Fertility and Family Planning in the South Pacific

David Lucas and Helen Ware

This paper discusses fertility and family planning in 18 countries of the South Pacific region, listed in Table 1 and shown in Figure 1. (As can be inferred from the table, the Australian dependency of Norfolk Island, with a population of around 1,900, and the British dependency of Pitcairn, with about 70 inhabitants, are excluded from the discussion.) Table 2 only hints at the diversity of the region. Compare, for example, Trust Territory of the Pacific, which has more than 2,000 islands,[1] only 90 of which are inhabited, with phosphate-rich Nauru, which comprises one island of 21 square kilometers.

Perhaps in part because of their small populations (see Table 2), many of these countries are neglected in global or regional overviews of fertility and family planning. For example, Kirk gives the following explanation of why a Worldwatch Institute estimate of a crude birth rate of 17.4 per thousand for Oceania is lower than an AID estimate: "Through carelessness the former omitted the islands that constitute the less developed part of the region."[2]

A further reason for this neglect may be the difficulties involved in obtaining and comparing statistical data. For example, because six of the 18 countries are French or US territories, the information available from the United Nations, which deals largely with independent nations, tends to be limited. Even within a country, comparability over time presents problems. Thus, a reputable reference book has incorrectly suggested that Tonga's crude birth rate, as a consequence of the family planning program, fell from 25 per thousand in 1974 to 13 in 1976,[3] whereas (as discussed below) improved vital registration suggests that the rate may well have exceeded 30. Because many of the countries have incomplete vital registration combined with significant and fluctuating net migration rates, estimates of annual growth rates are often speculative.

Why, then, are these countries of interest? First, many have gained increased political autonomy in the last two decades, and this has influenced their strategic importance. Second, although the land area of the region is only 551,039 square kilometers, the 200-mile Exclusive Economic Area gives the region a total sea area of around 29 million square kilometers.[4] Third, with high growth rates and, in some cases, very limited land area, the need for emigration or fertility control has become urgent. In addition, population changes in the region often have repercussions in other countries. The growth rates below 2 percent in Table 2 have largely been achieved by emigration, principally to Hawaii, the mainland United States, and New Zealand.

Fertility

As with growth rates, the estimates of total fertility rates are also quite variable, as indicated in Table 3. Many of the better estimates in this table are based upon complete or adjusted registered births and on an age distribution derived from a recent census. However, with small populations fluctuating from year to year because of sex-selective migration, the assumptions of a constant age-sex distribution may not always be fully valid.

Similarly, the base populations that form the denominator for the crude birth rates in Table 4 may also be subject to significant fluctuations. For example, Guam is experiencing immigration of Koreans and Filipinos, along with continuing movements of

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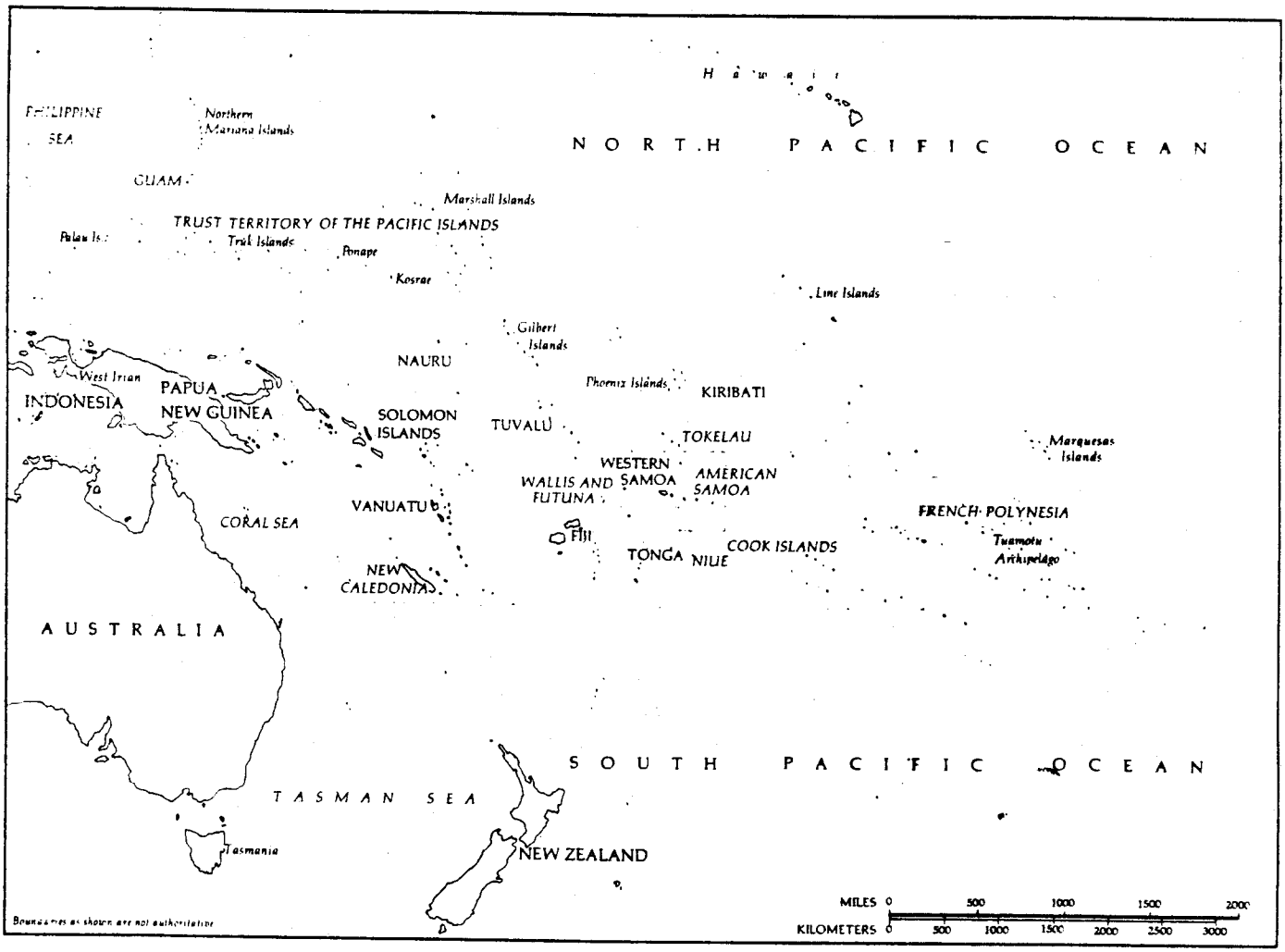
FIGURE 1 The South Pacific region



