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MEMORANDUM

FOR/TO : **The Head Executive Assistant
All Undersecretaries
All Assistant Secretaries
All Heads of Attached Agencies
All Service Directors
All Bureau Directors
All Regional Executive Directors**

FROM : **The Undersecretary for Policy, Planning, Research
and Legislative Affairs**

SUBJECT : **NSCB Resolution No. 1, Series of 2005**

DATE : **MAR 08 2005**

We are pleased to provide you a copy of the National Statistical Coordination Board (NSCB) Resolution No. 1, Series of 2005 (*Adoption of the Methodology Used in Generating the 2000 Census of Population and Housing-Based National Population Projections*).

Please note that, henceforth, the population estimates generated by the methodology shall now be utilized as the official figures for planning and programming purposes.

FOR YOUR INFORMATION AND GUIDANCE.


DEMETRIO L. IGNACIO, JR.

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Republika ng Pilipinas
PAMBANSANG LUPON SA UGNAYANG PANG-ESTADISTIKA
(NATIONAL STATISTICAL COORDINATION BOARD)
1st, 2nd & 5th Floors Midland Buendia Building
403 Sen. Gil J. Puyat Avenue, Makati City 1200

NSCB Resolution No. 1
Series of 2005

**ADOPTION OF THE METHODOLOGY USED IN GENERATING
THE 2000 CENSUS OF POPULATION AND HOUSING-BASED
NATIONAL POPULATION PROJECTIONS**

WHEREAS, there is a need to prepare population projections to provide planners, policy-makers and program managers with population data between censal years;

WHEREAS, the availability of more recent population data based on the 2000 Census of Population and Housing (CPH) allows the preparation of new sets of population projections;

WHEREAS, the National Statistics Office (NSO), through the Inter-Agency Working Group on Population Projections, formulated the specific methodology used in projecting the population based on the cohort-component method and submitted the same for review by the Technical Committee on Population and Housing Statistics (TCPHS);

WHEREAS, the NSO has come up with a set of national population projections based on the 2000 CPH and endorsed the same to the TCPHS;

WHEREAS, the 2000-based national, regional and provincial population projections assume certain future trends in the demographic processes of fertility, mortality and migration required by the cohort-component method of population projections;

WHEREAS, the TCPHS, through a referendum has endorsed the methodology and estimates of national population projections for approval by the Board;

NOW, THEREFORE, BE IT RESOLVED AS IT IS HEREBY RESOLVED, that the Board approve for adoption by all concerned the attached methodology in generating the 2000-based National Population Projections (Annex BR-01-2005-01) and estimates thereof (Annex BR-01-2005-02) as the official figures to be utilized for planning and programming purposes.

Approved this 24th day of January 2005, in Pasig City.

Attested by:


ROMULO A. VIROLA
Secretary General

A Brief Description of the Methodology for the 2000 Census-Based Population Projections

The 2000 Census-Based Population Projections basically utilizes the Cohort-component Method. This methodology relies on the fact that population change is the result of the demographic processes fertility, mortality and migration. The last component, migration, is generally not considered at the national level of population projections since it is assumed that international migration has still relatively little effect on the national total population.

A. Base Population

The population counts served as the base population by age, sex and province from the 2000 Census of Population and Housing or Census 2000. The age-sex data were evaluated before these were used for the generation of the base population. The indexes that were used to measure the quality of the age-sex data from the Census 2000, which include the UN Age-Sex Accuracy Index, Myer's Index, Whipple and Bachi Methods, revealed, minimal age heaping and digit preference, except for ARMM provinces. The Inter-Agency Working Group on Population Projections (IAWGPP) also noted that in 58 out of 79 provinces, the proportion of population in the age group 0-4 was smaller than that for age group 5-9. Census survival ratios, fertility rates and internal migration rates were examined to see if this phenomenon was plausible. The group concluded that fertility in these provinces is still high so that the population in age group 0-4 should comprise the largest proportion of the provincial population. The most probable reason for the unexpected result is an undercount of children below one year of age. Hence, estimates of the total fertility rate (TFR) and age specific fertility rates (ASFRs) from the 1998 and 2003 National Demographic and Health Surveys (NDHS) were used to derive the number of births in the year prior to May 1, 2000 in order to obtain an estimate of P_0 (population 0-1) as of the Census 2000. The difference between the estimated P_0 and the enumerated P_0 in Census 2000 was 146,582. This number was added to the July 1, 2000 population aged 0.

