The Republic of the Union of Myanmar

2014 Myanmar Population and Housing Census

Policy Brief on Mortality

Department of Population
Ministry of Labour, Immigration and Population
With technical assistance from UNFPA

Key points

(1) Infant and Under-five mortality rates are very high in Myanmar, at 61.8 and 71.8 deaths per 1,000 live births. This calls for investments in the quality of infant and child health, including ensuring availability of skilled personnel at all levels of the health care system, as well as ensuring availability of equipment and supplies, particularly in remote and hard-to-reach areas of the country.

(2) The substantial sex differentials in early-age (infant, child and under-five) mortality is hypothesized to possibly be due to cultural and behavioural issues, should be tackled through the promotion of good parenting practices as part of a health policy initiative.

(3) The 2014 Census found that overall mortality rates, while declining, still remain high compared to the region and globally. Also, large disparities exist at the subnational level and among different socioeconomic groups. Chin state, Tanintharyi region, Magway region and Ayeyawady region exhibit very high levels of early mortality. As Myanmar continues to expand and improve the quality of the health care system, this should be done in such a way that it reaches all areas of the country, and benefits all people, irrespective of their socioeconomic status.

(4) The difference in the number of years a person is expected to live (life expectancy at birth) is large between males and females in Myanmar. A female born today is expected to live for 69.3 years, while a male is expected to live for 60.2 years, implying a difference of almost 10 years. Furthermore, the probability of a male dying between the ages of 15 to 59 is twice as high as that of a female. The report recommends the promotion of healthy and safe practices, preventive health care, and the avoidance of dangerous and risky behaviours. This would, among other factors, address the issue of high adult mortality, especially among males.

(5) Continuation of family planning programmes and greater efforts to improve the standard of living of all are important components of a national mortality reduction drive.   Analysis using 2014 Census data to understand the relationship between under-five mortality and selected socioeconomic variables, indicated that the number of children already born to a mother as well as the standard of living of the population hold the key to reducing early-age mortality.

The Myanmar 2014 Population and Housing Census and its analyses of mortality point to several important findings.
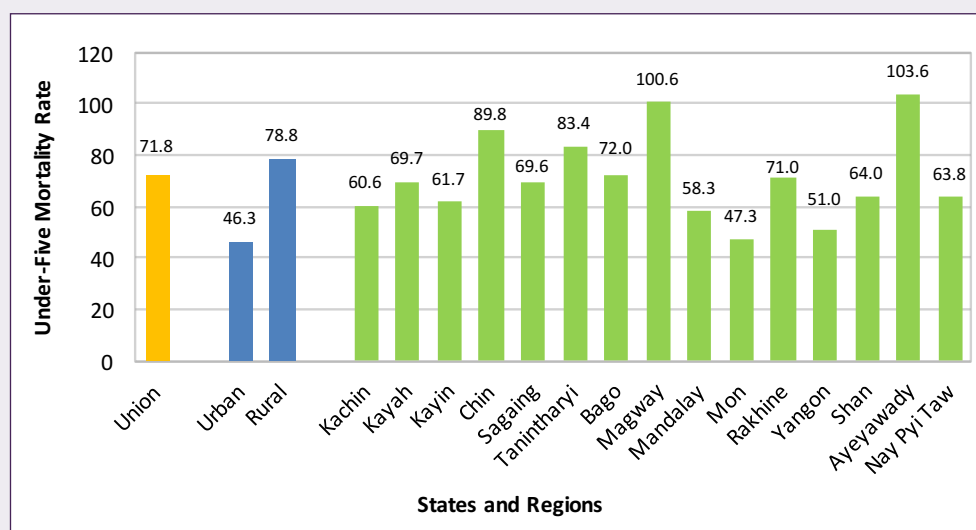
Early-age mortality

Infant, child and under-five mortality have all fallen significantly, as shown in **Table 1**. Child mortality, for instance, fell by a half during the period 1999-2012.

Table 1: Infant, child, and under-five mortality rates.