Guamanians and US military personnel and their dependents to and from other parts of the United States. In using these crude birth rates, caution must also be exercised because of the incorporation of "self-fulfilling prophecies" that bias the estimates downward. For instance, the existence of a family planning program may lead to an assumption of a significant downward trend in fertility.

Completed fertility (not shown in the tables) tends to reflect historically high fertility levels, with some areas and subgroups recording an average of seven or eight births to women aged 45–49.[5] One exception is New Caledonia, where the relatively low fertility of the Europeans, who comprise about 38 percent of the population, depresses the average.

Factors Influencing Current and Completed Fertility

Apart from modern contraception, factors that tend to restrain fertility in the region include a relatively high age at first marriage and a shortage of potential spouses in Tokelau and some other areas because of sex-selective emigration.[6] Many traditional factors influencing fertility, such as sexual abstinence and breastfeeding, are now changing quite rapidly.

Sexual Abstinence

Although some ethnic groups in the Pacific traditionally resume sexual intercourse on the day of a child's birth,[7] the most common pattern is for the mother to practice prolonged sexual abstinence during lactation until the child is weaned at 18 months or two years of age.[8] Rigorously observed postpartum abstinence for four to six years has been recorded in Western New Guinea.[9] Murdock's *Ethnographic Atlas* provides data on the duration of postnatal abstinence for certain Pacific Island societies: in five societies the conventional period was less than one month; in 13, it was between one month and one year; in 10, it was more than one year but less than two; and in as many as 9 societies abstinence for two years or more was customary.[10]

BLE 1 Constitutional status of selected Pacific countries

Country	Status
American Samoa	United States Unincorporated Territory
Cook Islands	Self-governing in free association with New Zealand since 1965
Fiji	Independent from Britain since 1970
French Polynesia	Overseas Territory of France, with a French governor and a local parliament; represented in the French Parliament
Guam	United States Unincorporated Territory
Kiribati (formerly the Gilbert Islands)	Independent from Britain since 1979
Nauru	Independent from Australia since 1968
New Caledonia	Overseas Territory of France, with a French governor who is also responsible for Wallis and Futuna; represented in the French Parliament
Niue	Self-governing in free association with New Zealand since 1974
Papua New Guinea	Independent from Australia since 1975
Solomon Islands	Independent from Britain since 1978
Tokelau	New Zealand non-self-governing Territory
Tonga	Independent monarchy. Ceased to be a British protectorate in 1970
Trust Territory of the Pacific Islands	United States Trust Territory (four governments in free association with the United States)
Kosrae	Member, Federated States of Micronesia
Marshall Islands	Self-governing but also part of Trust Territory of the Pacific Islands
Northern Mariana Islands	Commonwealth state in association with US; also part of Trust Territory
Palau	Self-governing; also part of Trust Territory
Ponape	Member, Federated States of Micronesia; also part of Trust Territory
Truk	Member, Federated States of Micronesia; also part of Trust Territory
Tuvalu (formerly the Ellice Islands)	Independent from Britain since 1978
Vanuatu (formerly the New Hebrides)	Independent from Britain and France since 1980
Wallis and Futuna	Overseas Territory of France
Western Samoa	Independent from New Zealand since 1962 (also known as Samoa)

SOURCE: Carter, cited in note 3, pp. 8–9.

