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THE QUALITY OF HOUSING IN THE PHILIPPINES

by

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ABSTRACT

This paper is the first attempt to present the statistics gathered solely from the Censuses of Population and Housing through several decades to assess the quality of housing accommodation of household population in the country. Indicators on housing derived from the data such as population growth, household size, density per unit area, density of household per housing unit, urbanization, and other related information were presented to have a perspective of the kind of housing which households enjoy. Housing is an important component of human settlements together with amenities including waste disposal, sanitation, drinking water, energy supply, and urbanization. All these data and information may be able to provide trends over a period of time as bases for policy formulation and decision making.

1. INTRODUCTION

This paper on the quality of housing in the Philippines is a first attempt to put together important data characteristics of housing gathered from the decennial censuses conducted by the then National Statistics Office now a part of the Philippine Statistics Authority. Most analysis came from the result of the Census of Population and Housing (CPH) which started to be undertaken regularly since 1960 deals on the population and its housing characteristics. This time, the physical aspects of housing and amenities will be viewed to find out exactly the kind of housing accommodations households enjoy. The statistics on housing are the basic source of data for policy formulation and decision making in preparing plans and programs for towns and cities to improve housing conditions and its amenities. When disaster strikes, like what happened during typhoon Yolanda, the census data on housing can be very useful as benchmark in the assessment of the damage on the actual loss of houses in the affected areas at a smaller geographic level. In fact, in physical planning of a community, it is quite important to include a study of a geographic area at a micro level to be more responsive to the housing needs of the population.

The study of housing is an essential part of study of human settlements. Human settlements is a broad concept which consists of physical elements and services to which these elements provide for material support. The physical components according to UN comprise of the following:

- Shelter, i.e. the superstructures of different shapes, size, type and materials erected by mankind for security, privacy and protection from the elements and for his singularity within a community;
- Infrastructure, i.e. the complex networks designed to deliver to or remove from the shelter people, goods, energy or information; and,
- Services cover those required by a community for the fulfilment of its functions as a social body, such as education, health, culture, welfare, recreation and nutrition.

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Except for Infrastructure, which is not collected in the Population and Housing Census, other kind or types of information are available in limited scale. Therefore, housing is not only concerned with the houses but it also takes into account of the surrounding areas as factors for policy formulation and decision making to protect the environment as well as make a community conducive to healthy and pleasant place to live in. The study of human settlements is important in designing a housing program for a community because the manner on how people live is an important factor to consider. Most data on the lifestyle of people can be taken from the data gathered from Census of Population and Housing, through the computations of important indicators such as household size, population growth, urbanization, population density, kind of sanitation facilities As defined by the United Nations, human settlements means the totality of the human community – whether city, town or village – with all the social, material, organizational, spiritual and cultural elements that sustain it.

Over the years, this concept of human settlements according to United Nations Human Settlements Programme (UN–Habitat) has been broadened to become a framework for an overall national socio-economic development in the context of formulating global shelter strategies. It is now contended that human settlements are the spatial dimension as well as the physical expression of economic and social activity. "No creative act takes place without being influenced by settlement conditions. In turn, the creation of workable human settlements inevitably becomes an objective of, an indicator of, and a prerequisite for social and economic development." Furthermore, settlements are an objective of development in that places where people can live, learn and work in conditions of safety, comfort and efficiency are a fundamental and elementary need. Settlements serve as an indicator as they are the most visible expression of a society's ability to satisfy some of the fundamental needs of its members: they can mark accomplishments as well as expose destitution, neglect and inequality. Finally, settlements is a prerequisite for social and economic development, in that no social progress for sustainable economic growth can occur without efficient settlements systems and settlement networks. Although, 'human settlements' is a broad concept, and includes sustainable development, the key concerns in its domain are:

- Housing;
- Infrastructure and urban services, including waste disposal, sanitation, drinking water, energy supply etc.; and,
- Urbanization

The phenomenon of rapid urban growth is accompanied by problems of urban congestion, environmental degradation, regional imbalances and a burgeoning population of under- and unemployed workers and sprawling slums and squatter settlements. Furthermore, the main source of data in the estimation of housing needs for the country is also from the Census of Population and Housing where the physical characteristics of housing provide an assessment of the conditions of housing accommodation of households.

In the Philippine setting, we have the Housing and Urban Development Coordinating Council (HUDCC) which was mandated by the Urban Development and Housing Act (UDHA), Republic Act 7279, to prepare, supervise and implement a National Urban and Housing Framework. This framework contains plans to review and rationalize the existing town and land use plans and housing programs of the country. HUDCC is also mandated, among others, to provide for social housing and other related activities such as the development of livelihood programs, public transport systems, maintenance of ecological balance and monitoring population growth in urban areas. To help HUDCC in the performance of its functions are the following key shelter agencies: National Housing Authority (NHA) to provide affordable housing for the low and middle income

bracket households, the Housing and Land Use Regulatory Board (HLURB) that rationalizes the use of land through its supervision of Local Government Units (LGUs) in the preparation of their Comprehensive Land Use Plan (CLUP), and housing financing institutions that provide available grants and loans for housing, namely, Socialized Housing Finance Corporation (SHFC), National Home Mortgage Finance Corporation (NHMFC), Home Development Mutual Fund (HDMF), and Home Guaranty Corporation (HGC). In addition to these financing agencies are the Government Service Insurance System (GSIS), Social Security System (SSS) and Pagtutulungan sa Kinabukasan: Ikaw, Bangko, Industria at Gobyerno (PAG-IBIG) that grant housing loans to its qualified members. All of these agencies are the main users not only census data but also data from household surveys needed in their planning, monitoring and evaluation of programs and projects in the housing industry.

2. POPULATION

In the Census of Population and Housing, the count of total population and household population is generated. Total population is composed of the institutional population and the household population. Institutional population is the population enumerated during the census living or confined for more than 6 months in institutional living quarters or institutions such as national prisons and penal colonies, provincial and city jails, tuberculosis sanitaria, mental hospitals, leprosaria, military camps and mining/logging camps. On the other hand, the household population is the population enumerated in private households in a census. Table 1 summarizes the total population enumerated as of May 1 in 1990, 2000 and 2010 showing the broad area categories for the National Capital Region, Other highly urbanized cities outside of NCR and the rest of the 17 administrative regions of the country. We have to look closely with the details of the Highly Urbanized Cities (HUCs) comprising of all cities in the National Capital Region and 17 other cities distributed in the three broad areas of the country, Luzon, Visayas and Mindanao because of their influence in the development of the surrounding areas. Considering that the presentation of data is limited, the most that can be done is to compare the physical aspects of the three broad areas to find out which part of the country needs most attention in terms of the quality of housing and its environment. A more detailed study can be pursued for those who are interested on the subject such as the different settlement patterns to understand the physical aspects of the Philippines, an archipelago with diverse resources.

2.1 Total Population

At the national level, the total population has grown from 60.7 million in 1990 to 76.5 million in 2000 and 92.3 million in 2010, growing an average annual rate of about 1.581 million people a year between 2000 and 1990 and almost the same average annual rate of 1.583 million persons between 2010 and 2000, see Annex Table 1. This number has not been reduced over a period of 20 years. Translated into annual geometric growth rate, the population had been increasing at the rate of 2.35% between 1980 and 1990, decreased slightly to 2.34% between 1990 and 2000 and 1.90% between 2000 and 2010 (see annex Table 1a).

Looking at the distribution at a broader perspective, Luzon regions including its five (5) highly urbanized cities contributed the biggest population size consisting of 41.86% in 1990 to 43.9% in 2010 compared with the National Capital Region with 13.09% share in 1990 decreasing slightly to 12.84% in 2010.   This   seems   to   indicate   an   outflow   of   population   outside   of Metro Manila. Second in population size is contributed by the Mindanao regions including its five (5) highly urbanized cities at 23.56% in 1990 which slightly increased to 23.79% in 2010. A little more than one-fifth of the total population resides in the Visayas regions with 21.49% in 1990 later

decreased to 19.5% in 2010. This increase can be attributed to the increase in the population of the three highly urbanized cities, namely: Lapu-Lapu City, Mandaue City and Tacloban City.

