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## POPULATION GROWTH IN AMERICAN SAMOA

Jerry W. Combs, Jr., Ph.D.

Chief, Behavioral Sciences Branch  
Center for Population Research  
National Institute of Child Health  
and Human Development

The population situation in American Samoa can be summarized very briefly. During the twentieth century the population has doubled every 30 years. According to a census taken June 1, 1900, the islands contained 5,679 inhabitants. This number had increased to 10,055 in 1930 and to 20,051 in 1960. In the following 10 years the population increased by more than 7,000, to 27,159 according to the 1970 census, despite a net outmigration estimated at more than 6 percent of the 1960 population. The increase in this last decade represents a growth of 35.4 percent, a rate of increase which, if continued, will lead to more than a doubling of the population by 1990, as indicated in the following table:

This paper was prepared as a portion of a report to the Secretary of the Interior, following a visit to American Samoa in December 1973 by Dr. Louis M. Hellman, Deputy Assistant Secretary for Population Affairs, HEW, Mr. James Hauser, Acting Regional Program Director for Family Planning Services, Region IX, and Dr. Combs, for the purpose of assessing the family planning program and the population situation in that American dependency.

Table 1

Population of American Samoa, 1900-1970

<u>Year</u>	<u>Population</u>	<u>Percent Change from Preceding Census</u>
1900	5,679	--
1912	7,251	27.7
1926	8,056	11.1
1936	10,055	24.8
1946	12,908	28.4
1956	18,937	46.7
1966	20,051	5.9
1970	27,159	35.4

Source: U.S. Department of Commerce, Bureau of the Census; "Number of Inhabitants - American Samoa," November 1971, p. 56-5

The numbers of people we are dealing with, of course, are small. All told, they would comprise the population of a very small city in the United States. But the territory is restricted, amounting to only 72 square miles, and is separated by thousands of miles from supplies upon which the standard of living of its inhabitants depends. The density of settlement, amounting to about 389 persons per square mile, is not yet as high as some of the more densely settled rural areas of India and Pakistan, and does not approach the density of cities in the United States, but it is some six times higher than the density in the United States as a whole. Population growth in this century has reduced its area per person from 10 acres in 1900 to 2 acres in 1970, while its rugged terrain and tropical

climate restricts the expansion of its agriculture. Although its exports, mainly the product of its canneries, exceed in value its imports, it already imports some quantity of staple food, such as taro, and at present, at least, is entirely dependent upon its chief source of energy--oil, whose future availability may very critically affect the welfare of the islands.

The visitor to Samoa, overwhelmed by the islands' beauty, the charm of its inhabitants, and the vista of the open sea almost everywhere available, is not apt to be impressed with a population problem. Nor do the inhabitants, by and large, appear to be. It is, nevertheless, fair to say that the population has already outgrown the resources that the islands' traditional culture could support, and the outmigration of its people suggests that its population is also outgrowing the present economy. Given the vulnerability of that economy to certain resources, such as oil, and to the viability of transportation systems for its exports, its current pattern of growth is both threatening and incongruous.

This growth is the result of the juxtaposition of a traditional culture and value system that sustains a very high birth rate and a modern health system provided by the Government of the United States which assures an admirably low death rate. The birth rate in American Samoa is among the highest in the world, although apparently declining. Based on recorded births for the years 1969-1971, the birth rate in 1970 was 38.3 per thousand. In sharp contrast, the death rate was only 4.5 per thousand, yielding a rate of natural increase of 33.8 per thousand. At this rate of increase, the population will double every 21 years and will reach 52,802 by 1990 unless there continues to be substantial net emigration, as noted in Table 2. The

Table 2

Projections of the Population of American Samoa,  
1970-1990

<u>Years</u>	A	I	II	III	IV
1970	27,159	27,159	27,159	27,159	27,159
1975	32,070	32,200	31,910	29,730	29,520
1980	37,870	38,620	37,750	32,660	31,950
1985	44,717	46,750	44,660	36,150	34,560
1990	52,802	56,560	52,500	40,110	37,260

Projection A. assumes constant increase of 33.8%, based on vital rates of 1969-71, and no migration.

Projection I assumes constant fertility and no migration.

Projection II assumes declining fertility and no migration.

Projection III assumes constant fertility and constant migration.

Projection IV assumes declining fertility and constant migration.

Source: Projections I through IV from "Population Statistics of American Samoa: A Report to the Government of American Samoa," by Chai Bin Park, December 1972, p. 61

population will certainly continue to grow rapidly, even if the high birth rate declines. And unless the latter does occur and migration continues, the islands' population is potentially even more explosive.