Year	Infant	Child	Under-five
January 2012	61.8	10.0	71.8
June 2010	65.6	11.2	76.8
June 2008	72.7	13.2	85.9
January 2006	80.6	15.7	96.3
April 2003	89.4	18.6	108.0
August 1999	96.6	21.0	117.6
Growth (1999-2012)	36%	52%	39%

Source: 2014 Myanmar Census.

Figure 1: Under-five mortality rates by State/Region, 2014 Census

Despite declines in early-age mortality (infant and child mortality) over several decades, mortality rates remain high in Myanmar in comparison with its neighbouring South-East Asian countries, developing countries, and globally, as shown in **Table 2**.

Table 2: Mortality Indicators 2014, Myanmar and the world.

Mortality indicators	Myanmar	South-East Asia	Developing countries	Global
Crude death rate	9.6	6.9	7.4	7.8
Life expectancy at birth	64.7	70.3	68.8	70.5
Male	60.2	67.5	66.9	68.3
Female	69.3	73.2	70.7	72.7
Infant mortality rate	62	24	39	36
Under-five mortality rate	72	30	54	50

Source: Myanmar 2014 Census and United Nations Population Division, 2015.

There are disparities in declines in infant and child mortality across the country, with states/regions such as Ayeyawady, Magway and Chin, recording high under-five mortality. See **Figure 1.** The under-five mortality rate varies sharply between urban (46.3 deaths per 1,000 live births) and rural areas (78.8 deaths per 1,000 live births).

The child mortality rate is more than twice as high in rural than in urban areas. These differences could be due to difficulties in accessing health care and other barriers that inhibit rural and marginalized states/regions realizing the benefits of government health policies and programmes.

Mortality among boys is approximately a third higher than that of girls; for every 100 female deaths, there are 130 male deaths. The large differences in mortality rates by sex are shown in **Figure 2.**

Adult Mortality

Adult mortality remains high, mainly due to very high male adult mortality. The probability of a male dying between the ages of 15 and 59 is more than twice as high as that of a female. Male adult mortality levels in urban areas are also higher than in rural areas, in contrast to female mortality rates. Although not-conclusive, higher male adult mortality has been associated with risky behaviours including alcohol and tobacco consumption, and poor health care habits.

Life Expectancy

Life expectancy at birth has improved for both males and females. Disparities exist at the Union level between males and females, with females living 10 years longer than males. There are also differences across states/regions. Average life expectancy at birth for both males and females, for example, range from 60.5 years in Chin to 67.7 years in Nay Pyi Taw.

Compared to other countries in the region, Myanmar's life expectancy at birth is very low. Singapore and Malaysia, for example, have life expectancies of 83 years and 74 years, respectively, compared to Myanmar's 65.

Figure 2: Infant, child and under-five mortality rates by sex, 2014 Census
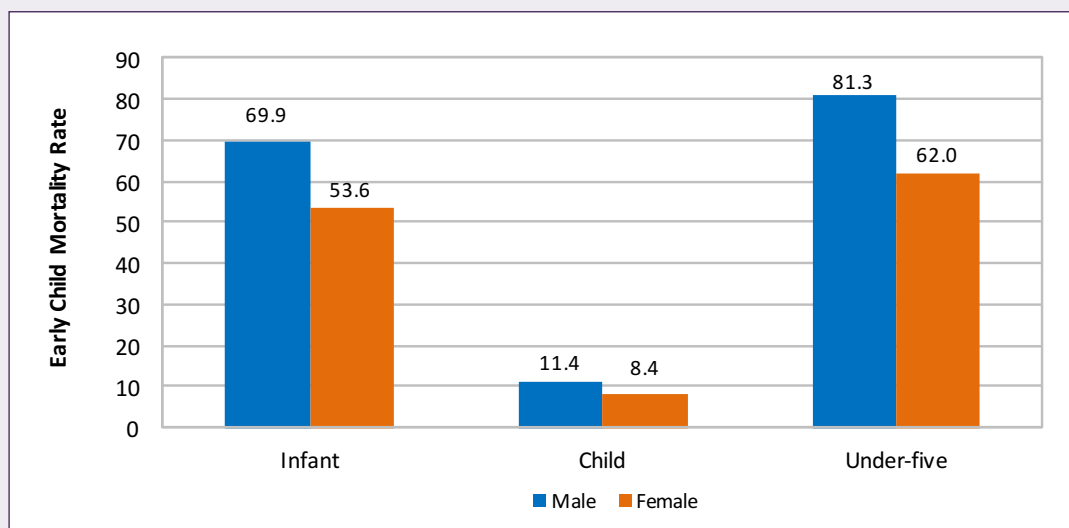
Analysis of differentials