Table II.1. Distribution of Total Population by Broad Area, Philippines: 1990-2010

Area/Region	Population Count as of May 1			Percent Distribution		
	1990	2000	2010	1990	2000	2010
PHILIPPINES	60,698,598	76,485,088	92,335,113	100.00	100.00	100.00
NATIONAL CAPITAL REGION	7,948,392	9,932,560	11,855,975	13.09	12.99	12.84
TOTAL LUZON REGIONS	25,409,495	32,890,318	40,507,024	41.86	43.00	43.87
a. Highly Urbanized Cities	855,926	1,072,421	1,335,255	1.41	1.40	1.45
b. The rest of Luzon Regions	24,553,569	31,817,897	39,311,356	40.45	41.60	42.42
TOTAL VISAYAS REGIONS	13,041,947	15,528,346	18,003,940	21.49	20.30	19.50
a. Highly Urbanized Cities	1,747,472	2,169,674	2,705,571	2.88	2.84	2.93
b. Rest of Visayas Regions	11,294,475	13,358,672	15,298,369	18.61	17.47	16.57
TOTAL MINDANAO REGIONS	14,298,764	18,133,864	21,968,174	23.56	23.71	23.79
a. Highly Urbanized Cities	2,336,676	3,174,949	4,029,929	3.85	4.15	4.36
b. Rest Regions in Mindanao	11,962,088	14,958,915	17,938,245	19.71	19.56	19.43

Source of basic data: Table 1, Annex tables

The highly urbanized Cities (HUCs) as proclaimed legally consisted of all areas of Metro Manila and 17 cities located in different regions. For Luzon area, Baguio City of CAR; Angeles City of Region 3, Zambales City also of Region 3; Lucena City of Region 4A and Palawan City of Region 4B contributed only 1.41% of the total population of the country in 1990 and 1.45% or 1.34 million in 2010. In the Visayas, the HUCs, namely: Iloilo City, Bacolod City, Cebu City, Lapu-lapu City. Mandaue City and Tacloban City contributed 2.88% or more than 1.75 million people in 1990 and increasing to 2.93% or 2.705 million people in 2010. The Mindanao HUCs contributed more than 2.34 million people resident comprising 3.85% of the total population and increasing this to more than 4 million residents in 2010 representing 4.36% of the total population. These are the areas strategically located in the country that provide better socio-economic opportunities that spur socio-economic development within the surrounding areas to act as counter magnets of population in going to Metro Manila.

2.2 Indicators derived from the population count

1. Population growth

Some indicators which are derived from the statistics on total population is the population growth rate, shown in Table 1a, and population density per unit area, and urban areas, both reflected in annex Table 1b. Comparatively, the growth and development of a specific geographic area can be assessed over a period of time. This paper will discuss the extent of growth of areas at a broader perspective.

As discussed earlier, at the national level, it has been observed that the population growth has been slowing down between 2000 and 2010 but looking at Table 1b, we can see that some urban centers are growing faster than the other areas. The population growth may be attributed to in-migration due to better socio-economic opportunities in the area as the pull factor. In Luzon, for instance, CALABARZON as a region reported the highest growth rate at 3.07% compared to NCR's decelerating rate of 1.78%, even lower than the national average growth of 1.90%. In fact,

even in terms of the level, CALABARZON had reported much higher population count of more than 12 million people in 2010 compared to NCR with 11.9 million.

Among the highly urbanized cities, Puerto Princesa City's growth yielded the highest at 3.24% may be due to tourism compared to Baguio City's growth of 2.27% which actually decreased from its growth in 2000 at 3.26% and 4.4% in 1990. The growth of other regions in the Visayas and Mindanao is not observed to be outstanding except in Lapu-Lapu city where a population increase of 4.91% was noted compared with Zamboanga City's growth of 2.98%, Cagayan de Oro City's with 2.69% and Davao City's with 2.36%. The population increases may be attributed to more socio-economic opportunities in these areas compared to the surrounding areas. Shortage in housing accommodation or acute housing shortage may be expected in the next decade.

2. Population density per unit area and proportion of urban population

Designated highly urbanized areas have comparatively much higher density than any of the regions, although there are certain HUCs that do not reflect the expected population density of a highly urbanized area, as shown in the ranking of the 17 HUCs outside of NCR (Annex Table 1b reflects the population density per square kilometer of each highly urbanized cities and all the rest of the regions).

In 2010, the top 10 densely populated HUCs are observed to be the same since 2000 although the ranking in the top 6 is not exactly the same because of the higher growth of population in Lapu-Lapu City and Baguio City which ranked Lapu-Lapu City third in 2010 displacing Iloilo City which ranked third in 1990 and 2000. This simply means that the development of Lapu-Lapu City compared to Iloilo City is faster since it attracted more movers into the city. This can be explained by looking at the proportion of urban population to the total population of the city. Take note that both Lapu-Lapu City and Iloilo City registered 100% urban population in 1990 and 2000. However, when the definition of an urban area had been changed incorporating more socio-economic indicators, Lapu-Lapu City almost maintained its high proportion but reduced to 92.6% from 100% while Iloilo City reported a drastic reduction from 100% in 2000 to 52.1% in 2010.

Table II.2 Ranking of Highly Urbanized Cities by Population Density and Urbanization: 1990-2010

Highly Urbanized Cities	Population Density/sq. km.						% Urban Population		
	1990	Rank	2000	Rank	2010	Rank	1990	2000	2010
Philippines	**202**		**255**		**308**		**47**	**48**	**45.3**
1. National Capital Region	12,830	1	16,032	1	19,137	1	100.0	100.0	100.0
2. Mandaue City, Region 7	7,160	2	10,315	2	13,158	2	100.0	100.0	98.9
3. Lapu-Lapu city, Region 7	2,516	6	3,735	6	6,032	3	100.0	100.0	92.6
4. Baguio City, CAR	3,185	5	4,389	5	5,541	4	100.0	100.0	58.4
5. Iloilo City, Region 6	3,951	3	4,677	3	5,420	5	100.0	100.0	52.1
6. Angeles City, Region 3	3,927	4	4,443	4	5,415	6	100.0	100.0	93.7
7. Bacolod City, Region 6	2,239	7	2,638	7	3,146	7	100.0	100.0	96.3
8. Lucena City, Region 4A	1,878	9	2,445	8	3,072	8	100.0	100.0	90.8
9. Cebu City, Region 7	1,938	8	2,282	9	2,750	9	100.0	100.0	93.5
10. Cagayan de Oro City, Region 10	823	11	1,119	10	1,459	10	98.2	100.0	92.4
11. Olongapo City, Region 3	1,043	10	1,050	11	1,196	11	100.0	100.0	98.3
12. Tacloban City, Region 8	679	12	886	12	1,096	12	100.0	100.0	34.8
13. General Santos City, Region 12	508	13	836	13	1,092	13	85.8	84.4	97.6
14. Davao City, Region 11	348	14	469	14	593	14	64.3	58.1	86.6
15. Zamboanga City, Region 9	313	15	425	15	571	15	65.6	55.7	87.6
16. Iligan City, Region 10	279	16	350	16	397	16	30.7	37.4	86.5
17. Butuan City, Region 13	279	16	327	17	379	17	52.5	27.5	59.1
18. Puerto Princesa City, Region 4B	39	18	68	18	94	18	70.7	42.3	63.6

Note: 1990 and 2000 urban population is computed based on the 1970 definition while 2010 is based on the 2003 definition.

Aside from Iloilo City, the cities which are most affected by the new definition are: Baguio City of CAR, Tacloban City of Region 8, Butuan City of Region 13 and Puerto Princesa City of Region 4B.

To have a better understanding on the effect of the change of the definition of an urban area, this paper will discuss the difference of the 1970 definition versus the new definition as approved by the defunct National Statistical Coordinating Board but reorganized recently as the Philippine Statistics Authority Board also chaired by the Secretary of Socioeconomic Planning and Director General of the National Economic Development Authority (NEDA).