#### Vital Statistics

Although the statistics in the Islands have deficiencies which should be corrected, it is very unlikely that they substantially distort the fact of American Samoa's rapid growth. There is always a possibility of under-enumeration in censuses and, rarely, usually for political reasons, of over-enumeration. The 1970 census figure for American Samoa was probably quite accurate, inasmuch as a census of villages made in connection with the filariasis program in 1970-1972 confirms both the total population count and, with few exceptions, the count in villages as well.<sup>1/</sup>

It is our opinion, as it was the opinion of Mr. Chai Bin Park who studied the population statistics of American Samoa in 1972, that the natural increase figure is also approximately correct. Most of the births in American Samoa occur in either the LBJ Memorial Hospital or dispensaries. Birth certificates are prepared on all these births. About 10 percent of the births eventually recorded occur outside the hospital or dispensaries. It is very possible, indeed likely, that some of the births which occur at home are never recorded, especially if the child dies before the mother or responsible individual finds it advantageous to record the birth. I was informed that occasionally mothers bring babies to the clinics for whom birth certificates have not been obtained, and the Registrar confirmed that there is some late

<sup>1/</sup> Chai Bin Park, "Population Statistics of American Samoa: A Report to the Government of American Samoa" (December 1972) p. 48.

birth registration. Insofar as such deficiency in recording births is balanced by unrecorded deaths the figures on natural increase would not be affected. As Park pointed out in his report, the "delayed reports are an indication of incompleteness of birth registration," or at least, non-registration at time of occurrence. He adds: "Because of the necessity of presenting proof of identity in order to enroll in school or to travel, a need for birth registration eventually arises." (p.27)

There is perhaps a greater seriousness with respect to death records, but again our reservation is based on theoretical rather than factual grounds. The weakness in the vital statistics system appears to derive from the fact that, although the law requires a burial permit, which would insure that all deaths are recorded, we are informed that burial permits have in fact never been printed, and are therefore actually not required. The possibility thus exists that not only infant deaths but deaths of others also may escape the recording system. This possibility will continue to exist as long as the requirement for burial permits is not rigidly enforced. Unlike the situation with respect to births, no occasion arises to encourage registration of a death not recorded at the time of occurrence. In the absence of any factual evidence of unrecorded deaths, however, we have concluded that both the birth and death rates are at least as high as recorded, but that the rate of natural increase is probably not seriously overstated.

The third important element in population growth - migration - appears to be very inadequately covered by current statistics. Because of a serious fire in government offices, particularly affecting the records and functioning of this office, we made no independent effort to evaluate data regarding

this movement. Park has dealt with this deficiency at some length in his report. The inadequacy of data is apparently most serious regarding departures, and rather drastically affects the accuracy of intercensal estimates prepared in the islands and by the U.S. Bureau of the Census.

#### Future Growth

The future of American Samoa's population depends upon what happens with respect to the three variables: fertility, mortality, and migration. The estimate of 52,802 by 1990 made above assumes that conditions in 1970 with respect to births and deaths remains unchanged, and that there is no migration. This is manifestly an unrealistic assumption, since all three variables may change, but it serves the purpose of indicating the seriousness of potential growth of the population.

Of the three variables, the probable future of migration is the most elusive. During the last two decades net emigration has been an important factor in reducing population growth and has fluctuated considerably. Studies by Wolf (1969) and Park (1972) indicate that in the decade 1950-60 emigration amounted to 85 percent of the natural increase but that in the decade 1960-70 it accounted for only 15 percent of the natural increase. As the Park report indicates, statistics on immigration and emigration are so inadequate that its actual size must be derived as a residual from the decennial censuses, and we have not gone beyond his analysis. Future migration depends upon economic conditions in the islands and in areas of destination, as well as upon the willingness and ability of receiving areas to absorb migrants. The decline in amount of net emigration in the 1960-70 decade, and the evidence that there was much return migration may reflect the decline in economic opportunities in Hawaii and the States in this decade. But the recorded increase in the number

of Western Samoans probably reflects some increase in economic opportunities in American Samoa as compared with Western Samoa. We prefer not to speculate upon the potential for future emigration, except to note that in a world concerned with population growth and relatively high unemployment, increased emigration of Samoans may not be encouraged. The welfare of American Samoans will probably therefore depend largely upon the balance struck between population growth and economic growth in the islands themselves.

