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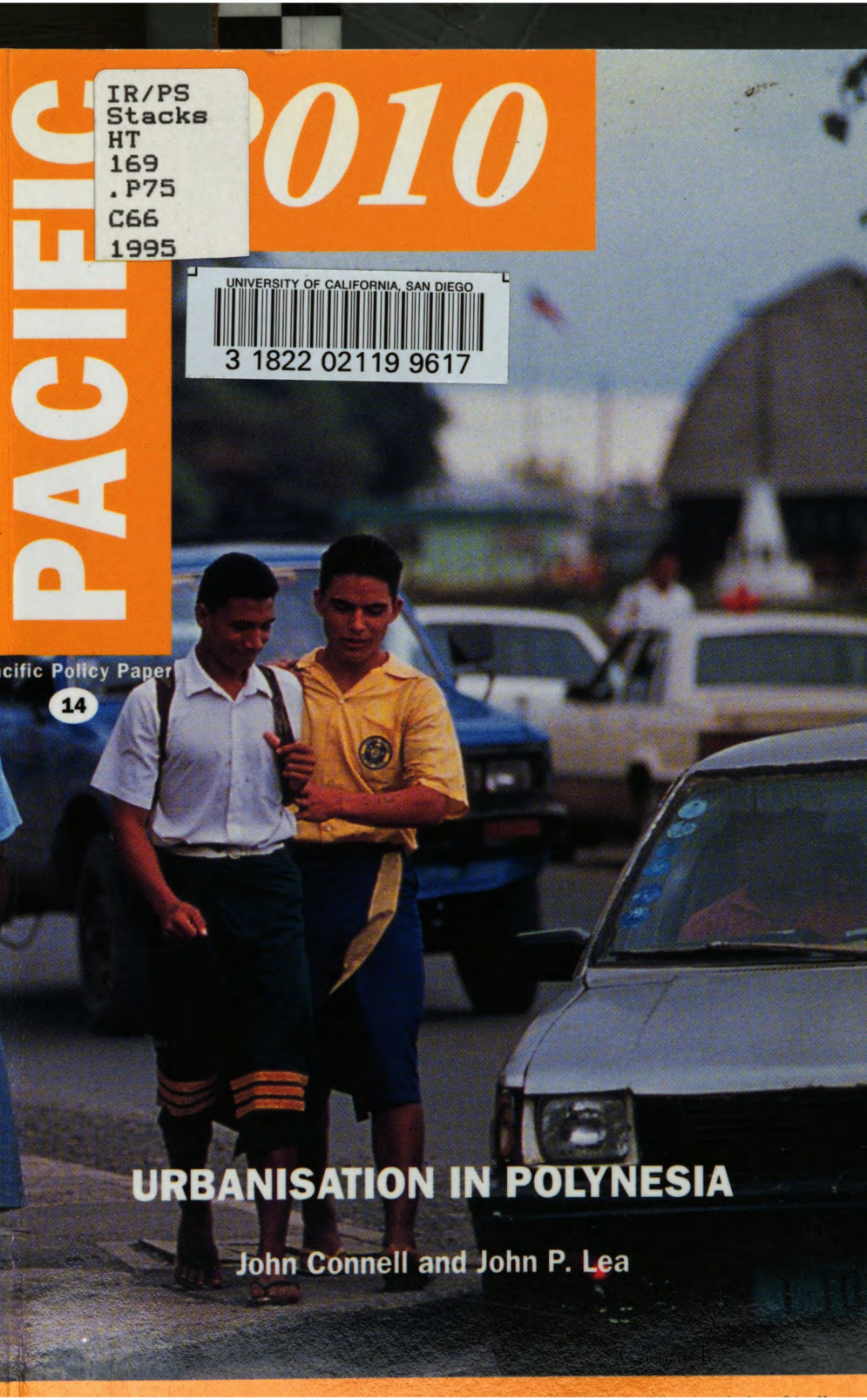
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URBANISATION IN POLYNESIA