In the 2000 census, the definition which has been in use since 1970 was based on population density cut-off of a city or municipality while in 2010, the urban area is viewed at the barangay level.

In the 1970 definition, an urban area has the following characteristics:

a. All cities and municipalities with a density of at least 1,000 persons per square kilometer;
b. Poblaciones or central districts of cities and municipalities with a population density of at least 5000 persons per square kilometer;
c. Part of poblaciones or central districts not included in (a) and (b) regardless of population size, which have the following:
   - Street pattern, i.e. network of streets in either parallel or right angle;
   - At least six establishments (commercial, manufacturing, recreational, and/or personal services; and,
   - At least three of the following:
     - a townhall, church or chapel with religious services at least once a week;
     - a public plaza, park or cemetery
     - a market place or building where trading activities are carried on at least once a week;
     - a public building such as school, hospital, puericulture center and library
d. A barangay that has a population of at least 1,000 persons, which meet the conditions set forth in (c) and where the occupation of the inhabitants is predominantly nonfarming and nonfishing.

Some users of the data were not satisfied about this definition so NEDA created a Technical Working Group to recommend an alternative definition of an urban area. After an exhaustive study using factor analysis to determine which characteristics of the barangay to be included, logistic regression using the same variables was used to confirm the results generated from the factor analysis. Eventually, NSCB Board Resolution No. 9, Series of 2003, was issued for the official adoption of the new definition where:

An urban barangay is defined in 2010 as:

a. A barangay with a population size of 5000 or more; or,
b. A barangay that has at least one establishment with a minimum of 100 employees; or,
c. A barangay that has five or more small establishments with 10 to 99 employees and five or more facilities within two kilometer radius from the barangay hall.
d. All barangays in NCR are automatically classified as urban.

Based on the above new definition, the proportion of urban population expressed in percent is the proportion of the population that resides in urban barangays relative to the total population. This definition is easier to administer operationally than the 1970 definition.

Because of the change in the urban definition of an area, which is more strict, there were many barangays that used to be urban in classification that became rural, thus the reduction in the proportion of urban areas in many cities and provinces in the country. The new definition, however, cannot be applied to previous years for comparability to measure progress in urbanization due to the absence of information in previous census years on the distance factor of facilities from the barangay hall. We will have to wait for another census year to observe for another point in time for comparable results.

To appreciate the gravity of congestion in Metro Manila, perhaps it would be better if we present also the density of each city in NCR so that this can be used as prototype for the expansion of similar cities in the south like Metropolitan Cebu and Metropolitan Davao starting perhaps from the city proper spreading to the surrounding areas. NCR is a megalopolis city whose urban core used to be the City of Manila. In fact, we used to have only Manila and the Suburbs to include the inner core of the megalopolis.

Table II.3 Population Density of Cities in Metro Manila: 1990-2010

Area/Region	Population Density/km²					
	1990	Rank	2000	Rank	2010	Rank
PHILIPPINES	**202**		**255**		**308**	
NATIONAL CAPITAL REGION	**12,830**		**16,032**		19,137	
1. City of Manila	64,101	1	63,294	1	66,140	1
2. Caloocan City	13,681	9	21,104	7	26,685	5
3. Pasay City	26,368	3	25,405	4	28,122	3
4. Quezon City	9,724	10	12,660	11	16,084	11
5. City of Las Pinas	9,088	11	14,463	10	16,903	10
6. Makati City	21,009	5	21,853	5	24,527	6
7. City of Malabon	17,825	7	21,569	6	22,491	7
8. City of Mandaluyong	26,711	2	29,978	2	35,382	2
9. City of Marikina	14,416	8	18,177	8	19,710	9
10. City of Muntinlupa	7,004	14	9,542	16	11,571	16
11. City of Navotas	20,971	6	25,772	3	27,867	4
12. City of Paranaque	6,619	15	9,659	15	12,629	14
13. City of Pasig	8,206	12	10,422	12	13,821	13
14. City of San Juan	21,320	4	19,778	9	20,408	8
15. Taguig City	5,898	16	10,338	13	14,255	12
16. City of Valenzuela	7,236	13	10,324	14	12,236	15
17. Municipality of Pateros	4,943	17	5,520	17	6,168	17

Now the urban center has extended to the outskirts to include a greater portion of the province of Rizal and Valenzuela city of Bulacan.

Let us look at the concentration of the population and the urbanity of the different regions, removing the highly urbanized cities (HUCs) within the region to find out if the HUCs may have influence also in the density of the area.

Table II.4. Ranking of Population Density and Percent Urban Population by Region

Region	Population Density/sq. km						% Urban		
	1990	Rank	2000	Rank	2010	Rank	1990	2000	2010
PHILIPPINES	**202**		**255**		**308**		**47**	**48**	**45.3**
National Capital Region	12,830	1	16,032	1	19,137	1	100.0	100.0	100.0
Cordillera Administrative Region	58	17	70	17	82	17	30.5	35.6	26.3
Region 1, Ilocos	274	5	324	5	366	5	32.3	38.2	12.7
Region 2, Cagayan Valley	83	13	100	13	114	13	21.5	22.2	11.6
Region 3, Central Luzon	288	4	373	4	460	3	54.0	59.7	51.6
Region 4A., CALABARZON	381	2	560	2	758	2	61.0	67.4	59.7
Region 4B, MIMAROPA	60	16	78	16	93	15	25.5	23.7	22.3
Region 5, Bicol	216	7	258	7	299	7	26.8	27.6	15.3
Region 6. Western Visayas	259	6	299	6	342	6	37 .1	30.3	34.7
Region 7, Central Visayas	289	3	359	3	428	4	42.5	46.4	43.7
Region 8, Eastern Visayas	131	11	155	11	176	12	28.1	19.5	8.7
Region 9, Zamboanga Peninsula	134	10	166	10	200	10	30.9	26.4	33.9
Region 10, Northern Mindanao	137	9	171	9	210	9	38.3	37.5	41.3
Region 11, Davao	144	8	181	8	220	8	36.3	37.2	59.3
Region 12, SOCCSKSARGEN	107	12	144	12	183	11	37.5	34.7	46.5
Region 13,CARAGA	82	14	98	14	113	14	36.0	27.2	27.5
Admin. Region of Muslim Mindanao	63	15	84	15	90	16	27.0	24.9	13.7

Source of basic data: CENSUS FACTS AND FIGURES, 2010 Census of Population and Housing, NSO, Manila

Except for NCR, not one among the region equalled or surpassed the urbanity of the HUCs. Furthermore, there are five regions that reported less than 20% urbanity and may be considered as depressed areas in terms of employment opportunities, namely: Region 1 (Ilocos), Region 2 (Cagayan Valley), Region 5 (Bicol), Region 8 (Eastern Visayas), and ARMM (Administrative Region of Muslim Mindanao). Except for Region 8 which has Tacloban City as its HUC, the four other regions did not have any HUC within the region.

3. Number of Households and Household size

One important indicator that can be derived from the CPH is the number of households as component of private household population considering that the number of households determines the number of housing units to be ideally provided to the population while the size of the household also determines the size of a housing unit or dwelling unit that shall be constructed to house them.   There are certain universal standards to follow for a person to be comfortably housed. Based on UN standards, the ideal space to provide for housing accommodation is 6 square meters per person so that the size of a dwelling unit to meet the prescribed standard should follow this standard, especially in the assessment of adequacy of housing.   Table II.5 shows the distribution of households in the different areas and the corresponding household size based on three census periods. However, no data are available for floor area of housing units to measure the standard space requirement of accommodation.