TABLE 2 Population, density, and growth rates of selected Pacific countries

Country	Population (mid-1979 in '000s)	Area (km^2)	Density per km^2	Annual rate of population growth 1969–79 (percent)
American Samoa	31.4	197	159	1.7
Cook Islands	18.5	240	77	−0.9
Fiji	619.0	18,272	34	2.0
French Polynesia	144.6	3,265	44	2.9
Guam	100.0 117.0[a]	541	185	1.8 3.4[a]
Kiribati	57.3	690	83	1.7
Nauru	7.3	21	348	1.2
New Caledonia	139.0	19,103	7	3.1
Niue	3.6	259	14	−3.8
Papua New Guinea	3,079.0	462,243	7	2.7
Solomon Islands	221.2	28,530	8	3.4
Tokelau	1.6	10	160	−0.6
Tonga	95.8	699	137	1.6
Trust Territory of the Pacific Islands	132.5	1,832	73	3.0
Tuvalu	7.4	26	285	2.5
Vanuatu	114.5	11,880	10	3.5
Wallis and Futuna	10.2	255	40	1.8
Western Samoa	155.0	2,935	53	1.1
South Pacific region (including Norfolk Island and Pitcairn)	4,939.0	551,039	9	2.6

[a] Alternative population figure for Guam is from US Department of Commerce, Bureau of the Census, *World Population Statistics in Brief: 1979* (Washington, D.C.: Bureau of the Census, 1980).

SOURCE: South Pacific Commission, cited in note 4, Table 2. This source shows an annual growth rate for Vanuatu of 3.4 percent, which is apparently derived from rounding 3.45 percent.

TABLE 3 Estimates of total fertility rates for selected Pacific countries around 1966, 1970, and 1978

Country	Total fertility rates (per woman) Around 1966	Around 1970	Around 1978
American Samoa	5.9	5.5 or *6.1*	5.0
Cook Islands		6.2 or *6.1*	*4.2*
Fiji	4.8	3.8 or 3.2	3.6 or *2.6*
French Polynesia	6.3	5.6	
Guam	4.8	4.7	3.5
Kiribati		4.3 or *4.7*	*4.7*
Nauru	7.1		
New Caledonia	5.6	*4.3*	
Niue		6.2	*4.2*
Papua New Guinea	*6.5*	*7.1*	
Solomon Islands		*6.6*	*7.4*
Tokelau		*5.1*	
Tonga	*7.1*		*5.1*
Trust Territory of the Pacific Islands	6.2	5.7 or *6.8*	4.6 or *5.0*
Tuvalu		*2.5*	*2.8*
Vanuatu	6.6		
Wallis and Futuna			
Western Samoa	*7.4*	6.7	6.4 or *3.7*

NOTE: A distinction is made in Table 3 between estimates based on complete or adjusted registered births and other estimates (shown in italics) based on indirect estimation techniques or other approaches.

SOURCES: The main sources for Table 3 are US Department of Commerce, *A Compilation of Age-Specific Fertility Rates for Developing Countries* (Washington, D.C.: Bureau of the Census, 1979); United Nations Economic and Social Commission for Asia and the Pacific, *Demographic Trends and Policies in ESCAP Countries 1978* (Bangkok: United Nations, 1979).

Additional sources are as follows. For American Samoa and Fiji: World Health Organization, cited in note 8. For French Polynesia: Jean-Louis Rallu, "Situation demographique de la Polynésie Française," *Population* 35, no. 2 (March April 1980): 385–416. For Guam: Guam Department of Commerce, cited in note 38. For Kiribati: Sheila Macrae, "Fertility," in *Report of the 1978 Census for Kiribati*, vol. 2 (forthcoming) for 1973 and 1978. For New Caledonia: for 1969, estimated from the mean number of children ever born to women aged 20–24 (P_2), 25–29 (P_3), and 30–34 (P_4). W. Brass, "Screening procedures for detecting errors in maternity history data," in Economic and Social Commission for Asia and the Pacific, *Regional Workshop on Techniques of Analysis of World Fertility Survey Data* (Bangkok, 1979), pp. 20–21. For Niue: Bakker, cited in note 75, vol. 2, pp. 75–96. For Papua New Guinea: M. Rafiq, "Some evidence on recent demographic changes in Papua New Guinea," *Population Studies* 33, no. 2 (July 1979): 307–312. For Solomon Islands: Solomon Islands Central Planning Office, cited in note 64, Table 3.46. For Tonga: for 1966, Bakker, cited in note 71, p. 27; for 1976, based on the mean number of children ever born to women aged 20–24 (P_2) and 25–29 (P_3). See Brass, cited above, p. 20. For Tokelau: based on the application of Arretx's method to data from Hooper and Huntsman, cited in note 74, pp. 366–411. For Tuvalu: Sheila Macrae, "Fertility," in *Report of the 1979 Census of Tuvalu* (in press). For Vanuatu: based on the formula

$P_2 \left(\frac{P_4}{P_3}\right)^4$ using 1967 census data.