John Connell and John P. Lea



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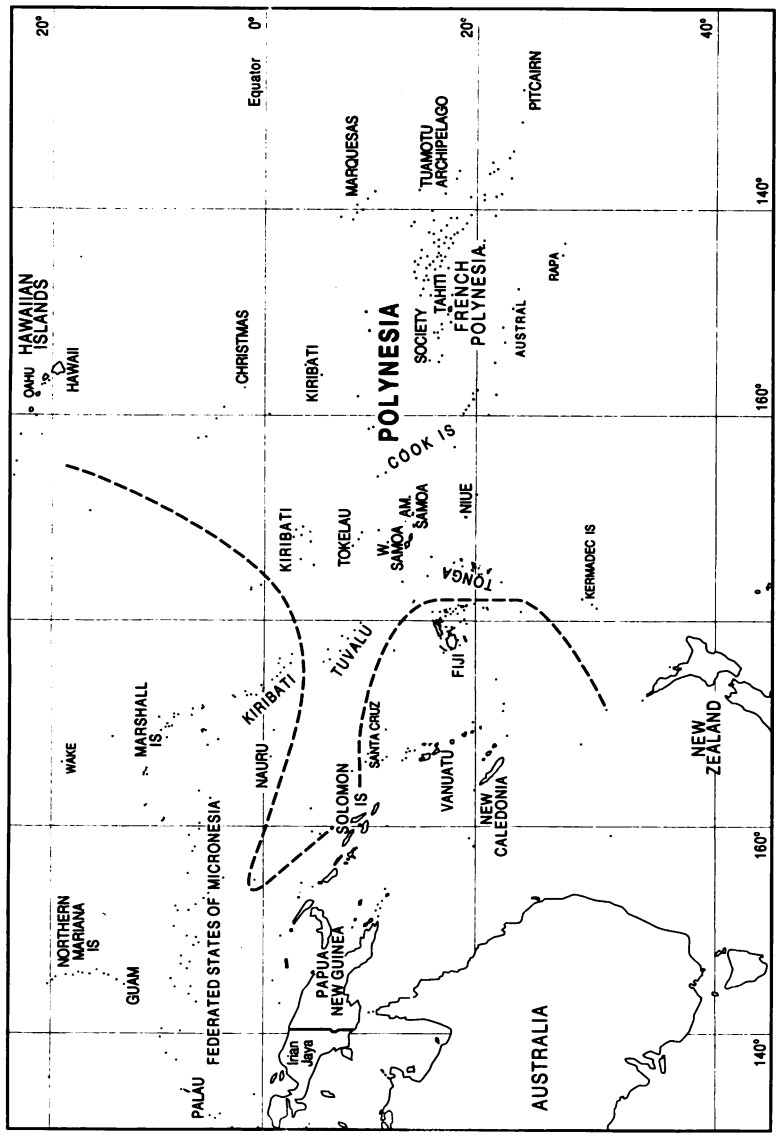


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Urbanisation in Polynesia

John Connell and John P. Lea

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Foreword**Overview of the *Pacific 2010* project**

The *Pacific 2010* project has been concerned with development issues facing the South Pacific island countries. The main thrust has been the concern for population growth and how it is likely to affect development over the next two decades.

For the Melanesian group of countries like Papua New Guinea, Fiji, Solomon Islands and Vanuatu, high population growth rates and declining mortality pose a real threat to future wellbeing. This threat is real in the sense that children who will require improved health and educational services as well as employment opportunities in the year 2010 are now already born. Substantial increases in government expenditure in these services and greater political commitment to economic reform to create these employment opportunities are necessary to avoid a possible decline in standards of living and wellbeing.

For the Polynesian countries, high levels of emigration have tended to release much of the pressure on health and educational services. Emigration has also created opportunities for remittances, which over the years, have become an important source of foreign exchange and income for Polynesians. This has had the impact of absorbing the pressure on these governments for foreign exchange and domestic employment opportunities. The safety net of emigration is not necessarily endless. Hard decisions must continue to be made to provide and maintain services and create productive employment opportunities outside those available in the public services.

Agriculture and resource development for countries so endowed, provides an important avenue to create domestic opportunities for productive growth and employment. The role of government and its ability to facilitate this process and the need for sustainable resource use are critical issues. Customary land tenure systems present an interesting twist to this development agenda, the solution for which must come from within these countries.