Table II.5 Distribution of the Number of Households by broad Area, Philippines: 1990-2010

Area	Number of Households as of May 1			Household Size		
	1990	2000	2010	1990	2000	2010
PHILIPPINES	11,407,262	15,278,808	20,171,899	5.31	5.00	4.57
NATIONAL CAPITAL REGION	1,569,588	2,132,989	2,759,829	5.04	4.63	4.28
TOTAL LUZON REGIONS	4,781,280	6,588,814	9,016,825	5.31	4.98	4.48
a. Highly Urbanized Cities in Luzon	171,914	235,551	311,122	4.93	4.52	4.25
b. The rest of Luzon Regions	4,609,366	6,353,263	8,705,703	5.32	5.00	4.49
TOTAL VISAYAS REGIONS	2,444,081	3,060,641	3,879,954	5.33	5.06	4.63
a. Highly Urbanized Cities in Visayas	323,811	441,453	607,518	5.36	4.89	4.44
b. Rest of Visayas Regions	2,120,270	2,619,188	3,272,436	5.32	5.09	4.57
TOTAL MINDANAO REGIONS	2,612,313	3,492,602	4,615,291	5.46	5.18	4.75
a. HUCs in Mindanao	432,349	644,781	905,963	5.39	4.91	4.43
b. Rest Regions in Mindanao	2,179,964	2,847,821	3,709,328	5.48	5.25	4.83

Area	Percentage Distribution			Rank in HH Size		
	1990	2000	2010	1990	2000	2010
PHILIPPINES	100.00	100.00	100.00			
NATIONAL CAPITAL REGION	13.76	13.96	13.68	9	9	9
TOTAL LUZON REGIONS	41.93	43.13	44.70	8	6	6
a. Highly Urbanized Cities in Luzon	1.51	1.54	1.54	10	10	10
b. The rest of Luzon Regions	40.41	41.59	43.16	6	5	5
TOTAL VISAYAS REGIONS	21.43	20.04	19.23	5	4	3
a. Highly Urbanized Cities in Visayas	2.84	2.89	3.01	4	8	8
b. Rest of Visayas Regions	18.59	17.15	16.22	6	3	4
TOTAL MINDANAO REGIONS	22.90	22.86	22.88	2	2	2
a. HUCs in Mindanao	3.79	4.22	4.49	3	7	7
b. Rest Regions in Mindanao	19.11	18.64	18.39	1	1	1

Based on the household distribution, we can see that about 55% are located in Luzon area, which includes Metro Manila but its household size ranks the lowest in the ladder. If we translate to housing demand, Luzon households dominate the requirements for housing. However, is the picture that we perceived when we assess the quality of materials of the housing units and the extent of doubled-up households require a separate housing accommodation? We will see the answer to this question when we study the physical characteristics of housing in the next topic to be discussed.

3. PHYSICAL CHARACTERISTICS OF HOUSING

3.1. Type of building and its characteristics

1. Occupancy Rates by Type of Building in Broad Areas, Philippines

Occupancy Rate is the ratio of the total number of housing units occupied and the total number of housing units collected during that same census (Annex Table 3 shows the occupancy rate of the housing units gathered in Census years 2000 and 2010). We do not have a count of the actual number of buildings in any census except inventory only of dwelling units present in a building. For census purposes, there are certain living quarters that were occupied by households not fitted for human habitation and these were identified as "Others" in order to include the occupants in the count of the population together with those living in conventional housing accommodation. These are households living in caves, *kariton*, abandoned buses, agricultural, industrial and commercial buildings not intended for habitation. The following table will show a comparison of total available housing units and the actually occupied housing units by type of building.

Table III.1. Occupancy Rate of Housing Units by Broad Area, Philippines-2000-2010

Area	Total Housing Units	Occupancy Rate	Total Housing Units	Occupancy Rate
	Census 2000		Census 2010	
Philippines	14,941,675	99.7	21,289,417	92.6
National Capital Region	2,002,999	99.9	2,816,659	93.5
Luzon	6,498,940	99.5	9,592,186	91.2
Visayas	3,021,005	99.9	4,115,194	93.2
Mindanao	3,415,333	99.6	4,765,378	94.5

Note: This table was summarized from Annex Table 3.

We can discern from the above table that between 2000 and 2010, there has been an increase of the number of housing units available for accommodation from 14.94 million to 21.29 million which

yielded a lower occupancy rate from 99.7% in 2000 to 92.6% at the national level. In other words, there are more vacant housing units in 2010 than 10 years ago. Region-wise, there was improvement in all the regions with a significant increase noted in Luzon where more than 3 million housing units was added to the inventory resulting to an occupancy rate of 91.2%. Following a drop in occupancy rate is NCR with an addition of more than 813 thousand housing units in a span of 10 years resulted in a rate of 93.5%. The Visayas and Mindanao regions were not left behind with Mindanao registering an increase of more than 1.3 million housing units with an occupancy rate of 94.5% followed by the Visayas regions with more than 1.1 million increase but its occupancy rate is a little bit lower at 93.2% than Mindanao. Note that the above occupancy rates included the non-conventional type of housing which may be living quarters not fit for human habitation.

Table III.2. Occupancy Rate of Conventional Housing Units by Type of Building: 2000-2010

Type of Building/House	Occupancy Rate of conventional HUs				Increase in Conventional HUs	
	2000		2010			
	Total HU	%	Total HU	%	Total	% Increase
PHLIPPINES						
Total	14,667,953	99.69	21,189,032	92.63	6,521,079	30.78
Single	13,105,182	99.69	18,206,866	93.69	5,101,684	28.02
Duplex	528,839	99.78	966,226	92.81	437,387	45.27
Multi--unit residential	1,033,932	99.60	2,015,940	83.00	982,008	48.71
NATIONAL CAPITAL REGION						
Total	1,949,752	99.95	2,792,241	93.57	842,489	30.17
Single	1,166,192	99.96	1,587,392	95.36	421,200	26.53
Duplex	174,905	99.92	314,481	95.81	139,576	44.38
Multi--unit residential	608,655	99.94	890,368	89.58	281,713	31.64
LUZON REGIONS						
Total	6,399,646	99.53	9,555,189	91.19	3,155,543	33.02
Single	5,834,943	99.56	8,235,305	92.79	2,400,362	29.15
Duplex	241,669	99.64	450,064	90.68	208,395	46.30
Multi-unit residential	323,034	98.89	869,820	76.32	546,786	62.86
VISAYAS REGIONS						
Total	2,966,948	99.88	4,099,594	93.20	1,132,646	27.63
Single	2,890,127	99.88	3,890,967	93.65	1,000,840	25.72
Duplex	41,502	99.93	88,558	91.46	47,056	53.14
Multi-unit residential	35,319	99.94	120,069	79.88	84,750	70.58
MINDANAO REGIONS						
Total	3,348,289	99.67	4,742,008	94.50	1,393,719	29.39
Single	3,211,044	99.67	4,493,202	94.79	1,282,158	28.54
Duplex	70,588	99.86	113,123	93.99	42,535	37.60
Multi-unit residential	66,657	99.78	135,683	85.42	69,026	50.87

Table III.2 shows the occupancy rate of conventional housing units by type of building. We can also see in this table the total increase of inventory in the number of conventional dwellings by type of building. At national level, there was an increase of conventional housing units to 6.5 million or 30.78%. Single type of housing units accounted for 28.02% while multi-unit residential building reported the highest increase of 48.71% and duplex type reported an increase of 45.71%.

Among regions, Luzon reported the highest increase of 33.02% which surpassed the national increase while all the rest, reported lower than the national average increase. Single type of building registered the least percentage increase compared to the other types of building with the Visayas regions reporting the lowest increase of 25.72% followed by NCR with 26.53%, Mindanao with 28.54% and Luzon with 29.15%. For Multi-unit residential, it is significant to note that the Visayas regions yielded the highest with 70.58% increase followed by Luzon regions with 62.86%. Metro Manila reported the lowest increase of only 31.64% compared with more than 50% for the Mindanao regions. For Duplex, The Visayas regions reported the biggest increase at 53.14% followed by Luzon regions with 46.30%, NCR with 44.38%, and lastly, Mindanao regions with 37.60%.

The removal of the "Others and Not Reported" categories of living quarters in the re-computation of occupancy rate did not have a remarkable effect in the level of occupancy rates for the country as a whole and also by region. This is indicative in the improvement of the quality of housing over time by their decreasing proportion relative to the total housing units enumerated in 2000 and 2010.