TABLE 4 Government position on population growth and family planning, around 1978

Government position	Estimated crude birth rates (per thousand) 20–29	30–34	40–49
A. Official policy to reduce the population growth rate	Fiji Tuvalu	Kiribati Tonga	Papua New Guinea Solomon Islands
B. Official support of family planning for other than demographic reasons (e.g., health)	Cook Islands Guam Nauru* New Caledonia* Niue*	American Samoa French Polynesia Western Samoa	Trust Territory of the Pacific Islands* Vanuatu
C. Government position unknown			Wallis and Futuna

NOTES: See Dorothy L. Nortman and Ellen Hofstatter, *Population and Family Planning Programs: A Compendium of Data through 1978*, tenth edition (New York: The Population Council, 1980), p. 29, for the categories used. The allocation of some countries into category A or B is tentative. Although placed in category B, the four starred (*) countries have implicit or explicit policies to increase or maintain the population growth rate. For example, according to the United Nations Fund for Population Activities, *Population Facts at Hand* (New York: United Nations, 1980), p. 50, Nauru perceived its current rate of natural increase as too low. Current fertility was considered satisfactory, but government policy was to maintain rates. At the same time, access to effective fertility control is not limited, and direct support for family planning services is provided.

SOURCES: The crude birth rates are from US Department of Commerce, Bureau of the Census, *World Population Statistics in Brief 1979* (Washington, D.C.: Bureau of the Census, 1980), except for Tuvalu, where a lower census estimate by Sheila Macrae is preferred, and for Niue, where the source is M. L. Bakker, cited in note 75, vol. 2, p. 81. The government position was ascertained by reference to development plans and to the United Nations Economic and Social Commission for Asia and the Pacific, *Demographic Trends and Policies in ESCAP Countries 1978* (Bangkok: United Nations, 1979).

Among groups who consider sexual intercourse to be debilitating, sexual abstinence is often associated with the ritual of food production, as during the yam-growing season[11] or when the family pig has given birth.[12] At the other extreme are societies in which there is much playful enjoyment of sexual intercourse, especially among the unmarried, and adolescent sterility is still a puzzling phenomenon.[13] Generally, modernization has resulted in a declining variety in sexual behavior among ethnic groups as

[illegible]ionary influences have curtailed the freedom of [illegible]oung and the gradual disappearance of separate "men's houses" and polygyny has reduced the duration of abstinence.

Traditional Birth Control

In the nineteenth and early twentieth centuries, many of the Pacific Islands went through periods of varying duration in which they experienced a visible decline in total population numbers. There was much contemporary debate as to the causes of this depopulation. Mortality following from contact with introduced infectious diseases was certainly a major factor. The additional impact and relative importance of the spread of gonorrhea and the resort to induced abortion in reducing birth rates will probably never be fully established.[14] It is clear, however, that many Pacific cultures both had access to effective mechanical means of inducing abortion and defined a limited number of exceptional circumstances in which abortion was socially sanctioned. Devereux was able to assemble anthropological data on abortion for 60 South Pacific cultures.[15] Traditional methods of contraception appear to be much less common, although withdrawal is widely known.[16]

[illegible]One distinctive feature of a number of Pacific cul[illegible]s is the belief that women who are sterile have deliberately swallowed a concoction of leaves that has produced this effect.[17] Often the accusation is that young girls take the medicine to avoid pregnancy before marriage and then find that its effects cannot be reversed because the woman who gave it to them has since died.[18] Belief in this medicine makes Depo-Provera injections highly acceptable but also results in an excessive faith in the power of a single oral contraceptive tablet.

Breastfeeding

Current statistical data on breastfeeding in the South Pacific are not readily available, but the 1974 Fiji Fertility Survey indicated that breastfeeding for very long periods was not common. The median duration of lactation was 10.4 months among Fijians and 5.2 months among Indians, with a strong association between breastfeeding and postpartum abstinence.[19]

In some countries such as Western Samoa and Kiribati, maternal and child health services are encouraging longer breastfeeding.[20] In Papua New Guinea, feeding bottles and rubber teats were made [illegible]able by prescription only under the Baby Feed [illegible]lies (control) Act of 1977.[21] Although this measure was primarily intended to improve infant health, it was recognized that it could also result in reduced fertility.[22]

Family Planning Services

In 1950, at the instigation of Prince Tungi, who is now the King of Tonga, the question of population was raised at the First South Pacific Conference. In 1952, the Fiji Legislative Council urged the appointment of a commission to consider the problems of overpopulation. It was not until 1957, however, that Sister Compton of New Zealand "made a start on the development of family planning in the islands of the Southern Pacific. The IPPF asked her to survey Fiji, Tonga, Niue, Eastern and Western Samoa and she returned to Tonga in 1958 to open the first clinic."[23]

Today in most countries of the South Pacific region, family planning services are provided by the government, often (as in Fiji, the Cook Islands, Kiribati, and Tonga) as a part of a maternal and child health program. One recognized problem with the MCH approach is that the program tends to ignore women who are not mothers. Another is that men, who regard themselves as the decision-makers in the family, are not reached by the program.