The May 1, 2000 population by age and sex for all provinces were forward-survived to July 1, 2000 using the population growth rate of each province from May 1, 1990 to May 1, 2000. The national population as of July 1, 2000 is the sum of the provincial populations. This procedure is in line with the conventional practice to use July 1 as the reference date when preparing population projections. The 146,582 difference in P_0 was distributed to all provinces based on their population size except for NCR and the ARMM provinces. The age-sex data of the ARMM provinces were "smoothed" for age-misreporting.

B. Fertility

The IAWGPP adopted the regional estimates of TFRs and ASFRs from the 2003 National Demographic and Health Survey, which are shown in Table 1, as the baseline fertility rates.

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Table 1. Age-Specific Fertility Rate and Total Fertility Rate, Philippines: 2003 NDHS

Age Group	Age-Specific Fertility Rate
15-19	0.053
20-24	0.178
25-29	0.191
30-34	0.142
35-39	0.095
40-44	0.043
45-49	0.005
Total Fertility Rate	3.54

For future trends of fertility, three assumptions were made; these are stated in terms of the time when replacement-level fertility, that is NRR of 1.0, will be attained. For the LOW series (rapid pace of fertility decline), NRR of 1.0 was targeted for the year 2030. For the MEDIUM series (moderate pace of fertility decline), NRR of 1.0 was targeted for the year 2040 and for the HIGH series (slow pace of fertility decline), an NRR of 1.0 by year 2050. An NRR of 1.0 has a corresponding TFR of 2.0. Table 2 shows the projected TFRs under the three assumptions.

Table 2. Projected Total Fertility Rates in the National Projections Under Varying Assumptions

Period	LOW	MEDIUM	HIGH
2000-2005	3.37	3.41	3.44
2005-2010	3.07	3.18	3.25
2010-2015	2.79	2.96	3.07
2015-2020	2.54	2.76	2.90
2020-2025	2.31	2.57	2.74
2025-2030	2.10	2.39	2.58
2030-2035	1.91	2.23	2.44
2035-2040	1.73	2.07	2.31
2040-2045	1.58	1.93	2.18
2045-2050	1.43	1.80	2.06

Note: NRR=1.0 is targeted for the year 2030 for the low series, 2040 for the medium series and 2050 for the high series

C. Mortality

The PEOPLE software was used in preparing the population projections. This software requires life expectancy at birth (e_0) as input for mortality indicator. This indicator can be derived from a life table. The construction of a life table from the latest available age-specific death rates (2000 Vital Statistics) for males and females is necessary. These death statistics were adjusted for under registration. At the national level, the level of completeness of death registration was estimated using the Preston and Coale Method. The life table estimates of the life expectancy at birth (e_0) for males and females were utilized as baseline values.

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The e_0 for the projection periods were calculated using the UN Model for the quinquennial gains in life expectancy (Table 3), following a moderate increase in survivorship.