Although small by world standards, urban development in the South Pacific presents challenges and problems as severe as they are anywhere else. Different forces appear to be at work in the growth of urbanisation within the region. For the Melanesian countries, population growth and rural-urban migration have driven urban growth while for the Polynesians, urban growth has been slow because of low population growth and low rural-urban migration.

This study is an extension of the urbanisation project, focusing on urbanisation in the Polynesian states of Tonga, Western Samoa and Tuvalu. It provides an interesting insight into the urbanisation process and compares this with the process in Melanesia. Although the problems of urban growth are quite similar between the regions, the need for effective urban management is identified as the critical issue for urbanisation in Polynesia.

Ila Temu
Director
Islands/Australia Program
National Centre for Development Studies
September 1995

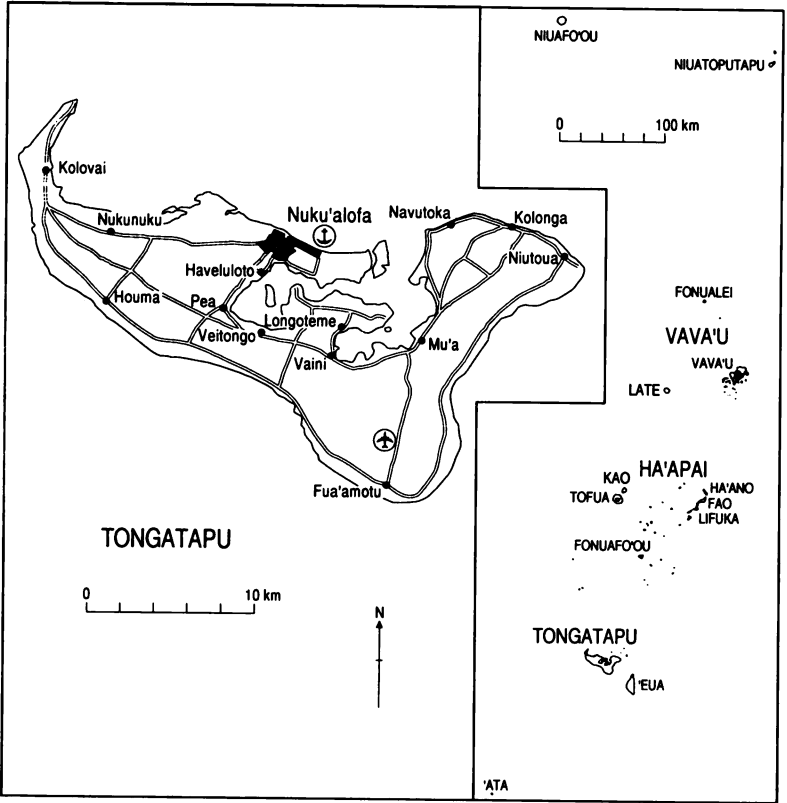
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Managing urbanisation in Polynesia

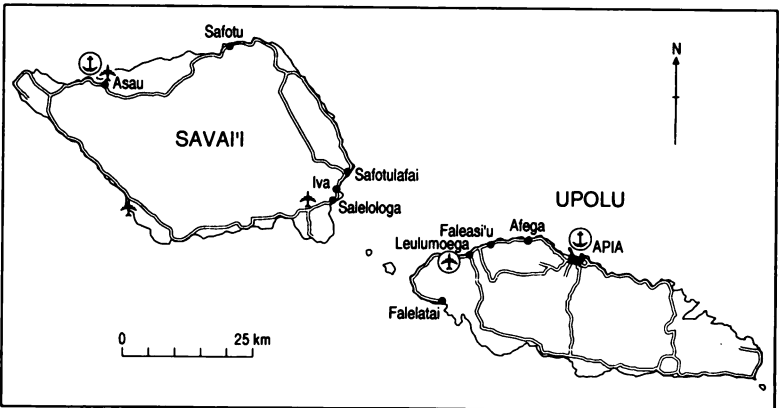
Here is a small town battling a terminal illness threatening to put her down. Filth and disease are swimming in swamps and puddles everywhere...The saddest thing of all is that nobody seems to know what to do. Where are the government's so-called thinkers, the town planners and engineers? Why hasn't anybody been able to figure out how to move the disease-ridden swamps of Fugalei and Taufusi into the sea? The truth is that Apia's growth has been advancing rapidly over the last few years, so that now it is far ahead of development...Even though it is plain as daylight that proper drainage and sewage systems are as essential as food and water, they have been taking the lackadaisical attitude... Apia in its present state is a filthy, depressing little town, totally empty of inspiration. Its ugliness constantly defies the imagination...But here is a town we were once so proud of...Whoever dreamed up that reclaimed area must have been addled (*Samoa Observer* 25 February 1992).