Many of the countries also have private family planning associations and often an organization sponsored by the Catholic Church, usually founded in the 1970s and concentrating on the Billings and other natural methods (see Table 5). In countries such as Fiji and Western Samoa, the government health authorities tend to concentrate on the provision of services, while the private family planning associations are largely responsible for promotional activities.[24]

The "Pacific way" of doing things stresses quiet cooperation and community consultation.[25] For this reason it is perhaps not surprising that at least two countries, Papua New Guinea and the Solomon Islands, have taken a cautious approach to family planning. In Papua New Guinea, the Population Action Program is currently at stage 1, research and education, which includes extending the awareness of family planning and motivation to use the services, and increasing the availability of family planning services. The second and third stages involve policy formulation and implementation.[26]

Among the obstacles to family planning in Papua New Guinea were the beliefs that it promoted promiscuity, reduced a clan's fighting strength, and led to disputes between the Catholics and non-Catholics.[27] Similar obstacles were thought to have contributed to the decline in acceptance rates for Fijians between 1972 and 1977.[28]

From the discussion of selected countries below, it can be seen that family planning often reflects an "urban bias" whereby services are more readily available in urban centers or on the main island. This

TABLE 5 The commencement of family planning in various South Pacific countries

Country	Government program or major involvement	Family planning association founded	Catholic Church–sponsored organization founded	International assistance from
American Samoa	1973	1973		
Cook Islands				UNFPA
Fiji	1962	1963	1973	UNFPA, UNDP, WHO, UNICEF, WFP, USAID
French Polynesia		1968?		
Kiribati	1968	1969		IPPF, UNFPA, WHO, UNICEF
Papua New Guinea	1968	1974	1974	IPPF, UNFPA, WHO, FPIA
Solomon Islands		1973	1973	UKODM WHO UNFPA
Tonga	1958	1969	1970	IPPF, UNFPA, WHO, UNDP, New Zealand overseas aid
Tuvalu	1968	1975		UNFPA
Vanuatu		1974		IPPF, UNFPA, WHO, UNICEF
Western Samoa	1971	1971		UNFPA, WHO/ UNICEF, WFP

NOTE: Blank cells can mean either the lack of the relevant activity or that the date of its commencement is not known.

SOURCES: International Planned Parenthood Federation, cited in note 24, pp. 64–67. Additional sources are as follows. For Fiji: Bavadra and Kierski, cited in note 28, pp. 17–23. For Kiribati and Tuvalu: Pitchford, cited in note 47, p. 1, indicates that the Medical Department's program began "in earnest" in 1968. The date for the Tuvalu family planning association refers to "after separation" from Kiribati. For Papua New Guinea: O'Collins, cited in note 30, p. 3. For the Solomon Islands: Maev O'Collins, "Overview of social welfare and family planning programmes in the Solomon Islands," report prepared for the United Nations Inter-Regional Technical Meeting on Social Welfare Aspects of Family Planning, Manila, 1978. O'Collins does not give the date when family planning was included in the Ministry of Health and Welfare's Family Health Programme. For Tonga: Mary Theresa, "Report of the Christian Family Life Programme, Catholic Diocese of Tonga" (mimeo, 1980). For Western Samoa: Stanley, cited in note 68, p. 4, indicates that the Family Planning Association was formed in 1971 but changed its name to the Western Samoa Planned Parenthood Association under the new constitution in 1973.

might result in part from a lack of trained manpower. To improve the delivery of services, the Cook Islands use paramedics and traditional midwives. Several other countries also use paramedics to fit IUDs or issue pills.[29]

International Agencies

International agencies have played a significant part in the development of family planning services in the South Pacific. For example, in Papua New Guinea a Family Health Project to integrate family planning into maternal and child health services was established in 1974 with the assistance of the World Health Organization and the United Nations Fund for Population Activities.[30] Details of the sources of international assistance are given in Table 5. On the basis of per capita income and various demographic indicators, the Solomon Islands, Tonga, and Western Samoa were designated as priority countries for UNFPA population assistance, while Kiribati and Tuvalu were designated as requiring special attention.[31]

Family Planning Methods

As far as can be ascertained, the following methods are available (albeit sometimes to a very limited extent) in all countries in the region: orals, the IUD, and female sterilization. Table 6 indicates that orals are widely used, particularly in the American territories and French Polynesia. The number of types of orals available varies from one in Kiribati and Tuvalu to six

LE 6 Contraceptive users, acceptors, and major methods among women aged 15–44 (around 1979)

Country	Number	Current users (percent)	Annual acceptors (percent)	Current users by major method (percent)
American Samoa	4,786	22	16	60% orals
Cook Islands	3,554	28	7	40% orals
				37% IUD
Fiji	134,328	29	4	23% orals
				42% female sterilization
French Polynesia	35,000		29	87% orals[a]
Guam	17,672	7	3	67% orals
Kiribati 1977	12,056	22	3	
1978		*22*	*7*	*79% injectables*
Nauru				
New Caledonia				
Niue	547	11		63% injectables
Papua New Guinea	494,860		3	44% orals[a]
Solomon Islands	37,351	23	3	42% injectables
				25% orals
Tokelau				
Tonga	11,664	36	16	25% IUD
				30% injectables
Trust Territory of the Pacific Islands	20,690	5	4	84% orals
Tuvalu	1,302	32	10	21% orals
				26% IUD
				46% injectables
Vanuatu	18,000	13	1	
and Futuna				
n Samoa	27,796	11	3	70% IUD

[a]Percentage is based on methods used by annual acceptors.

