe Nacional*, Havana, Tabla V.14, and Oficina Nacional de Estadísticas e Información, 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Tabla V.15.

have access to a sewerage disposal system. The situation had improved by 2012, when rural access to sewer lines and septic tanks had risen appreciably. Still, by 2012, more than 60% of rural occupied residences—home to nearly 1.4 million people—were not served by sanitary waste disposal systems. Even in urban areas in 2012, 10% percent of the population was not served by either sewer lines or septic tanks.

Residential waste disposal

Information on residential solid waste disposal (garbage) methods, only available in the 2012 census, is presented in Table 13. In that year, 60% of urban dwellers enjoyed residential solid waste pick-up, with a further 25% stating they disposed of their residential waste in neighborhood containers, and 8% by dumping their waste in open sewers. Residential pick-up only served 21% of rural residences, the vast majority disposing of their solid waste in more primitive fashion: 15% disposed of their residential waste in open dumping places, while 55% burn it, by far the most commonly used residential solid waste dis-

posal method in rural areas. In the country as a whole, residential waste disposal in open dumping places continues to be common, as it is the waste disposal method of choice in about 372 thousand occupied residences.

SUMMARY OF CENSUS HOUSING DATA FINDINGS: CAVEATS AND IMPLICATIONS

The comparative housing data from the 2002 and 2012 censuses, while confirming some relatively well understood developments, shed light on selected and insufficiently documented characteristics of Cuba's residential housing stock. The significance of the census data is tempered by their usual limitations and by ONEI's decision not to release data that could have been used to assess the conditions of the national housing stock. These include data on the maintenance status of private occupied residences, frequency with which residential units receive piped water, or access to selected sanitary services. The variables in question constitute important considerations that must be taken into account when judging the quality and habitability of the national housing stock.

Table 13. Private occupied residences with permanent residents, by solid waste disposal method, by place of residence, absolute and percent distributions; 2012 census

	Cuba	%	Urban	%	Rural	%
Waste disposal method						
Total	3,732,851	100.0%	2,846,784	100.0%	886,067	100.0%
Residential pick-up	1,881,378	50.4%	1,697,767	59.6%	183,611	20.7%
Dumped in container	703,216	18.8%	686,880	24.1%	16,336	1.8%
Dumped in open sewer	371,791	10.0%	237,109	8.3%	134,682	15.2%
Burnt	676,096	18.1%	188,582	6.6%	487,514	55.0%
Buried	12,940	0.3%	3,714	0.1%	9,226	1.0%
Other	87,430	2.3%	32,732	1.1%	54,698	6.2%

Source: Oficina Nacional de Estadísticas e Información. 2014. *Censo de Población y Viviendas: Cuba 2012, Informe Nacional*, Havana, Table V. 16.

That said, several significant conclusions can be drawn from the review of the census housing data. The impact of several hurricanes on the Cuban housing stock was confirmed by the finding that of 441,000 residential units built between 2002 and 2012, 175,000 were unaccounted for in the 2012 census. Also noteworthy is the remarkable growth in seasonally occupied residences, a category likely to be associated with the expanding tourism sector.

A most unexpected finding was the absolute and relative decline in number of apartment units, as suggested by data in Table 1. Likely contributing factors were the frequent collapse of apartment buildings in Havana and other cities, and the relative shift away from State housing construction (Table 2), as non-state construction is geared to individual residential housing, rather than multifamily structures. Yet, the magnitude of the decline is surprising as the State sector continues to build multifamily units, including many high quality developments designed to reward military families and members of the political elite (Cave 2014). Assignment of limited construction resources to elite residential housing, as well as to economic priority sectors, like the Mariel port development and tourism infrastructure, do not bode well for the perennial housing needs confronting the average citizen.

Census data reveal how educational policy shifts have impacted several forms of collective housing. These include the closure of former institutional educational facilities, as the work/study philosophy embodied in the “schools in the countryside” concept was discarded. Increased registration of foreign students in Cuba has the opposite effect, as the number of temporarily occupied residences has risen sharply.

The government can claim success regarding its decision to install a multitude of medium- and small-sized diesel electricity generation plants across the country. This equipment has helped reduce power outages and made electricity nearly universally available. Whether or not this decision is justifiable in economic terms—or sustainable in the long-term—is a different matter due to maintenance requirements, environmental impact, and high fuel consumption costs.

The most unexpected comparative census finding is that the stock of shantytowns and other precarious residences is presumably on the decline, a trend contrary to other available evidence, including government actions. That the growth of shantytowns is a serious social concern is made evident by the attention authorities are devoting to the topic (e.g., Coyula and Hamberg 2013; Rodríguez Ruiz 2011) and by reports of frequent *desalojos*. Nor can the declining precarious housing trend suggested by the censuses be accepted at face value when consideration is given to hurricane damage, the government’s inability to replace much of the losses, or the continuing reports of collapsed building, as many displaced residents continue to be housed in inadequate temporary or permanent shelters.

There is only one explanation left for this anomaly, namely that the statistical authorities utilize rather lax and incomplete criteria to identify inadequate housing by focusing exclusively on the reporting of “*sollares*, *bohíos* and improvised housing.” While they do so, they elect not to release other census information pertaining to the quality of the census housing stock. Moreover, available census statistics (on the availability of indoor bathing facilities and showers, access to

piped water, etc.) clearly indicate that the adequate housing deficit in Cuba is significant. While grave, it would be even worse were it not for the emigration of tens of thousands of Cubans every year. As they de-

part, they leave behind homes that—even if in a state of disrepair—often prove qualitatively superior to new occupants, pleased to move away from residences in even worse shape.

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