Throughout Polynesia urban conditions are worsening, though cities and towns are growing much more slowly than their Melanesian and Micronesian counterparts. The difficulties of providing adequate urban infrastructure and services that have long been of critical concern in the larger cities of the developing world are now readily apparent. The relatively small size of urban centres in the South Pacific has delayed the recognition of serious problems and the need for an active response because development

Tonga



Western Samoa



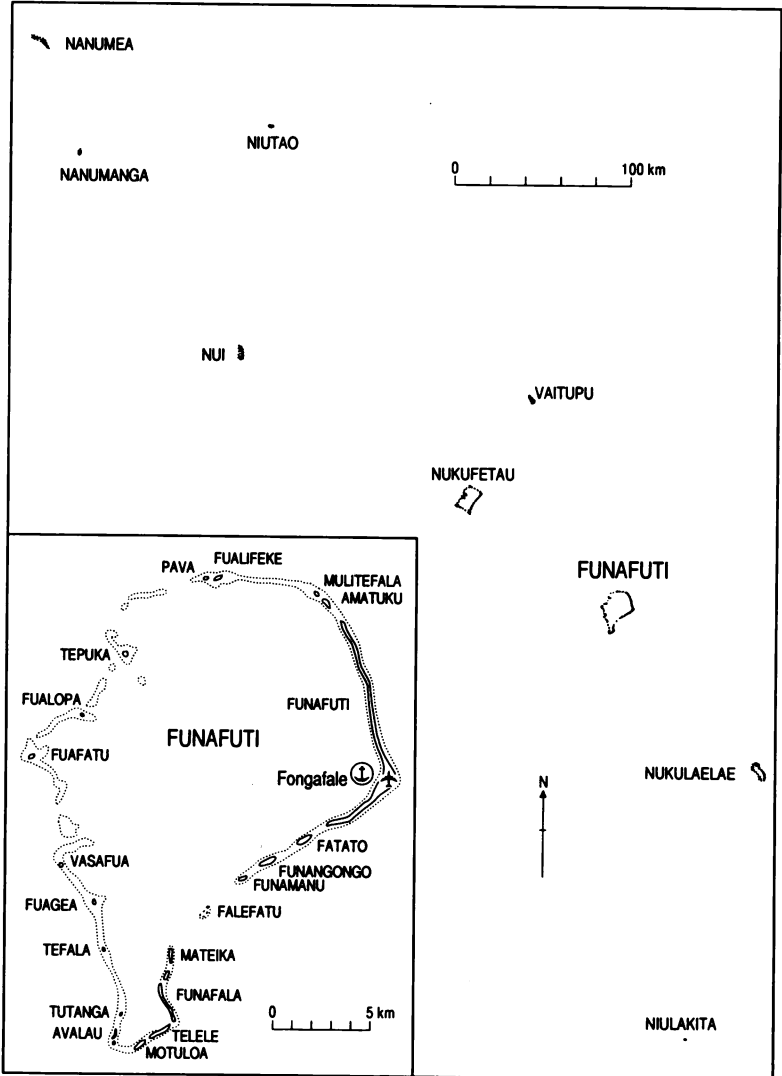
policies have tended to focus on economic growth and on the rural sector. Rapid expansion of the larger Melanesian cities such as Port Moresby and the Suva–Nausori corridor has led to the belated recognition of urban problems in that region and the necessity for municipal and national governments to respond to maintenance problems, unsatisfied demands for housing and other services, and environmental degradation (Connell and Lea 1993). These issues are no less severe in Polynesia—though often writ small they nevertheless pose serious problems for urban residents and national governments. The pressures on urban services are as great in cities like Apia (Western Samoa) and Nuku'alofa (Tonga) where problems of water supply, sanitation, waste disposal and the supply of low-cost housing are already of concern, as they are in the larger Melanesian cities. They are also considerable in the small Tuvalu capital of Funafuti because of the severe difficulties of urban management in an atoll environment and the limited amount of land available for development of any kind.