NOTES: These statistics should be treated with extreme caution, and in many cases they provide only a rough guide to use of family planning in a particular country. In addition, there appears to be a lack of comparability between countries, particularly in respect to restarters, persons who change methods or clinics, and sterilization acceptors.

For Kiribati, restarters are definitely excluded from the annual acceptor figures. For Niue, Bakker (cited in note 75, p. 96) indicates that methods other than orals, IUD, injectables, and sterilization were not recorded at Alofi Hospital. For Western Samoa, reference to the *Annual Report 1978* of the Department of Health, Family Welfare Section, p. 6, indicates that if sterilization operations since 1980 were included, the proportion of current users would rise from 10 percent to 13 percent.

Perhaps because some of the figures in Table 6 are forecasts, reconciliation with other sources is sometimes difficult. For example, for Tonga the *Report of the Minister of Health for the Year 1978*, Table 11, shows that 53 percent of acceptors since 1966 are still practicing contraception.

SOURCES: World Health Organization, cited in note 8, Tables 12, 13, and 15, as adjusted. For Kiribati, reference to the *1978 Annual Report* of the Ministry of Health and Community Affairs, Appendix 12, indicates that the WHO figures relate to 1977. The 1978 figures are given in italics in Table 6.

in American Samoa. The IUD is an important method in some countries (notably Western Samoa) but has declined in popularity in some others.[32]

Depo-Provera is unavailable in the American territories, which may reflect the unavailability of Depo-Provera on the mainland United States, where it is not licensed for contraceptive use. The widespread use of Depo-Provera in some other Pacific countries m[illegible]therefore reflect the influence of New Zealand, [illegible] had 20,000 users of the method in 1974.[33]

The legal status of abortion is not always clear but seems generally restrictive except where the mother's life is at risk. In Vanuatu, the former British authorities apparently took a less restrictive view than the French. In New Zealand, the attitudes of Pacific Islanders are reported to be more conservative than those of Europeans or Maoris.[34]

Family Planning in Selected Countries

The following section discusses family planning and population in the French Territories, in one American

territory, and in six "anglophone" countries. This selection excludes the smaller nations of the region, but provides a wide range of experience and problems.

The French Territories

Information on fertility regulation in the French territories (French Polynesia, New Caledonia, and Wallis and Futuna) is difficult to obtain. This is partly because of a general lack of communication between English- and French-speaking areas and partly because of the specific sensitivity of population issues. Thus, according to Trumbull, "France has discouraged contact with Wallis and Futuna by outsiders other than Frenchmen. After an unfavorable report on health and hygiene in the islands by a team from the South Pacific Commission, no further visits from the Commission's staff were allowed."[35] The 1978 French development plan for New Caledonia states that the territory should pursue an active policy to encourage the immigration and settlement of adults to join the labor force. It is argued (a) that this would help to reduce the dependency burden resulting from the youthful age structure of the population and (b) that it would increase the overall population density in the territory. The plan states that "the under-population of the Territory is one of the most worrying aspects of its under-development."[36]

Contraception in the French territories is distinctive in a number of ways. First, the non-Europeans (mainly Melanesians and Polynesians but with additional mixtures of Chinese and others) coexist with the ever-present example of significant European populations with birth rates in the low 20s. Second, contraception is mainly promoted and provided by private male physicians, rather than by organizations. And third, it is largely used to replace abortion. French Polynesia has an estimated 3,500 births a year and as many as 2,000 induced abortions. Some girls have as many as three abortions while completing their education prior to marriage. Growing public awareness of the abortion problem motivated the government and health services to promote contraception as an alternative. Among the French-speaking areas, the country now has one of the most liberal attitudes toward birth control, with advice on the subject featured on radio and television, and the abortion rate is gradually declining.

In New Caledonia there is no overall commitment to family planning; the hospital-based family planning program and the Catholic family planning association are very recent creations (1978/79). Their chief aims are to extend to the poorer and least educated sections of the community services that have long been available through physicians practicing privately. As in French Polynesia, the legalization of contraception by the revocation of the French law of 1920 (which forbade sales of contraceptives) followed publicity given to public hospital data on problems associated with septic abortions and extreme hemorrhaging. New Caledonia appears to be distinctive for the readiness of men to accept contraception and to be present when their wives give birth.[37]

Guam

According to Guam's Bureau of Planning, ". . . population planning to achieve stabilization, without over-taxing available resources, is a much more serious concern on Guam than in most other US communities. Guam's dilemma is compounded by the fact that we still have little control over unpredictable in-migration to the island." The Guam Division of Economic Planning notes that the country's total fertility rate is double that of the United States and considers that "Catholicism, cultural aspects of Spanish origin and kinship relationships" were possible supports for high fertility.[38]

As of 1979, Guam had several unique features. First, persons below age 18 were forbidden to use family planning methods, although this position is under review. Second, the government pays the cost of vasectomies. Third, family planning services are provided by the military, as well as by the government and a voluntary organization.[39]