The 2014 Census provided mortality data by sex, urban/rural area and state/region. In order to capture the diverse socioeconomic, cultural and demographic contexts of under-five mortality, a differential analysis was undertaken using the 2014 Census data. This analysis looked at 11 variables including a mother's literacy status; a mother's educational level; the literacy of the head of household; the availability of electricity in the household; the household's access to water and sanitation; women's parity; the availability of modern communication devices in the household; and the socioeconomic status of the head of the household, as indicated in **Figure 3**.

Of all the variables tested for their impact on early-age mortality, the most important variable was women's parity (or the number of times a woman has given birth), as shown in **Figure 3**. The analysis found that the number of children already born lowered the chances of survival of a child, showing the effect of fertility on infant and child mortality. This result is not unique to Myanmar. It has been substantiated by numerous studies conducted in other parts of the world. And for very obvious reasons - competition for a mother's care among children, (for example, breastfeeding), poor maternal health due to successive childbirths, overcrowding and the burden of sharing household resources.

Also shown in **Figure 3** is that the mother's educational level, as well as that of the head of the household, are also impacting factors. Households with educated heads are more likely to access health care and modern medicine. Households whose head had achieved high school education on aggregate experienced an infant mortality rate of 39.3 deaths per 1,000 live births, compared to 68.4 deaths if the head had no education at all.

The socioeconomic situation of the household as reflected in access to safe drinking water; the type of toilet used; the availability of electricity; and access to communication devices also contribute to lower early-age mortality. While all these variables impact on mortality levels, their individual effect are different. The probability of children dying in households with unsafe drinking water is 18 per cent higher than children in households with safe drinking water. The probability of a child dying in households with unimproved toilets is 51 per cent higher than children with access to improved toilets.

A separate study to analyse the association between mortality and selected socioeconomic variables at the township level, or spatial analysis, identified four key variables which explain more than half of the variation in early-age mortality. These four variables are: (i) populations with access to modern communication devices (an indicator of the level of development of townships and access to information and services); (ii) the mean number of adults in the household (an indicator of the extension of households); (iii) the child-woman ratio (an indicator of fertility levels in townships); and (iv) the percentage of the population with access to electricity (an indicator of the level of socioeconomic development and access to health and information services).

Both the above two different sets of analysis, show= important similarities in the variables that affect early-age mortality. Understanding these variables and their impact provides the background and basis for identifying policies and programmes to reduce current mortality levels; both early-age and adult.