This book examines the three independent states of Polynesia: Tonga, Western Samoa and Tuvalu (see maps pp.2,4). Many of the problems of urbanisation described in these countries are also representative of circumstances found in the non-independent Polynesian states, especially American Samoa and French Polynesia where there are large urban populations, high population densities and, particularly in Papeete, substantial squatter settlements characterised by high levels of unemployment.

Elsewhere in the region there are few real urban centres since national populations are small and emigration is substantial. Only Niue has a distinct urban centre, Alofi, but the total population of the country is less than two thousand. Everyone on Pitcairn resides in Adamstown but that population is now less than sixty persons (Connell 1988a). In some parts of Polynesia urbanisation does not constitute a problem at all and emigration poses the greatest challenge to sustainable development.

Urbanisation in the three independent Polynesian states is distinct from that in neighbouring Melanesia and many other parts of the developing world in three respects.

Tuvalu



- Population growth is low. The populations of Tonga and Western Samoa are growing very slowly as international migration, acting as a safety valve, has contributed to the relatively slow rate of urban growth. In Tuvalu, however, population is growing relatively quickly, because international migration opportunities are not increasing (and, in the case of labour migration in Nauru, are declining).
- Rural–urban migration rates are low. In both Tonga and Western Samoa, it is easy to commute to the capital city from most of the rest of the island (and more than 70 per cent of both national population totals are found on the two main islands) hence the incentive and need to migrate to the city, for access to employment (or for other reasons), is much less pressing. In Tuvalu it is not possible to commute to Funafuti from elsewhere. Indeed, the difficulty of travelling to Funafuti (and also away from it) may have increased rather than slowed the rate of urbanisation.
- The populations are relatively homogeneous. The three states are largely occupied by ethnically homogeneous populations speaking a single language. Although there are social differences according to area of origin, especially in Tuvalu, the social variations that do exist in the urban areas are much less substantial than in most urban centres in the developing world, as are rural–urban differences.

There are also many similarities with urban centres in newly independent countries elsewhere. First, economic development has increasingly emphasised urban issues—through a growing interest in industrialisation and an expansion of governmental bureaucracy—with new developments putting pressure on urban infrastructure. Second, in most places a substantial proportion of the urban infrastructure was constructed in colonial times—even in Western Samoa which has been independent since 1962—and then for rather smaller towns than the present capital cities. In post-colonial times some of this infrastructure has fallen into disrepair, as problems of recurrent funding, maintenance and the delivery of urban services have made ‘good housekeeping’ and extensions of the existing systems difficult. Third, standards that were adequate in the past are less likely to be good enough in the future as expectations increase and urban residence becomes more

common. Fourth, the populations of the Polynesian states are small and their economies experience limited growth. There is a premium on human resources—there are relatively few skilled workers, and public works, physical planning and related areas are not given high priority. Urban planning is effectively a national government function divided between a host of government departments. Municipal authorities have not yet emerged to coordinate planning and management at the local level. Consequently, although Polynesian towns are small, there are few if any skilled urban managers, little integrated physical, economic and environmental planning, no enforceable town plans and often an absence of building codes and other appropriate legislation. Over time this has had a substantial impact in terms of inadequate provision of water supplies and other services, and the increasingly visible ‘brown’ environmental issues of polluted waterways, lagoons and water supplies, air pollution and inadequate and unhygienic solid waste and sewerage disposal. In none of the urban centres is there any indication that the situation is improving, but there is increasing official recognition from outside the region that urban environmental sanitation services in the South Pacific must be upgraded urgently (World Bank 1995).