Table III.3. Summary of Unconventional HUs Excluded from the Total HUs Enumerated

Area	Census Year 2000			Census Year 2010		
	Number	% Dist	% to total*	Number	% Dist.	% to total*
PHILIPPINES	268,945	100.00		66,934	100.00	
National Capital Region	52,337	19.46	2.73	16,278	24.32	0.87
Luzon	97,600	36.29	1.56	24,672	36.86	0.39
Visayas	53,117	19.75	1.82	10,402	15.54	0.38
Mindanao	65,892	24.50	2.00	15,582	23.28	0.49

Note: Total refers to the total housing units (HUs) for the area. Annex Table 3a shows the distribution of occupied HUs.

2. Density of Households per Housing Unit and Doubled-Up Households

We have shown earlier the density of population over a unit area to see the congestion in the community. We will now examine the number of households living in one housing unit whether or not they are comfortable or not. Since we do not have a measure of the area of the housing unit, we can assess the congestion through the density indicator (as reflected in Annex Table 4).

The average density of households per housing unit in 2000 was 1.026 and 1.023 in 2010. This means that in 2000 about 2.6% of total housing units reported having more than one household occupant in each housing unit compared to 2.3% in 2010, an improvement of 0.3 percentage points or 11.5% less congestion in 2010. This downtrend in the density per housing unit is observed in almost all regions except in Luzon with 5.3% increase.

Table III.4. Density of Households per Housing Unit by Broad Area: 2000-2010

Area	Census Year 2000			Census Year 2010			% Decrease
	HU	Density	%	HU	Density	%	
PHILIPPINES	14,891,127	1.026	2.6	19,715,695	1.023	2.3	-11.5
National Capital Region	2,001,681	1.066	6.6	2,634,374	1.048	4.8	-27.3
Luzon	6,466,159	1.019	1.9	8,745,377	1.020	2.0	5.3
Visayas	3,017,207	1.014	1.4	3,834,276	1.012	1.2	-14.3
Mindanao	3,402,684	1.026	2.6	4,501,668	1.025	2.5	-3.8

Source of basic data: Annex Table 4.

3. Doubled-Up Households in Occupied Housing Units

Annex Table 5 shows the distribution of doubled-up households by type of building and by area for 2000 and 2010. While it was observed that, on the average, the density per housing unit has been on a decreasing trend except in Luzon, the actual number of doubled-up households is observed to be increasing together with population growth from 2000 to 2010. The number of doubled-up households seems to be increasing except in NCR (see Table III.5 on the next page).

Table III.5. Number of Doubled-Up Households in Occupied Dwelling Units: 2000-2010

Area	Census Year 2000		Census Year 2010		Increase	
	Doubled-up Households	%	Doubled-up Households	%	Doubled-up Households	% Increase
PHILIPPINES	387681	100.00	456204	100.00	68523	17.7
National Capital Region	131308	33.87	125455	27.50	-5853	-4.5
Luzon	122655	31.64	171448	37.58	48793	39.8
Visayas	43434	11.20	45678	10.01	2244	5.2
Mindanao	89918	23.19	113623	24.91	25949	26.4

At the national level, in 2000 the doubled-up households totalled 387,681 compared to doubled-up households of 456,204 in 2010, an increase of 68,523 households or 17.7% in a span of 10 years. By type of building, single houses registered the biggest increase between 2000 and 2010 from 289,907 in 2000 to 382,259 or 31.9%. In fact, this number (382,259) is 83.8% of all doubled-up households reported (for all types of houses/buildings in the country, see Annex Table 5). Table III.5 reflects the summary of the number of doubled-up households by broad areas.

Based on the trend, NCR reported a decrease of 4.5% within a span of 10 years but Luzon and Mindanao regions registered sizeable increases of 39.8% and 26.4%, respectively, between 2000 and 2010. The reduction in the number of housing units with doubled-up households is indicative of more housing units available or it can be interpreted also as working children getting married opt to have their own housing units sometimes because of the heavy traffic in the city and the distance of the place of work from the parent's residence is quite far. This is manifested in the decreasing size of household also for NCR from 4.63 in 2000 to 4.28 in 2010 (see Appendix Table 2). Furthermore, the increase of 5.2% in the Visayas regions is even much slower than the average annual population growth rate of 1.96% between 2000 and 2010 for the Visayas regions, which can be translated to 19.6% within a period of 10 years (see Appendix Table 1a for population growth rate).

3.2. Year Constructed and Type of Construction Materials of Housing Units

1. Type of Building of Housing Units by Year Constructed

In this section we will take a look at the percentage distribution of the housing units by Type of Building and by Year Constructed to be able to assess the housing stock in terms of its age. The type of building presented does not include institutional buildings but limited only to private households' residences. Considering the bulk of the data, only the Philippine summary will be presented in the text as guide in the interpretation of the other regions of the country.

The table below shows the distribution of the housing units by year constructed distributed by the type of building or house. It is possible that several housing units belong to the same building. Note that the profile is viewed by each category of year constructed to see which type of building was constructed the most within a 10-year period.

In 2010, about 40% of all housing units were reported to have been constructed from 2001 to 2010; 25.3% were constructed ten years before (1991-2000); about 15% were constructed between 1981 and 1990 and the rest from 1980 and before that. Those classified as "Not Applicable" are living quarters not intended for human habitation like households living in caves, *kariton*, abandoned buses and the like. Take note that about 5.7% of housing units were not reported. For purposes of assessing the quality of their accommodation, these households living in these unreported year of construction may be staying in unacceptable living quarters like in abandoned buildings or under the bridge or in construction sites as temporary shelter.

Table III.6 Housing Units by Year Constructed by Type of Building, Philippines: 2000-2010

Year Constructed	Total Housing Units	% Dist..	% Distribution of Type of Building				
			Total %	Single	Duplex	Multi-Unit Res.	Others
Philippines,	Census Year 2010						
Total	19,715,695	100.0	100.0	86.5	4.5	8.5	0..5
2001-2010	7,910,841	40.1	100.0	91.6	2.6	5.4	0.3
1991-2000	4,978,646	25.3	100.0	87.2	4.4	8.1	0.3
1981-1990	2,944,018	14.9	100.0	85.3	5.7	8.6	0.4
1971-1980	1,465,225	7.4	100.0	82.1	6.7	10.7	0.5
1970 or earlier	1,281,937	6.5	100.0	76.7	8.1	14.5	0.7
Not Applicable/	4,624	0.0	100.0	-	-	-	100.0
Not Reported	1,130,404	5.7	100.0	68.2	8.8	21.9	1.1
Philippines,	Census Year 2000						
Total	14,891,127	100.0	100.0	87.7	3.5	6.9	0.4
2001-2010							
1991-2000	7,839,890	52.6	100.0	92.5	2.6	4.4	0.2
1981-1990	3,157,168	21.2	100.0	88.7	4.0	6.8	0.3
1971-1980	1,613,703	10.8	100.0	85.6	4.6	9.1	0.4
1970 or earlier	1,471,846	9.9	100.0	80.0	5.5	13.7	0.5
Not Applicable/	9,184	0.1	100.0	5.7	0.3	0.3	92.3
Not Reported	799,336	5.4	100.0	56.2	4.6	15.1	24.1

Most of the new constructions from 2001 to 2010 were single houses at 91.6%. In fact, this type of building dominated the volume of construction even in the previous years. Old houses constructed earlier (1970 or earlier) are still being reported as the most common type of housing accommodation. We will see what kind of single houses are being constructed when we discuss the construction materials of the roofs and walls of housing units to assess the physical quality of the present houses being occupied by the household population.

In 2000, it shows that the proportion of single houses constructed reported a higher proportion than what was gathered in 2010 of the total inventory of housing units. The newly constructed housing units during the past ten years (1991-2000) comprised of 52.6% but out of these (7,839,890) housing units only 4,978,646 which means only 63.5% were found to be still in existence in 2010. Housing units no longer existing in 2010 perhaps were made of light and makeshift/salvaged materials that they cannot last within a period of 11 to 20 years.

Looking at the profile of the type of building by year constructed (Table III.7), the distribution of housing units looks well distributed. For example we can see duplex, multi-unit residential and others are distributed proportionally in all the categories of Year Constructed. This is also true in year 2000 census data. Perhaps these two tables may be able to provide a basis of estimating the life span of the different types of residential buildings as basis also in preparing plans to replace structures and to estimate future needs due to losses due to natural calamities and obsolescence.