Fiji

Compared with other South Pacific countries, the progress of family planning in Fiji is extremely well documented, and it is the only South Pacific country to have participated in the World Fertility Survey. As early as 1957, the Medical Department organized family planning clinics, and by 1962 family planning had become part of government policy.[40] Of the 3,314 ever-married women exposed to the risk of conception at the time of the 1974 Fijian Fertility Survey, 56 percent were using contraception.[41] The Lippes loop was the most widely used method in 1968, but, as indicated in Table 6, had been superseded in the 1970s by the pill and female sterilization. (For cultural reasons very few vasectomies are performed.)[42]

The Fijian program achieved a remarkable initial success, with the crude birth rate falling from around 40 per thousand in 1960 to below 30 in 1968. The rate for the Indian Fijians fell from 44 to 30, and that of the indigenous Fijians from 37 to 32.[43] However, partly because of the declining acceptance of family planning by the indigenous Fijians,[44] gains in the 1970s have been less spectacular. The current long-term goals of the Ministry of Health include intensification

activities in areas such as the outer islands, where ily planning acceptance is low, development of hospital-based family planning programs, and intensifying sterilization activities, including vasectomies. The current target is to reduce the crude birth rate to 20 per thousand by 1985.[45]

Kiribati

Objective 10 of Kiribati's 1979–83 Development Plan is "to maintain the balance between population and natural resources." According to the Plan, "A Family Planning Programme was established in 1968 and achieved considerable success." The Plan considers that high population densities "have made islanders aware of the problems which arise with overpopulation and made them receptive to the idea of planned families."[46]

In 1972 a pilot study reported that "over one third of the female population aged between 15 and 44 years have adopted and are continuing to use modern contraception. This rate of acceptance is unusual in predominantly rural, subsistence oriented societies. . . . The colony may therefore have set a precedent. It may have little to learn from the experiences of other countries and is left to plough a lone furrow in the next stage of its population programme."[47] Kiribati's acceptance and continuation rates were higher in the main island and in the land-hungry southern islands.[48]

By 1978, however, only about one-fifth of women of reproductive age were using effective methods of contraception. The Medical Department felt that because of a change of personnel, the end of the autonomous family planning campaign, and the integration of family planning into maternal and child health efforts, the impetus had been lost.[49] The 1979–82 Development Plan therefore envisaged revisions of the family planning program.[50] The Plan also noted a considerable interisland variation in acceptance of family planning, and a movement away from the IUD to the pill and Depo-Provera[51]—methods that, if used intermittently, would be less reliable.

Papua New Guinea

Papua New Guinea is a very complex nation, comprising more than 700 distinct language groups. Demographic data are extremely limited, and although a complete enumeration was completed in 1980, the rural coverage of the two previous censuses, 1966 and 1971, was confined to a sample of 10 percent of villages.[52] Using this census data, Rafiq has concluded that fertility rose in the 1960s (see Table 2), while infant mortality fell to around 131 in 1971.[53] Both conclusions, of rising fertility and prevailing high infant mortality, are plausible given the falling durations of breastfeeding and the decline of traditional methods of birth spacing.[54]

There appear to be marked regional differences in both fertility and infant mortality, with the Islands region having both the highest fertility and the lowest infant mortality.[55] In addition, the Department of Health's unpublished *Summary on Monthly Report* suggests considerable variation in contraceptive usage among the 20 provinces. For example, in the first half of 1979, 62 percent of the 607 tubal ligations occurred in two adjacent provinces, Eastern Highlands and Morobe, while 67 percent of new acceptors of ovulation were in the National Capital.

In the early 1970s, the Lippes loop was most widely used and, compared with other developing countries, had relatively low expulsion and removal rates; but now the pill is the most popular method in Papua New Guinea.[56] One interesting feature of Papua New Guinea's approach to health is that baby bottles require a prescription whereas oral contraceptives do not.[57] Apart from the range of contraceptive services offered by government and church-related hospitals and clinics and by mobile MCH units, medical aid post orderlies and supervisors distribute simpler contraceptives, such as condoms and pills, and rural stores are encouraged to sell condoms.[58]

The family planning objective of the National Health Plan 1974–1978 was "to provide parents with the knowledge and means to be able to have the desired number of children, and thereby to improve the quality of life."[59] Yet it has been suggested that the country "lacks the resources to measure the impact of the family planning programme on population growth, health and welfare."[60]

As indicated in Table 5, Papua New Guinea perceives its fertility as being too high, and is intervening to lower fertility rates. However, family planning seems to be making very slow progress, and an evaluation by a WHO/UNFPA team in 1978 noted that basic health services, including MCH and family planning, were not reaching the vast majority of the rural population.[61] Thus in the isolated Chimbu Province in 1975, it was reported that despite an increase in the number of clinics, only about 0.15 percent of women of childbearing age were using modern family planning techniques.[62]

Solomon Islands

According to the 1975–79 Development Plan, birth intervals are being shortened: "Traditional methods of contraception are going out of use, and infant mortality is falling." "The government has approached

family planning cautiously, as it is a subject of deep concern to Solomon Islands people, churches and the government itself," and "a voluntary Planned Parenthood Association has been formed with Government approval. . . ."[63]

The 1980–84 National Development Plan lays great stress on improved economic development resulting from reduced population growth, but takes a low-key approach to family planning. The Plan defines the need for a more intensive family health program, and recommends an active policy of family planning, stressing child spacing, to improve the health of the mother.[64]

Tonga

Under the Constitution every Tongan male over age 16 is entitled to apply for a rural allotment not exceeding 8¼ acres and a town allotment not exceeding two-fifths of an acre. Because of population growth, most adult males are unable to secure any allotment.[65]

Family planning was an accepted part of government policy by 1962, and the actual program began in 1965. According to the Kingdom's 1975–80 Development Plan, the target of providing services to at least half of the female married population was achieved during the period 1970–75, but the objective of reducing the birth rate to 20 per thousand by 1975 was too ambitious.