Figure 3: Infant mortality rate by selected differentials, 2014 Census
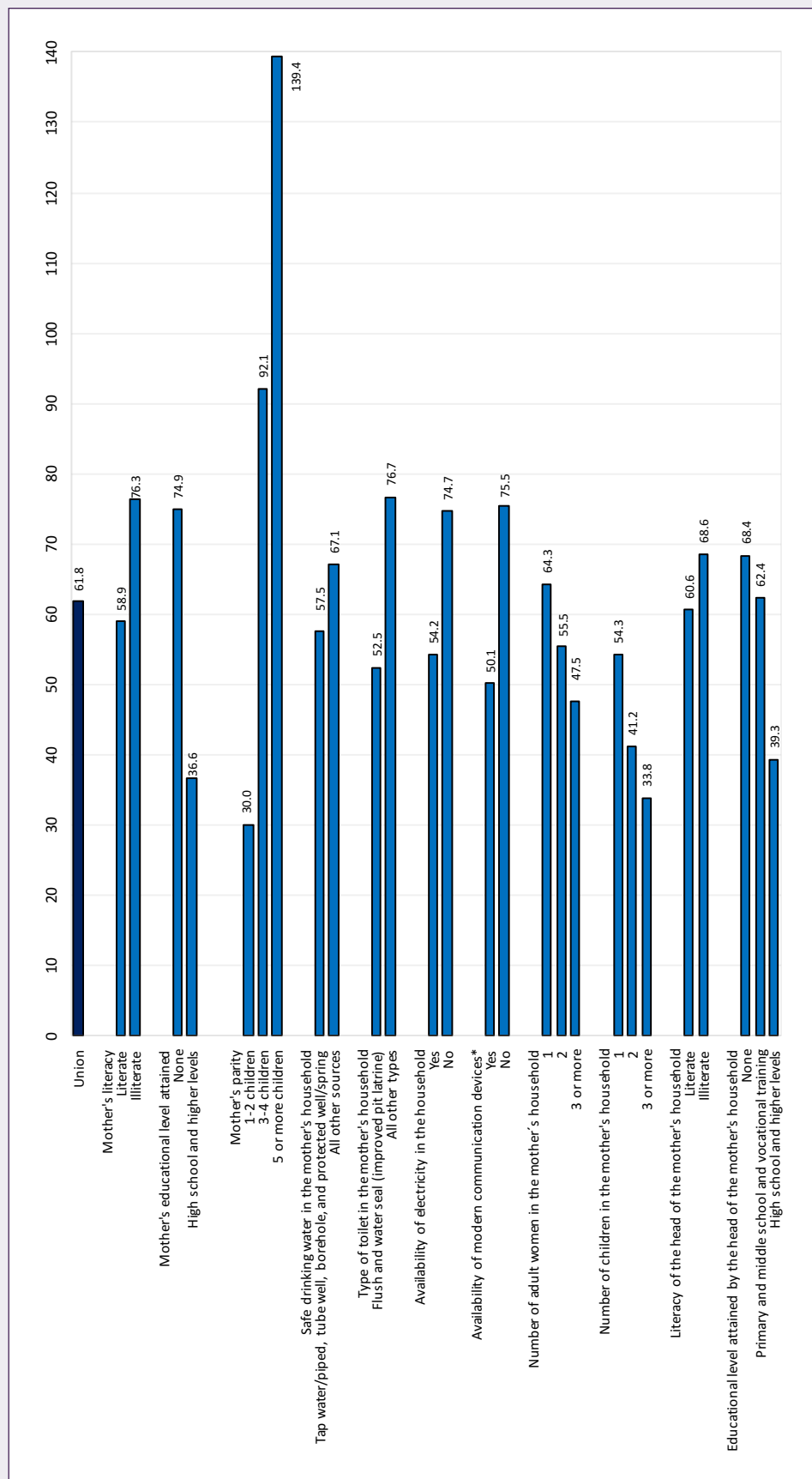
Issues for further Research

Several important areas need to be further researched so that appropriate policies can be formulated. One important issue is the significant difference in early-age mortality between boys and girls. The reasons for this phenomenon need to be investigated so that policy interventions can be framed on the basis of the causality analysis. If it is found that the mortality differences are due to cultural practices, such as boys being given more freedom to move around thereby increasing their vulnerability to accidents or harmful practices, then interventions can address harmful parenting practices.

Another issue of concern is the high rate of adult mortality and the large differential between male and female adult mortality. There are suggestions that risky behaviour and poor health habits among males may be the cause of such mortality disparities between the sexes. This has to be investigated further and confirmed through research studies so that appropriate policies and programmes can address the root causes of such behavioural patterns.

The analysis undertaken at the township level showed the importance of the role of the family in health care. It was found that in areas where there were large extended families, the chances of child survival were higher than in cases where families were smaller. Similar results were observed in the analysis of differentials. A suggested area of research is to understand the mechanism by which family extension improves child survival rates.

Broad Conclusions

Mortality levels in Myanmar are by any comparison unacceptably high. They are also uneven across states/regions and population groups. The reach of the health care system needs to be expanded so that it is accessible to populations across the country, irrespective of location or socioeconomic status. In addition mortality related to lifestyle and health care behaviours needs to be addressed in view of the large differentials between male and female adult and child mortality patterns.