Because of the importance of these data in anticipating the need for housing to accommodate newly formed households and estimate future losses especially in typhoon-prone provinces, the Annex Table 6 showing a broader disaggregation of data may be pursued. In fact for town and country planning, the data requirements would involve the smallest geographic level possible that can provide adequate information in designing plans and programs as well as formulation of policies and decision making.

Table III.7. Housing Units by Type of Building & Year Constructed, Philippines: 2000-2010

Year Constructed	% Distribution of Type of Building					
	Total %	Single	Duplex	Multi-Unit Res.	Others	Not Reported
Philippines,	Census Year 2010					
Total Housing Units	19,715,695	17,058,250	896,733	1,673,327	66,134	21,251
Total	100.0	100.0	100.0	100.0	100.0	100.0
2001-2010	40.1	42.5	22.9	25.5	27.2	51.3
1991-2000	25.3	25.4	24.5	24.0	18.3	19.4
1981-1990	14.9	14.7	18.9	15.2	12.6	11.0
1971-1980	7.4	7.1	11.0	9.3	8.3	5.9
1970 or earlier	6.5	5.8	11.6	11.1	10.3	4.1
Not Applicable/	0.0	0.0	0.0	0.0	7.0	0.0
Not Reported	5.7	4.5	11.1	14.8	16.1	8.4
Philippines,	Census Year 2000					
Total Housing Units	14,891,127	13,064,682	527,699	1,029,801	56,598	212,347
Total	100.0	100.0	100.0	100.0	100.0	100.0
2001-2010						
1991-2000	52.6	55.5	39.2	33.5	32.7	6.7
1981-1990	21.2	21.4	24.1	20.8	16.0	3.0
1971-1980	10.8	10.6	14.2	14.3	11.6	1.5
1970 or earlier	9.9	9.0	15.5	19.6	14.0	1.1
Not Applicable/	0.1	0.0	0.0	0.0	15.0	0.1
Not Reported	5.4	3.4	7.0	11.7	10.8	87.6

2. Type of building and Construction Materials of Housing Units, Philippines: 2000-2010

Table III.8 presents the results from censuses conducted in 2000 and 2010 on construction materials of roof and walls (see Annex Table 7 for complete profile of type of building by type of construction materials for roof and walls). Actually, the information on walls and roofs for each housing unit was gathered in the census separately. However, it would be difficult to figure out how the house looks like so a matrix of the materials was done to combine them to come out with four categories.

Table III.8 Type of Building and Construction Materials of Housing Units: Philippines, 2000-2010

Type of Construction Materials of Roofs and Walls	% Distribution by Type of building					
	Total	Single	Duplex	Multi-Unit residential	Others	Not Reported
Philippines	Census Year 2000					
Total Housing Units	14,891,127	13,064,682	527,699	1,029,801	56,598	212,347
Total	100.00	100.00	100.00	100.00	100.00	100.00
Strong/Mixed predominantly strong	65.4	62.7	96.1	97.3	66.8	0.1
Light/Mixed predominantly light	31.2	35.1	3.4	2.6	9.5	4.9
Makeshift	1.9	2.0	0.3	0.1	20.1	3.6
Other type	1.5	0.2	0.2	-	3.7	91.4

Type of Construction Materials of Roofs and Walls	% Distribution by Type of building					
	Total	Single	Duplex	Multi-Unit residential	Others	Not Reported
Philippines	Census Year 2010					
Total Housing Units	19,715,695	17,058,250	896,733	1,673,327	66,134	21,251
Total	100.00	100.00	100.00	100.00	100.00	100.00
Strong /Mixed predominantly strong	75.02	71.48	97.91	98.75	86.78	49.36
Light/Mixed predominantly light	23.88	27.32	1.82	1.11	6.54	39.20
Makeshift	1.07	1.18	0.24	0.12	6.59	11.21
Other types	0.03	0.03	0.03	0.01	0.09	0.23

In 2000, it is noted that single type of housing units made of "light and/or mixed but predominantly light materials", "makeshift/salvaged materials" and "other types" of materials constituted 37.3%, equivalent to 4,873,126 housing units. The location is important especially if these are located in highly urbanized areas. Light materials include wood, sawali, bamboos as well as nipa shingles for roofing and other light materials like cogon. In 2010, the picture seems to have improved with a decreasing proportion of households living in light/mixed but predominantly light, makeshift and other type of single housing units consisting of 28.53%, equivalent to 4,866,719 housing units, a little less than in 2000.

Table III.9. Construction Materials of Housing Unit by Type of Building: Philippines, 2000-2010

Type of Construction Materials of Roofs and Walls	% Distribution by Type of Building						
	Total Housing Units	Tot al	Single	Dupl ex	Multi-Unit residential	Others	Not Report ed
Philippines	Census Year 2000						
Total	14,891,127	100.00	87.70	3.50	6.90	0.40	1.50
Strong/Mixed predominantly strong	9,738,797	100.00	84.10	5 .20	10.30	0.50	-
Light/Mixed predominantly light	4,646,032	100.00	98.70	0.40	0.60	0.10	0.20
Makeshift	282,930	100.00	93.70	0 .60	0.60	2.40	2.70
Other type	223,368	100.00	7.90	0 .60	0.80	0.20	90.60
Philippines	Census Year 2010						
Total	19,715,695	100.00	86.50	4 .50	8.50	0.30	0.10
Strong/Mixed predominantly strong	14,790,999	100.00	82.40	5 .90	11.20	0.40	0.10
Light/Mixed predominantly light	4,707,326	100.00	99.00	0.30	0.40	0.10	0.20
Makeshift	211,811	100.00	94.80	1.00	1.00	2.10	1.10
Other types	5,559	100.00	89.20	4.90	3.90	1.10	0.90

By type of construction materials, single houses dominated all types of building, 98.7% of which are made of light and mixed predominantly light materials in 2000 further increased to 99% in 2010. In addition, houses with makeshift/salvaged materials had increased also from 93.7% to 94.8%. However, housing units made of strong/mixed but predominantly strong materials decreased from 84.1% to 82.4% in 2010.

3. Distribution of Housing Units by Tenure Status of Lot

Another indicator of social security is the ownership of land where the residential house is constructed. The following table will show a general pattern on the tenure status of lot where the housing unit is located. Table III.10 reflects the general picture of the tenure status of the lot among the household population although if one looks at Annex Table 8, a more precise picture is exhibited on the proportion of lot owners from a high 68.8% in Luzon followed by Mindanao with

61.1% then the Visayas regions with 55.4% and the lowest is in Metro Manila with 48.4% in 2010. The proportion of ownership was much lower in 2000 and 1990. It is interesting to note, however, that ownership of lot has been steadily increasing since 1990 from 44.8% to 52.6% in 2000 and 61.7% in 2010 at the national level.

Table III.10. Distribution of Tenure Status of Lot, Philippines: 1990-2010

Tenure Status of Lot	Percent Distribution		
	1990	2000	2010
Philippines			
Total	100.0	100.0	100.0
Owned/amortized/owner-like possession	44.8	52.6	61.7
Rented	7.4	11.4	12.1
Rent-free with consent of owner	28.4	26.7	22.2
Rent-free without consent of owner	2.4	3.1	2.4
Not applicable	17.0	3.3	1.5
Not reported/don't know	0.0	2.8	0.1
National Capital Region	1990	2000	2010
Total	100.0	100.0	100.0
Owned/amortized/owner-like possession	35.3	40.3	48.4
Rented	9.8	29.4	33.4
Rent-free with consent of owner	9.6	12.9	11.2
Rent-free without consent of owner	6.8	8.0	5.1
Not applicable	38.5	4.4	1.9
Not reported/don't know	0.0	4.8	0.0

Renters are also increasing proportionally. The percentage distribution of rent-free households without consent of owner moves at a decreasing rate. This is a good indication that these rent-free occupants may have acquired their own houses as indicated by the increased number of lot owners. These rent-free households with consent of owner do not have a security in their present tenure status because they can be removed anytime where they are located. While rent-free without consent comprised only 2 percent, these are actually the households that are illegally occupying somebody else land and may be subjected for ejection. "Not applicable" category is also decreasing. These are households living in culverts, abandoned buses, caves, etc.