Table 3. Working Model for Mortality Improvement, Quinquennial Gains (in years) in Life Expectancy at Birth (e_0) According to Initial Level of Mortality

Initial Mortality Level (e_0 , in years)	Fast		Middle		Slow	
	Male	Female	Male	Female	Male	Female
55.0-57.5	2.5	2.5	2.5	2.5	2.0	2.0
57.5-60.0	2.5	2.5	2.5	2.5	2.0	2.0
60.0-62.5	2.5	2.5	2.3	2.5	2.0	2.0
62.5-65.0	2.3	2.5	2.0	2.5	2.0	2.0
65.0-67.5	2.0	2.5	1.5	2.3	1.5	2.0
67.5-70.0	1.5	2.3	1.2	2.0	1.0	1.5
70.0-72.5	1.2	2.0	1.0	1.5	0.8	1.2
72.5-75.0	1.0	1.5	0.8	1.2	0.5	1.0
75.0-77.5	0.8	1.2	0.5	1.0	0.3	0.8
77.5-80.0	0.5	1.0	0.4	0.8	0.3	0.5
80.0-82.5	0.5	0.8	0.4	0.5	0.3	0.3
82.5-85.0	-	0.5	-	0.4	-	-
85.0-87.5	-	0.5	-	0.4	-	0.3

Note: Lower limit is inclusive of the value while upper limit is exclusive of the value.
E.g. the range 65.0-67.5 means from 65.0 to less than 67.5

Source: United Nations (1989), 1988 World Population Prospects, Table 1.4

The present population projections use one mortality assumption. Under this mortality assumption, the projected values of e_0 for the country are shown in Table 4.

Table 4. Projected Values of Life Expectancy at Birth by Sex, Philippines: 2000-2040

Period	Life Expectancy at Birth	
	Male	Female
2000-2005	64.10	70.10
2005-2010	66.10	71.60
2010-2015	67.60	73.10
2015-2020	68.80	74.30
2020-2025	70.00	75.50
2025-2030	71.00	76.50
2030-2035	72.00	77.50
2035-2040	73.00	78.30

This single set of projected values of life expectancy at birth in combination with the three sets of fertility rates were used to project the population up to the year 2040.

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Table 1. Summary of Projected Population, by Five-Year Interval: Philippines: 2000-2040
(Medium Assumption)

	Both Sexes	Male	Female
2000	76,945,963	38,747,986	38,197,977
2005	85,236,913	42,874,766	42,362,147
2010	93,938,917	47,222,099	46,716,818
2015	102,822,358	51,653,027	51,169,331
2020	111,550,336	55,992,451	55,557,885
2025	119,879,020	60,111,879	59,767,141
2030	127,659,506	63,924,354	63,735,152
2035	134,777,546	67,374,864	67,402,682
2040	141,096,582	70,410,612	70,685,970

Table 2. Average Annual Geometric Growth Rates, Philippines: 2000-2040
(Medium Assumption)

2000-2005	2.05
2005-2010	1.94
2010-2015	1.81
2015-2020	1.63
2020-2025	1.44
2025-2030	1.26
2030-2035	1.09
2035-2040	0.92

Table 3. Projected Total Fertility Rates, by Five-Year Interval, Philippines: 2000-2040
(Medium Assumption)

2000-2005	3.41
2005-2010	3.18
2010-2015	2.96
2015-2020	2.76
2020-2025	2.57
2025-2030	2.39
2030-2035	2.23
2035-2040	2.07

Table 4. Projected Life Expectancy at Birth, by Sex and Five-Year Interval, Philippines: 2000
(Medium Assumption)

	Male	Female
2000-2005	64.10	70.10
2005-2010	66.10	71.60
2010-2015	67.60	73.10
2015-2020	68.80	74.30
2020-2025	70.00	75.50
2025-2030	71.00	76.50
2030-2035	72.00	77.50
2035-2040	73.00	78.30

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Table 5. Projected Population, by Five-Year Age Group, Sex and Five-Year Interval, Philippines: 2000-2040
(Medium Assumption)