In the 1975–80 Plan period, the target for providing family planning services was raised to 75 percent of all eligible married females by the end of 1980.[66]

One basic indicator of the impact of a family planning program is the reduction in the crude birth rate. Unfortunately, there is some doubt about Tonga's crude birth rate, and the 1975–80 Plan gives two conflicting figures of 27 and 24 per thousand. After efforts by the Ministry of Justice to improve vital registration, the birth rate figure rose from 26 in 1978 to 35 in 1979 because of late registrations.[67] Over 10 percent of registered births were illegitimate in 1979, but in the absence of analysis by age it is not clear whether this includes a large component of teenage pregnancies. Possibly, with the emphasis on premarital chastity, some unmarried girls may be reluctant to go to family planning clinics.

Western Samoa

A 1971 survey of knowledge, attitudes, and practice indicated that only 10 percent of married couples in Western Samoa had ever practiced contraception and only 5 percent were current users.[68] Oral contraceptives were popular in the early 1970s but have largely been superseded by the IUD. Injectables are becoming increasingly popular, possibly because weight gain is perceived by Samoan couples as a positive side effect indicating good health. One disadvantage of the IUD in the Samoan context is that heavy manual labor in agriculture is often a female input, and serves to aggravate the cramping pains associated with the IUD.[69]

Training of nurses to insert the Lippes loop, which began in 1976, has solved a number of problems. Women were very reluctant to be vaginally examined by male medical officers. In addition, these officers were not highly motivated to promote family planning, being occupied with other matters, and had little contact with remote rural areas. In contrast, district nurses cover 99 percent of rural areas. More than half of all current users are now found outside the capital, and over a quarter live on the second island. A scheme to use the village-based Women's Health Committees, which have been very successful in the promotion of maternal and child health and development projects, in the promotion of family planning failed because women did not wish their fellow villagers to know of their birth control practice.

Conclusion

Because of deficiencies in vital and family planning statistics in the South Pacific, it is not usually possible to ascertain what progress has been made toward restricting fertility through the wider use of modern contraception. In spite of this, the variety of experience of these countries must be of interest to observers of the demographic transition.

Caldwell, for example, argues that the timing of the onset of the fertility transition is determined by the effect of mass education on the family economy.[70] However, Tonga, which has had free and compulsory education since 1891, had experienced high fertility at least until 1966.[71] Freedman feels that, apart from the direct effect of actual changes in living conditions, motivations to limit family size can be affected by literacy and by communication and transportation links with the rest of the world.[72]

Both Caldwell's and Freedman's ideas should be explored in the South Pacific context, especially the association between school enrollments and fertility. Regarding communication links, Lechte considers that only two Pacific countries (Papua New Guinea and Fiji) have true daily newspapers, and that, with the existence of almost a thousand languages, radio is more effective than print.[73] Migration opportunities are influenced by transport facilities, and return-migrants appear to have had an effect in spreading knowledge of contraceptives in Tokelau[74] and on depressing fertility levels in Niue.[75]

In their comprehensive study of islands and the ...ographic transition, Cleland and Singh conclude that "Evidence from the South Pacific region lends no support to any hypothesis linking island status to low or declining fertility" and that "Major fertility declines are apparent for most Caribbean countries but rare in the Pacific."[76] In spite of the latter conclusion, Table 3, which incorporates some recent estimates not available to Cleland and Singh, provides at least *prima facie* evidence for declining fertility in at least 12 of the 18 countries of the region.

There is no evidence of fertility decline in three Melanesian countries—Papua New Guinea, Solomon Islands, and Vanuatu—which have relatively high mortality and relatively low levels of new acceptors of contraception (Table 6). Although areas of population pressure do exist,[77] the national population densities are 10 persons per square kilometer or less (Table 2); and, unlike Fiji and some of the other Polynesian countries, the population is not excessively concentrated in one island.[78] The only Melanesian country with declining fertility is New Caledonia, where Europeans are almost as numerous as Melanesians and where the per capita income of around $3700 in 1976 is probably triple or quadruple that in the other three countries.[79] Mauldin and Berelson's index of family ...ning program effort placed Fiji in the "strong" ...egory, together with several other "relatively small and highly infrastructured societies such as Singapore, Hong Kong, or Mauritius."[80] Program effort in Papua New Guinea was classified as "weak," and Solomon Islands and Vanuatu would probably receive a similar classification. Because of the logistical and other problems facing these countries, it is not easy to contemplate when family planning could begin to have an obvious impact on fertility as it has done in Fiji and several other countries of the region.

References and Notes

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