NCR data on tenure status was included because of its importance as a representative of highly urbanized cities. As mentioned earlier, it yielded the lowest proportion of ownership among all regions. Also NCR reported the highest incidence of illegal occupants which initially increased between 1990 and 2000 but in 2010 there was a significant drop from 8% in 2000 to 5.1%. Take note also that NCR reported the biggest number of "Not Applicable" category. Perhaps these are the homeless people roaming around within the metropolis which is a manifestation of poverty.

4. HOUSING FACILITIES AND SERVICES

4.1 Main Source of Safe Water Supply

1. For Drinking

For health and sanitation practitioner, the data obtained from the CPH on the availability and accessibility of potable water especially in areas where diseases can be contracted by drinking polluted water. The water obtained from the community water system is so far the best source of safe drinking water. However, it is observed at the national level that dug well or shallow well is still the source of drinking water for more than 10 percent of households.

Table IV.1 Main Source of Water Supply of Households for Drinking, Cooking and Laundry/Bath: 1990-2010

(Percentage Distribution was based on a 20-percent sample households.)

Source of Water Supply	A. For Drinking			B. For Cooking			C. For Laundry/bath		
	1990	2000	2010	1990	2000	2010	1990	2000	2010
	%	%	%	%	%	%	%	%	%
PHILIPPINES									
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Own use faucet community water system	22.6	27.3	32.0	22.6	27.3	43.3	22.6	27.2	42.6
Shared faucet community water system	19.0	19.3	14.2	19.0	19.3	15.4	19.0	16.6	13.6
Own use tubed/piped deep well	8.5	9.1	6.9	8.5	9.1	8.4	8.5	9.3	8.7
Shared tubed/piped deep well	14.9	15.7	11.5	14.9	15.8	12.7	14.9	14.9	12.6
Tubed/piped shallow well	8.1	7.2	4.6	8.1	7.2	5.3	8.1	7.1	5.4
Dug well	13.7	7.9	5.6	13.7	7.9	6.5	13.7	9.5	7.8
Spring Lake River Rain etc.	11.5	8.8	6.8	11.5	8.8	6.5	11.5	12.0	8.4
Peddler	1.8	2.3	1.3	1.8	2.3	0.9	1.8	1.5	0.6
Bottled water	0.0	0.4	16.5	0.0	0.4	0.7	0.0	0.0	0.0
Others Specify	0.0	1.9	0.5	0.0	1.9	0.3	0.0	1.8	0.3
NATIONAL CAPITAL REGION									
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Own use faucet community water system	54.5	50.8	51.8	54.5	50.8	79.2	54.5	51.5	79.6
Shared faucet community water system	27.6	24.3	10.3	27.6	24.3	13.5	27.6	24.2	13.6
Own use tubed/piped deep well	4.4	4.0	0.6	4.4	4.0	1.4	4.4	4.5	1.5
Shared tubed/piped deep well	7.4	9.7	1.0	7.4	9.7	2.2	7.4	10.6	2.5
Tubed/piped shallow well	0.5	0.6	0.2	0.5	0.6	0.5	0.5	0.8	0.6
Dug well	0.8	0.6	0.1	0.8	0.6	0.3	0.8	0.9	0.5
Spring Lake River Rain etc.	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.1
Peddler	4.5	6.3	0.9	4.5	6.3	1.2	4.5	5.3	1.2
Bottled water	0.0	1.3	33.8	0.0	1.3	1.3	0.0	0.0	0.0
Others Specify	0.0	2.2	1.0	0.0	2.2	0.4	0.0	2.0	0.4

2. Cooking

It is worthy to note that more than 75% in Metro Manila avails of water from a community water system not only for cooking but also for drinking, and bathing and washing dishes. At the national level, unsafe water source is still availed of by a sizable number including NCR but it is not as grave as the other regions.

3. Bathing/washing

NCR households enjoy the safest source of water for bathing and laundry as high as 80% from their own faucet while about 13.6% share it with other households from the community water system. It is noted, however, that at the national level, there has been a big improvement in the proportion of using safe water for bathing and washing clothes although it is still observed that more than 10% are still washing/bathing in lakes, rivers and rain.

4.2 Fuel Used for Lighting and Cooking

The following table will give one an idea of the trend for the rest of the country and that of NCR to show the lifestyle in the highly urbanized cities.

Table IV.2 Distribution of Households by Type of Fuel Used for Lighting and Cooking : 1990-2010
(Percentage Distribution was based on a 20-percent sample households.)

Type of Fuel for Lighting	For Lighting			For Cooking		
	1990	2000	2010	1990	2000	2010
	%	%	%	%	%	%
PHILIPPINES						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Electricity	55.1	68.2	83.4	4.0	2.7	2.6
Kerosene (gaas)	42.6	27.2	15.0	12.5	9.7	3.0
Liquefied Petroleum Gas (LPG)	1.7	1.2	0.7	17.1	42.6	36.9
Oil (vegetable animal and others)	0.1	0.1	0.1	0.0	0.0	0.0
Charcoal	0.0	0.0	0.0	5.1	3.4	13.1
Wood	0.0	0.0	0.0	60.5	38.6	44.1
Others Specify	0.5	3.2	0.9	0.7	6.0	0.4
NATIONAL CAPITAL REGION						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Electricity	91.9	92.7	97.3	11.9	5.4	4.4
Kerosene (gaas)	6.5	1.5	1.2	33.1	17.7	8.1
Liquefied Petroleum Gas (LPG)	1.4	1.7	0.9	48.2	71.8	77.6
Oil (vegetable animal and others)	0.1	0.0	0.0	0.0	0.0	0.0
Charcoal	0.0	0.0	0.0	2.7	0.3	6.9
Wood	0.0	0.0	0.0	3.8	0.6	2.7
Others Specify	0.1	4.0	0.6	0.3	4.1	0.3

The most popular fuel used for cooking in the Nineties was wood with 60% of the households responding but this gradually reduced to 44.1% followed by LPG. However, in NCR, the most popular fuel for cooking is LPG where 77.6% responded affirmatively followed by kerosene at 8%. For lighting, electricity is the fuel used with 97.3% reported in NCR vs. 83.4% at the national level. Some 15% still uses kerosene at national level while only 1.2% uses it in NCR (See Annex Table 10 for more details).

4.3 Type of Toilet Facility Used by Households

Absence of a toilet facility in the house is one sure indicator of poverty. This is based on a research conducted by the then UP Statistical Center now the UP School of Statistics. The census data show at the national level that there are still 5.6% among households that reported they have no toilet facility in 2010 while in NCR, only 0.4% reported as having no toilet. The Visayas regions reported the highest incidence of households without toilet at 12.6%, 6% in Mindanao, and 4.1% in Luzon. The following table will show the national trend and that of NCR (Annex Table 11 will show the details).

Table IV.3 . Number of Households by Type of Toilet Facility Used : 1990-2010
(Figures are based on a 20-percent sample households.)