Age Group	2000			2005			2010		
	BOTH SEXES	MALE	FEMALE	BOTH SEXES	MALE	FEMALE	BOTH SEXES	MALE	FEMALE
Total	76,945,963	38,747,986	38,197,977	85,236,913	42,874,766	42,362,147	93,938,917	47,222,099	46,716,818
0-4	9,902,749	5,073,519	4,829,230	10,315,657	5,257,991	5,057,666	10,861,881	5,547,604	5,314,277
5-9	9,682,914	4,953,933	4,728,981	9,736,879	4,975,499	4,761,380	10,173,217	5,175,231	4,997,986
10-14	8,960,443	4,544,104	4,416,339	9,634,689	4,923,962	4,710,727	9,696,230	4,950,372	4,745,858
15-19	8,009,982	4,014,772	3,995,210	8,922,516	4,519,293	4,403,223	9,600,365	4,901,509	4,698,856
20-24	7,114,973	3,545,552	3,569,421	7,958,755	3,980,125	3,978,630	8,874,826	4,486,574	4,388,252
25-29	6,120,092	3,081,317	3,038,775	7,054,708	3,505,062	3,549,646	7,901,607	3,941,438	3,960,169
30-34	5,591,944	2,827,953	2,763,991	6,058,065	3,041,260	3,016,805	6,994,465	3,466,471	3,527,994
35-39	4,898,193	2,496,256	2,401,937	5,521,039	2,783,582	2,737,457	5,992,664	3,000,537	2,992,127
40-44	4,177,707	2,125,997	2,051,710	4,816,134	2,445,158	2,370,976	5,440,587	2,734,118	2,706,469
45-49	3,342,995	1,702,867	1,640,128	4,082,259	2,066,618	2,015,641	4,718,905	2,385,153	2,333,752
50-54	2,637,928	1,326,022	1,311,906	3,235,807	1,635,944	1,599,863	3,964,726	1,993,873	1,970,853
55-59	1,917,636	950,023	967,613	2,514,798	1,250,107	1,264,691	3,097,789	1,550,466	1,547,323
60-64	1,640,901	789,410	851,491	1,784,229	870,231	913,998	2,352,864	1,152,749	1,200,115
65-69	1,147,482	538,079	609,403	1,467,157	691,278	775,879	1,607,263	768,944	838,319
70-74	802,036	363,428	438,608	962,742	439,234	523,508	1,244,212	571,293	672,919
75-79	506,004	218,900	287,104	614,641	267,777	346,864	748,742	329,004	419,738
80+	491,984	195,854	296,130	556,838	221,645	335,193	668,574	266,763	401,811

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Table 5. Projected Population, by Five-Year Age Group, Sex and Five-Year Interval, Philippines: 2000-2040
(Medium Assumption)

Age Group	2015			2020			2025		
	BOTH SEXES	MALE	FEMALE	BOTH SEXES	MALE	FEMALE	BOTH SEXES	MALE	FEMALE
Total	102,822,358	51,653,027	51,169,331	111,550,336	55,992,451	55,557,885	119,879,020	60,111,879	59,767,141
0-4	11,241,371	5,745,513	5,495,858	11,360,581	5,809,310	5,551,271	11,267,766	5,764,107	5,503,659
5-9	10,735,955	5,473,599	5,262,356	11,129,552	5,678,980	5,450,572	11,263,766	5,751,798	5,511,968
10-14	10,137,668	5,152,977	4,984,691	10,703,635	5,452,909	5,250,726	11,100,455	5,660,239	5,440,216
15-19	9,666,803	4,930,769	4,736,034	10,110,857	5,134,839	4,976,018	10,678,750	5,436,005	5,242,745
20-24	9,556,321	4,870,434	4,685,887	9,627,955	4,902,861	4,725,094	10,075,280	5,109,165	4,966,115
25-29	8,820,064	4,448,707	4,371,357	9,504,369	4,833,711	4,670,658	9,582,112	4,870,012	4,712,100
30-34	7,843,415	3,903,363	3,940,052	8,762,654	4,410,181	4,352,473	9,449,868	4,796,491	4,653,377
35-39	6,929,077	3,425,497	3,503,580	7,778,439	3,861,988	3,916,451	8,698,478	4,368,725	4,329,753
40-44	5,915,873	2,953,069	2,962,804	6,849,825	3,376,376	3,473,449	7,699,246	3,812,168	3,887,078
45-49	5,342,650	2,673,585	2,669,065	5,819,277	2,893,122	2,926,155	6,749,085	3,313,913	3,435,172
50-54	4,595,471	2,308,161	2,287,310	5,214,426	2,593,537	2,620,889	5,692,139	2,813,271	2,878,868
55-59	3,809,410	1,897,170	1,912,240	4,427,914	2,203,047	2,224,867	5,039,363	2,483,053	2,556,310
60-64	2,911,989	1,437,034	1,474,955	3,594,927	1,765,544	1,829,383	4,195,867	2,058,527	2,137,340
65-69	2,133,657	1,025,578	1,108,079	2,654,697	1,285,599	1,369,098	3,297,367	1,588,284	1,709,083
70-74	1,375,766	641,592	734,174	1,840,442	862,408	978,034	2,310,192	1,089,546	1,220,646
75-79	980,530	433,406	547,124	1,095,608	491,896	603,712	1,484,411	668,280	816,131
80+	826,338	332,573	493,765	1,075,178	436,143	639,035	1,294,875	528,295	766,580