Drawing from the results of the two sets of analysis, elements of any intervention package should include improving the overall standard of living of the population through economic and social development. This would include access to education for all; and improving infrastructure, including access to electricity, water, improved toilet facilities and communication devices. Reducing mortality is therefore not only a health issue, it is a cross-cutting development issue which requires a multi-sectoral approach involving relevant Ministries and Departments.

Proposed Key Interventions include:

- Expansion of the health care system to reach all areas of the country, and all populations irrespective of their socioeconomic status.

- Intensification of economic and social development which is broad-based and inclusive.

- Continuation with, and broadening of, family planning programmes.

- Promotion of good parenting practices.

- Promotion of healthy habits and preventive health care.

A quick review of useful terminology

Early-age mortality: all live births that do not live up to exact age five. Often used interchangeably with the term under-five mortality.

Child mortality rate: the number of children that die between 1 and 4 years of age per 1,000 live births.

Infant mortality rate: the number of deaths of infants aged under one year per 1,000 live births.

Life expectancy at birth: the average number of years that a newborn baby is expected to live if the mortality conditions of the year corresponding to the life table remain constant.

The Republic of the Union of Myanmar

POLICY BRIEF ON MORTALITY

EARLY-AGE MORTALITY*

INFANT MORTALITY**
61.8 per 1,000
36% decline since 1999

UNDER-FIVE MORTALITY***
71.8 per 1,000
39% decline since 1999
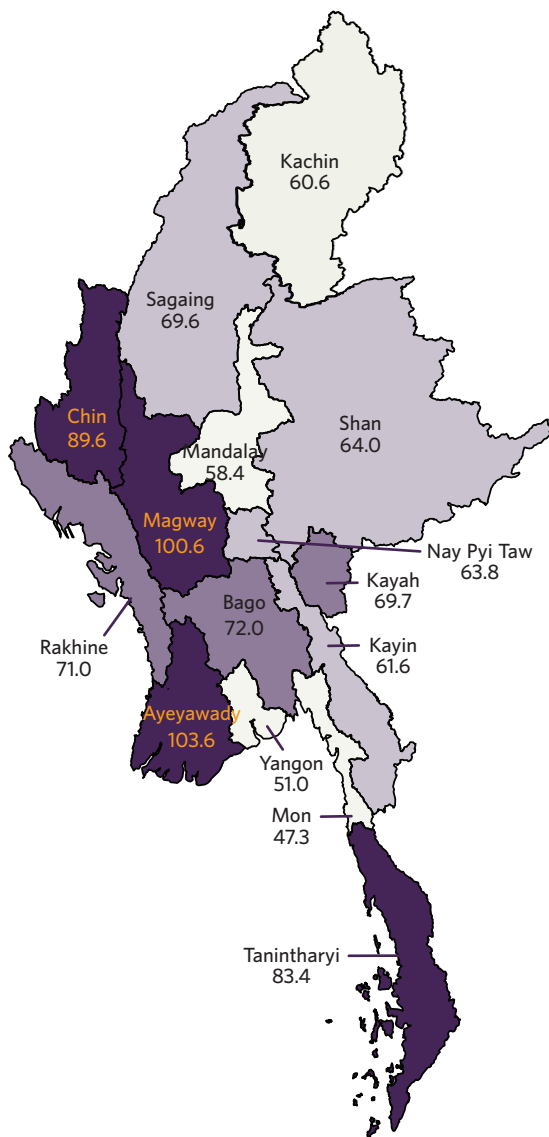
CHILD MORTALITY******
10.0 per 1,000
52% decline since 1999

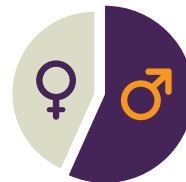**Despite declines in early-age mortality, mortality remains high in Myanmar**