Type of Toilet Facility Used	Census Year			Percentage Distribution		
	1990	2000	2010	1990	2000	2010
PHILIPPINES						
Total	11,407,262	15,278,808	20,171,899	100.0	100.0	100.0
Water-sealed sewer septic tank used exclusively by HH	3,916,682	6,416,937	12,336,987	34.3	42.0	61.2
Water-sealed sewer septic tank shared with other HHs	942,430	1,286,100	1,734,566	8.3	8.4	8.6
Water-sealed other depository used exclusively by HH	1,235,009	2,523,571	1,731,912	10.8	16.5	8.6
Water-sealed other depository shared with other HHs	533,514	941,444	720,319	4.7	6.2	3.6
Closed Pit	1,082,760	1,356,010	1,407,959	9.5	8.9	7.0
Open Pit	1,639,078	1,152,806	841,781	14.4	7.5	4.2
Others (pail system and others)	227,671	272,828	260,682	2.0	1.8	1.3
None	1,830,118	1,329,112	1,137,694	16.0	8.7	5.6

Type of Toilet Facility Used	Census Year			Percentage Distribution		
	1990	2000	2010	1990	2000	2010
NATIONAL CAPITAL REGION						
Total	1,569,588	2,132,989	2,759,829	100.0	100.0	100.0
Water-sealed sewer septic tank used exclusively by HH	1,008,554	1,446,920	2,241,754	64.3	67.8	81.2
Water-sealed sewer septic tank shared with other HHs	278,592	351,752	304,826	17.7	16.5	11.0
Water-sealed other depository used exclusively by HH	77,471	154,459	89,002	4.9	7.2	3.2
Water-sealed other depository shared with other HHs	61,933	96,313	59,141	3.9	4.5	2.1
Closed Pit	30,054	23,183	17,902	1.9	1.1	0.6
Open Pit	23,404	13,717	12,033	1.5	0.6	0.4
Others (pail system and others)	30,933	25,356	24,537	2.0	1.2	0.9
None	58,647	21,289	10,634	3.7	1.0	0.4

4.4. Garbage Disposal

Sanitary garbage disposal is a prerequisite to wholesome living in a community. Unlike in the rural areas, where garbage problem is not an issue, it is a big problem in cities due to lack of available space for proper waste disposal that is why this issue needs to be taken into consideration when comprehensive plans are prepared for towns and cities. In fact, unsanitary mode of garbage disposal induces the spread of contagious diseases especially if garbage or refuse is scattered in the streets and left to the elements and stray animals to consume them. The scattered garbage is aggravated when there is flooding in the streets that swept them to the neighbouring areas resulting also in the clogging of drainage system. The Census of Population and Housing has provided information on the mode of garbage disposal which were then classified into environmentally healthy and unhealthy (Perez et. al., 1995).

Table IV.4 shows the percentage distribution of the different modes of garbage disposal categorized into healthy and unhealthy practices at the national level and for NCR (Annex 12 shows the mode of disposal for the broad areas of NCR, Luzon, Visayas and Mindanao). Data for cities and highly urbanized areas may be guided by the present practices in Metro Manila so that the necessary policy on environmental protection can be anticipated, especially for those in charge of the cleanliness of the environment to reduce pollution.

The data reveals that since 1990 there has been a great improvement in the manner in which garbage is disposed of. At the national level, only 27.7% of the population practiced the healthy way of disposing their garbage through "picked up by garbage truck," "composting and burying" in 1990 but this proportion had improved to 39.5% in 2000 and further improved to 51.2% in 2010. However, even with the improved manner of garbage disposal, a sizeable proportion of households at 48.8% either dump their garbage in individual pit, burn their waste or fed the remains to animals. Burning is also contributing to the thinning of the ozone layer that contributed lately to the climate change that we are experiencing.

Table IV.4 Number of Households by Mode of Garbage Disposal, Philippines: 1990-2010

(Figures are based on a 20-percent sample households.)

Mode of Garbage Disposal	Census Year			Percentage Distribution		
	1990	2000	2010	1990	2000	2010
PHILIPPINES						
Total	11,407,262	15,278,808	20,171,899	100.0	100.0	100.0
1. Environmentally healthy	2,593,340	6,028,444	10,328,320	22.7	39.5	51.2
a. Picked up by garbage truck	1,799,736	4,958,967	8,683,569	15.8	32.5	43.0
b. Composting	384,146	601,061	1,093,509	3.4	3.9	5.4
c. Burying	409,458	468,416	551,242	3.6	3.1	2.7

Mode of Garbage Disposal	Census Year			Percentage Distribution		
	1990	2000	2010	1990	2000	2010
2. Environmentally unhealthy	8,813,922	9,250,364	9,843,579	77.3	60.5	48.8
a. Dumping in individual pit (not burned)	1,533,072	1,580,937	2,197,258	13.4	10.3	10.9
b. Burning	6,228,348	7,037,621	6,098,280	54.6	46.1	30.2
c. Feeding to animals	789,324	520,559	1,433,954	6.9	3.4	7.1
d. Others	263,178	111,247	114,087	2.3	0.7	0.6
NATIONAL CAPITAL REGION						
Total	1,569,588	2,132,989	2,759,829	100.0	100.0	100.0
1. Environmentally healthy	1,121,151	1,930,462	2,673,958	71.4	90.5	96.9
a. Picked up by garbage truck	1,101,723	1,910,139	2,668,931	70.2	89.6	96.7
b. Composting	7,584	8,646	2,241	0.5	0.4	0.1
c. Burying	11,844	11,677	2,786	0.8	0.5	0.1
2. Environmentally unhealthy	448,437	202,527	85,871	28.6	9.5	3.1
a. Dumping in individual pit (not burned)	106,895	65,181	52,000	6.8	3.1	1.9
b. Burning	294,895	112,380	23,658	18.8	5.3	0.9
c. Feeding to animals	15,881	7,839	3,018	1.0	0.4	0.1
d. Others	30,766	17,127	7,195	2.0	0.8	0.3

It is worthy to note that only 3.1% of the total household population of Metro Manila disposed of their garbage the unhealthy way with almost one percent burning as a means of disposal. "Picked up by garbage truck" was reported by 96.7% of household residents in their garbage disposal.

5. COMMENTS AND RECOMMENDATIONS

This is the first attempt to make use of the census data to present the living conditions of people as vehicle in assessing the quality of housing in the Philippines. There are still many related data available but there is not much time to extract from the Census electronic data file because of the volume of raw data to deal with like the floor area of the housing unit especially for housing unit with doubled-up households and the state of repair of building/house that may have provided additional information in the assessment of quality of housing.

Tabulations of the data by urban-rural classification may have presented the data in a better perspective since we are an archipelago with different form, shape, and pattern of human settlements. We should have at least presented the infrastructure available, schools and other community facilities by integrating the information gathered in the Barangay Schedule which was the basis of classification of whether an area is urban or rural. A comprehensive study of the quality of housing is a very important step in understanding the real problem of housing in the country. It is not only on the physical aspect that we are interested in but also on the social aspect of housing conditions that make our life wholesome and enjoyable.

We have the following broad recommendations to make or improve data available on housing:

1. Conduct a Census of Buildings to have an inventory of all buildings in the country including all structures where people live whether conventional type of housing or unconventional living quarters since the only census of buildings was done in the Eighties. We have no data on the type of building, number of single houses with one occupancy, single houses which were converted to many housing units, accesoria, condominiums, high rise apartments, townhouses, etc.

2. Physical planners especially those involved in preparing comprehensive plans should coordinate more closely with data producers so that the correct information required by them can be incorporated in censuses or with the Family Income and Expenditures Survey (FIES) where a housing component is included as they relate to income and expenditures of household population. The new master sample of the PSA uses the housing unit as the sampling unit. Some flow data on housing needed for policy formation may be included in the FIES collection like rent paid for those renting their housing unit. The terms used and their definition in the FIES regarding housing should be harmonized with those used in the CPH.

3. CPH is undertaken only every ten years but limited data maybe incorporated in a mid-decade census like identification of informal settlements most particularly squatters in highly urbanized cities to be able to identify them so that social services can be adequately provided and properly administered. Separate data collection on population and housing can be conducted (aside from conducting CPH every 10 years) for highly urbanized cities only to save cost on data gathering and processing.

4. There is a need to review the definition of terms used in planning as well as in the collection of data so that the data to be collected and produced for analysis can be comparable over time. This is one of the functions of the Philippine Statistics Authority to come out with standard definitions of terms used within the purview of the United Nations, as we are a nation member, to maintain international comparability over time.

5. There is also a need to conduct a follow-up study on this first attempt to identify areas needing immediate attention of housing authorities particularly HUDCC to help ease the present housing conditions and at the same time how to possibly improve the manner in which the data on facilities and services can best be integrated to produce barangay level statistics for local planning.

6. It is also recommended for the Philippine Statistics Authority to establish a database integrating all data collected from the different censuses and surveys to be more responsive to data users in all sectors both public and private.

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