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Table 5. Projected Population, by Five-Year Age Group, Sex and Five-Year Interval, Philippines: 2000-2040
(Medium Assumption)

Age Group	2030			2035			2040		
	BOTH SEXES	MALE	FEMALE	BOTH SEXES	MALE	FEMALE	BOTH SEXES	MALE	FEMALE
Total	127,659,506	63,924,354	63,735,152	134,777,546	67,374,864	67,402,682	141,096,582	70,410,612	70,685,970
0-4	11,067,189	5,661,751	5,405,438	10,807,225	5,529,029	5,278,196	10,460,404	5,353,128	5,107,276
5-9	11,182,064	5,713,959	5,468,105	10,993,266	5,619,288	5,373,978	10,743,206	5,493,090	5,250,116
10-14	11,237,771	5,735,118	5,502,653	11,159,632	5,699,674	5,459,958	10,973,756	5,606,925	5,366,831
15-19	11,077,263	5,644,391	5,432,872	11,216,940	5,720,780	5,496,160	11,141,360	5,687,135	5,454,225
20-24	10,644,956	5,411,543	5,233,413	11,046,210	5,621,813	5,424,397	11,188,993	5,700,472	5,488,521
25-29	10,032,202	5,078,254	4,953,948	10,604,429	5,382,320	5,222,109	11,008,810	5,594,828	5,413,982
30-34	9,532,959	4,836,409	4,696,550	9,986,859	5,047,277	4,939,582	10,561,623	5,352,987	5,208,636
35-39	9,387,460	4,755,721	4,631,739	9,476,993	4,799,652	4,677,341	9,934,557	5,012,955	4,921,602
40-44	8,618,136	4,317,393	4,300,743	9,309,676	4,705,311	4,604,365	9,406,506	4,753,815	4,652,691
45-49	7,596,151	3,747,361	3,848,790	8,513,886	4,250,473	4,263,413	9,207,412	4,638,730	4,568,682
50-54	6,614,211	3,228,746	3,385,465	7,457,776	3,658,174	3,799,602	8,371,688	4,156,963	4,214,725
55-59	5,515,675	2,700,459	2,815,216	6,426,489	3,107,345	3,319,144	7,262,432	3,529,589	3,732,843
60-64	4,794,000	2,328,235	2,465,765	5,267,399	2,540,862	2,726,537	6,158,813	2,933,800	3,225,013
65-69	3,870,936	1,860,703	2,010,233	4,449,114	2,114,503	2,334,611	4,914,145	2,318,918	2,595,227
70-74	2,895,696	1,355,283	1,540,413	3,429,932	1,598,530	1,831,402	3,974,602	1,829,468	2,145,134
75-79	1,886,825	852,242	1,034,583	2,395,799	1,069,996	1,325,803	2,869,909	1,274,428	1,595,481
80+	1,706,012	696,786	1,009,226	2,235,921	909,837	1,326,084	2,918,366	1,173,381	1,744,985

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