The adequate provision of basic urban services is an essential prerequisite to sustained economic, physical and cultural development. The recent World Bank (1995:v) sector study on the urban environment in Solomon Islands, Fiji and Western Samoa suggests that changes in policy direction can improve the urban environment markedly. There are five key levers of development and investment that demand government attention

- making the best of investments already made through institutional reforms, rehabilitation of assets and expansion of the consumer base

‘To a greater extent than towns in most other parts of the world, Polynesian towns, without the benefit of municipal authorities, function much more as collections of villages...than as single entities’

- drawing on unique national characteristics including traditional community participation and increasing public awareness
- turning constraints into opportunities—such as using the delays commonly experienced in finding new waste disposal sites to promote waste minimisation and conservation
- reviewing land policies and regulations that impose extra costs on providing urban services
- undertaking investment only when associated management and maintenance capabilities are in place. Although the focus of this study is on urban services, it is necessary to explore the key background issues of national demography, urbanisation, the condition of the urban economy and society, urban management and planning, and land policy before dealing with the specifics of housing, water supply, sanitation and some of the other urban services. Two important urban services, transport and health, are not examined (except for health in relation to water supply and sanitation) as they are the subject of a considerable specialist literature.

The present condition of the Polynesian towns is a result of their historical evolution and the special mix of social, economic and physical features found in the region. The best means of overcoming current difficulties in urban services delivery lie in the adoption of policies which are sensitive to these features. The changeover from colonial government (in the cases of Western Samoa and Tuvalu) to independent statehood in the 1960s and 1970s weakened the inherited control mechanisms governing urban development. Western urban planning systems are both prescriptive and proscriptive and depend ultimately on popular acceptance of government intervention in everyday life. Such interference is tolerated because local government is usually reasonably responsive to local wishes and its powers are clearly defined. Urban management is one facet of a complete system of local governance in industrialised countries and changes and omissions of the kind found in Polynesia in post-colonial times must affect the operation of the whole.

Rarely have municipal governments in the primate cities of small developing countries enjoyed the preconditions necessary for them to operate effectively as urban managers. They are commonly subjugated by a national government located in the same city and make do with scant resources. This is even more problematic in the towns considered here, since there are no urban governments at all. There are therefore no authorities with the specific responsibility of managing urban affairs—urban issues are dealt with in the context of broader national development planning. This is not a bad thing in itself, so long as there are also suitable bodies to represent the urban constituency and with the capacity to deal with urban management. There is no necessity for Pacific governments to adopt all the trappings of colonial municipalities if appropriate alternative models are devised to operate effectively at the urban level. Until recently, there has been little attention paid to land use zonings, building by-laws, and maintenance and provision for major urban infrastructure—roads, water supplies and sewerage treatment. Only one urban land use plan has been devised in the past decade (Kinhill Kacimawai in association with Riedel and Byrne 1992), and then for the small Tongan outer island town of Neiafu (though this was developed by private consultants to the national government and has no legislative status). There is therefore no land use planning, or any legislation for urban centres in any of the three Polynesian states.

The general lack of an integrated context for physical planning has also created difficulties for the provision of urban services. This has resulted in the planning and provision of urban services by different organisations with different agendas, principles and policies and without any real coordination or cooperation between them. Several countries, especially in Asia, have attempted in the past decade to introduce integrated urban infrastructure development programming to systematically tackle the problems involved. There is a very long way to go before this kind of integrated planning reaches Polynesia, though there is some movement, at least in Western Samoa, to establish a more appropriate municipal framework for coordinated urban planning and management. Orderly investment programming for urban

services delivery in Polynesia rests on the clear identification of the infrastructure priorities in the region and the manner in which they are presently provided. While there are costs involved in establishing an appropriate framework for adequate planning and management, these are likely to be much less than those associated with urban growth in an unplanned context because lack of planning often results in persistent recourse to costly *ad hoc* measures.

The colonial heritage

There were towns in Polynesia in the nineteenth century, notably Apia and Nuku'alofa (and also Papeete), but they were primarily foreign trading centres. Rapid growth did not occur until the second half of the twentieth century, when the towns developed a more obviously Polynesian character. In Tuvalu there was no urbanisation in colonial times as these islands (Ellice Islands) were largely administered from Tarawa in Kiribati (Gilbert Islands), hence urbanisation has been more recent there than anywhere else in the Pacific region. There are considerable differences in the significance of this urban heritage for the three island states.