Given the present level of medical service in the islands and a continued viable economy, it is possible that mortality may be improved, making possible some slight increase in the rate of growth. We use the word slight, because Samoan mortality rates are by world standards already very low. Age-specific death rates are only slightly higher than in the United States. The difference can be summarized by comparing the death rate in the United States in 1970 of 9.4 per thousand population with the Samoan age-adjusted death rate (assuming an age structure similar to that in the United States) of 11 per thousand. The reason for the difference in this rate (11 per 1000) and the crude death rate for American Samoa of 4.5 per 1000 lies in the age structure. Because the birth rate in American Samoa has been so much higher than that in the United States, greater proportions of its population are in those ages which experience low mortality rates, and very small proportions of the population are in the older ages that have high mortality rates. The median age of the population in American Samoa is 16 years, compared with a median age of the U.S. population of 28.2 years. This comparison emphasizes, however, that the influence of mortality upon the growth rate can, with no change in age-specific mortality, be heavily influenced by two other factors influencing population growth. If fertility should drop dramatically, the Samoan population

would in time undergo an aging process similar to that in the United States and the crude death rate would gradually rise. Similarly, emigration of population in age groups with low mortality rates, or the immigration or return migration of persons at older ages, would tend to raise the crude death rate. Such changes would, however, affect the death rate very slowly, and are unlikely to have a substantial effect within the next twenty years.

The infant mortality rate was 28.7 in the period 1970-72 as compared with a rate of 18.4 in the U.S. in 1972. While thus substantially higher than the U.S. rate, it compares very favorably with experience in the United States a few years ago, and appears remarkably low in a society with a birth rate so much higher than that in the U.S. Life expectancy at birth is also high by world standards, 67 years as compared with 70.2 years in the United States. Although health officials view these comparisons as a challenge to further reduce the Samoan rates, and undoubtedly can make further improvement in health conditions in the islands, further reductions in the death rate will not have an important impact on population growth.

Because a rise in mortality is an unthinkable solution to population problems, and is likely to occur only under calamitous circumstances, and limitations upon migration preclude massive emigration as a long-range solution, reduction in fertility has become increasingly important as societies seek to solve their population problems. This solution, however, is more likely to commend itself to the American or European, accustomed as he or she is to birth rates virtually half or less than the American Samoan rates than it is to the latter. In the period 1969-71, the birth rate in American Samoa of 38.4 per thousand was more than twice as high as that in the United States. The average number of children born to women aged 35-44 in American

Samoa was nearly 6. In 1970, women ever married in this age group had averaged 5.97 children ever born, and all women in this age group had averaged 5.7 children ever born. Women in this age group averaged in 1960 approximately the same number. These data suggest no change in fertility.

There is other evidence, however, that the birth rate has already begun to fall. While the average number of children ever born to women age 35-44 was the same in 1970 as in 1960, the average number of children born to women age 25-34 was somewhat lower in 1970 than in 1960. When younger women in 1960 and 1970 are compared, however, there is an indication that fertility is declining. In 1960 all women in ages 25-35 had borne an average of 4 children, but in 1970 women in that age group had averaged only 3.1 children. Similarly, the birth rate of 38.4 per thousand in 1970 was lower than computed rates in the early 1960s (about 43 per thousand) and lower than what data from earlier censuses indicate fertility must have been.

The data from the census and from the vital statistics may, however, simply reflect that a certain amount of fertility is being exported. That is, insofar as younger men and women leave the islands, births that would have occurred in American Samoa are actually occurring in Hawaii or elsewhere. The fact that more younger men than women migrate leaves more unmarried women in the islands, depressing the average fertility of the women who remain, but to the extent that many of these couples later return, bringing their children, the ultimate effect upon population growth remains the same as had they stayed in the islands. The above, however, is pure speculation on our part.

There is some additional information of an impressionistic nature,

gathered during our brief visit, that fertility is likely to decline, if it has not already begun to do so. There is no question that the emphasis upon large families remains strong in the traditional culture. Many of the men with whom we talked still espouse large families, even though they have spent some years outside the islands and actually postponed having a large number of children until they returned. Others who have been trained elsewhere, however, indicated a commitment to small families. Emigration may therefore be already changing some of the traditional values, which will continue to undergo changes as life styles depend more and more upon salaries and wages, less upon traditional occupations.

Equally important were expressions from many of the older women with whom we talked. While expressing pride in the fact that they themselves had borne twelve, thirteen, or fifteen children, they nevertheless decried the fact that during much of their childbearing period they had borne a child every year. Thus, while not rejecting the value of having large families, they did reject the notion of uncontrolled childbearing. It is also significant that, although there have not been a great number of sterilizations in the islands in the few years they have been available, the sterilizations that have occurred have been performed after the women had borne an average of 8 or 9 children. Furthermore, within the islands we did not detect any strong opposition to the idea of child-spacing. Granted that we were guests and the Samoans were in the main acting as gracious hosts, these expressions of sentiment seemed genuine.

Since the above evaluation was based on impressions, it was gratifying