Disparities

Large differences in under-five mortality between States/Regions, urban & rural

Kachin 60.6

Sagaing 69.6

Chin 89.6

Mandalay 58.4

Shan 64.0

Magway 100.6

Nay Pyi Taw 63.8

Kayah 69.7

Bago 72.0

Kayin 61.6

Rakhine 71.0

Ayeyawady 103.6

Yangon 51.0

Mon 47.3

Tanintharyi 83.4

URBAN 46.3   **RURAL 78.8**

Under-five mortality is 1/3 HIGHER for BOYS

Mother's parity

1-2 Children 30.0
5+ Children 139.4

Infant mortality is higher when the mother has many children

Infant mortality & access to:

sources of safe drinking water
Yes 57.5 < No 67.1

improved sanitation
Yes 52.5 < No 76.7

communication devices
Yes 50.1 < No 75.5

electricity
Yes 54.2 < No 74.7

* Early-age mortality: all live births that do not live up to exact age five.
** Infant mortality rate: the number of deaths of infants aged under one year per 1,000 live births
*** Under-five mortality rate: the number of children who die between 0 to 4 years of age per 1,000 live births
**** Child mortality rate: the number of children who die between 1 and 4 years of age per 1,000 live births

ADULT MORTALITY

Probability of dying between ages 15-59 per 1,000 population

♂ **290.8** UNION

350.8 URBAN   **264.8 RURAL**

♀ **130.9** UNION

124.4 URBAN   **134.2 RURAL**
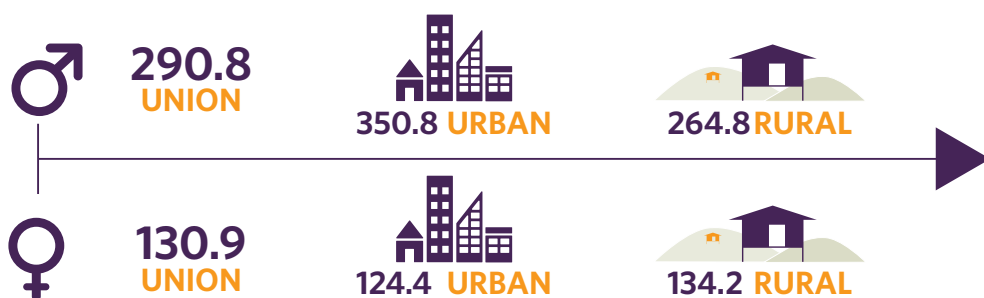
BIG DIFFERENCE between males and females
Higher male adult mortality may be associated with risky behaviours including alcohol and tobacco consumption, and poor health care habits

LIFE EXPECTANCY AT BIRTH

Union level

= **64.70** yrs old

♂ **60.17 yrs** < ♀ **69.33 yrs**

Differences across States/Regions

Chin State = 60.5 yrs < **Nay Pyi Taw = 67.7 yrs**

Women live almost **10 years longer** than men

CONCLUSION

OVERALL MORTALITY IS HIGH COMPARED TO SOUTH-EAST ASIAN COUNTRIES AND GLOBALLY

▶ THERE ARE **LARGE DISPARITIES** AT SUBNATIONAL LEVEL, BETWEEN DIFFERENT SOCIO-ECONOMIC GROUPS & BETWEEN MALES AND FEMALES

POSSIBLE INTERVENTIONS

Expansion of a good quality health care system to reach **ALL AREAS** of the country & **ALL POPULATIONS** irrespective of their socio-economic status

Intensification of **ECONOMIC AND SOCIAL DEVELOPMENT** which is broad-based and inclusive

Continuation with, and broadening of, **FAMILY PLANNING** programmes

Promotion of **GOOD PARENTING** practices

Promotion of **HEALTHY HABITS** and **PREVENTIVE HEALTH CARE**

Note: The analysis in this policy brief does not cover the non-enumerated populations. Some populations in three areas of the country were not enumerated. This included an estimate of 1,090,000 persons residing in Rakhine State, 69,800 persons living in Kayin State and 46,600 persons living in Kachin State (see Department of Population, 2015, for the reasons that these populations were not enumerated). In total, therefore, it is estimated that 1,206,400 persons were not enumerated in the Census.