When the first missionaries arrived in Tonga in 1826, Nuku'alofa was already one of five important centres on the main island of Tongatapu and, although the missionaries strengthened the international significance of the town, the foundations were already present. Nuku'alofa, more than anywhere else in the South Pacific has a pre-European contact origin and thus a longer history of growth and development. The long-established homogeneity of the Tongan population has contributed to the development of a town that is unusually indigenous in its population composition and economic structure, perhaps more so than anywhere else in the region. By the beginning of the twentieth century Nuku'alofa was a small and thriving commercial centre and there were other less important settlements at Mu'a, Neiafu (Vava'u) and Pangai (Ha'apai). In the years before World War I traders were as active

in Neiafu as in Nuku'alofa and there was some small-scale manufacturing in both places (Walsh 1982). There was little urban development in the inter-war years; the depression slowed commercial activity and taxes on town allotments were abolished in 1930 (see Chapter 5). Rural–urban distinctions were beginning to emerge: 'the small population of Nuku'alofa was becoming increasingly sophisticated and familiar with foreign ways and technology but the means of diffusing this among the population at large even on Tongatapu, let alone the other islands, were all but non-existent' (Campbell 1992:152). The other centres had become relatively less important.

By contrast, Apia has always been the only urban centre of any significance in Western Samoa and was one of the earliest port towns in the South Pacific region. In 1860 the population was estimated at about 120; this fell to 50 in 1865 but reached 150 in 1877. The decline of the urban population in the period 1865–68 was due to a minor cotton boom which 'enticed many Apia residents to take up cotton production on the small areas of Upolu land which the Samoans...made available at this time' (Ralston 1977:163). The small town was formally brought under development control by the Municipal Convention of 1879, whereby the three interested colonial powers, Germany, the United States of America and Great Britain, negotiated the establishment of a self-governing enclave on neutral territory. The Convention that was arranged on the colonial side by the British Governor of Fiji, Sir Arthur Gordon, saw the creation of a Municipal Board which raised revenue and looked after public work. The small settlement of Apia numbered about 120 persons in 1880 comprising 31 Americans, 27 Germans, 43 British subjects, 5 Spanish or Portuguese, 2 French and 12 Chinese (municipal roll published in *The Samoa Times—Navigator Islands* 7 February 1880, cited in Pringle 1989:26). Between 1900 and 1926 Apia more than doubled its population but the economic depression of the 1930s reversed the movement to town and there was return migration to Savai'i and rural Upolu.

In the post-war years urban growth became more rapid throughout the South Pacific. In Tonga, trading activities outside Nuku'alofa

never fully recovered and the primacy of the town began to be consolidated through increased government centralisation, the expansion of urban services and the development of some manufacturing industry. The population of Nuku'alofa was nearly 4,000 in 1939, 9,200 in 1956 and about 16,000 in 1964 (Walsh 1964:40). Yet as recently as the 1960s it was possible to comment that

[o]f the capital cities of the South Pacific Nuku'alofa is probably the least urban and its inhabitants the least different from those of the rural villages. It differs from other Pacific island capitals in many ways...and its migrant population as a whole is less attracted by job opportunities than in many other Pacific island towns (Walsh 1964:1).

Since then, despite a number of unusual features such as relatively even population density, resulting from the limited subdivision of urban allotments, Nuku'alofa has become rather more like other urban centres in the South Pacific.

In the post-war years the population of Apia grew steadily and, while the numbers doubled between 1951 and 1971, the rate of urban growth was about 20 per cent over every five-year intercensal period until 1971 after which it declined (Table 6). The town only slightly increased its share of the total population from 18.6 per cent in 1951 to 21.1 per cent in 1976 and 20.9 per cent in 1981. Urban population growth was actually below the national average between 1971 and 1981 as a result of movement out of Apia and increasing international migration from Western Samoa.

In Tuvalu urbanisation was belated. Between 1947 and 1975 the population of Funafuti grew from 528 to 871, a rate of increase which was marginally greater than the national population growth rate. Between 1973 and 1979, the census interval that covered the critical period of separation of the Gilbert Islands (which became Kiribati) from the Ellice Islands (which became Tuvalu), and Tuvaluan independence in 1978, Funafuti and the atoll of Vaitupu were the only two islands experiencing growth rates above the national average. Funafuti, the capital of the newly independent state, grew to 2,120 persons, representing an increase of 143 per

cent from the 1973 total. Many public servants, and others, returned from Tarawa (the capital of Kiribati) and inter-island migration particularly favoured Funafuti. Even by 1976, with a population of just under 1,500, Funafuti had 'on a small scale all the characteristics of a rapidly developing capital city in a developing country' (Howard 1976:5). A few vehicles, a European presence, national government buildings, permanent housing, electricity and a large airstrip gave Funafuti some distinct urban characteristics.

The post-independence era

The reasons for more rapid post-war urbanisation are relatively well-known and are typical of many other parts of the Pacific region. There was a post-war and post-independence expansion in government spending and a resulting boom in public sector employment for the educated élite and skilled workers, followed by growth in service sector jobs. A significant proportion of this employment was filled by expatriates, who chose to live in urban areas, and contributed to the development of social amenities there. In Apia, above all, a significant expatriate and half-caste (*afakasi*) population was established in the town (Connell 1993). This gave some parts of it—particularly on the hill slopes—very distinct social characteristics. Such social divisions are largely non-existent in Nuku'alofa or Funafuti. To a greater extent than towns in most other parts of the world, Polynesian towns, without the benefit of municipal authorities, function much more as collections of villages, each with its own place and authority, than as single entities.

In the absence of land use plans and urban zoning, and because of limited 'modern' development, common forms of urban differentiation are largely absent. In each of the urban centres there was minimal concentrated high-value development until recently, and high-rise buildings, evident only in Apia, are a new phenomenon. In Nuku'alofa no buildings exceed three storeys and in Funafuti it was not until the second half of the 1980s that the

first two-storey building was constructed. Central business districts are new and the towns more closely resemble collections of villages than socially differentiated suburbs. Concern over the extent of urbanisation and its permanence, to the extent that the towns are not mere 'communities of migrants', is a function of several things

- urban unemployment
- visual amenity and environmental degradation
- increasing urban crime rates and other social problems
- breakdowns in urban service provision and delivery, leading to the threat that some urban residents will not be able to gain access to basic services in the future. It is feared that the quality of urban life and the extent of inequality in urban areas may worsen.

Urban characteristics

More recently the environmental aspects of urbanisation have received greater prominence as much urban housing no longer meets the rigorous standards imposed in colonial times, traffic problems worsen and rivers, lagoons and open spaces in urban areas become polluted with the wastes of consumer society. As consumption increasingly takes on more modern forms, so the demand for room to dispose of solid waste increases. At the same time, where urban land remains under customary tenure, obtaining land for waste disposal is difficult, especially in atoll environments. Appropriate landfill sites are often difficult to find, volumes of solid waste have increased (recycling has had a limited impact) and hazardous waste (such as electric batteries) poses special problems. All urban centres are coastal, and the discharge of untreated sewage and other wastes into coastal waters, and especially lagoons where mangroves have often been cut back, not only puts fragile ecosystems at risk but reduces the productivity of subsistence fisheries. Air pollution (from vehicles and burning

waste) is a new phenomenon, as is noise pollution. Polynesian towns, particularly Apia and Nuku'alofa, occupy low-lying sites, parts of which are periodically swampy, posing problems for public health.

Planning of service provision has usually been piecemeal, *ad hoc*, poorly integrated or simply inadequate. In most towns a significant proportion of households are without piped and potable water supplies or access to adequate sanitation. Much the same is true for electricity. Urban services have generally been provided by the public sector which in some places has meant that private provision is limited. Many public services are poorly organised and are subsidised because management lacks the capacity to achieve more than a token level of cost recovery. A substantial proportion of water in many urban supply systems is wasted or otherwise unaccounted for and contributes to significant losses. The development of appropriate institutional mechanisms for urban services provision and delivery in situations where much of the population is too poor or unwilling to pay for services, is a major challenge throughout Polynesia.

A particular problem in Polynesian towns continues to be the resolution of customary land tenure issues in an urban setting. The large extent of private (communal) ownership of urban land has made it very difficult to provide some forms of public development in the towns and made it hard for some residents to gain access to land. Much urban land is effectively outside the control of authorities and organised through customary arrangements or by the churches. The situation is not uniform across the capitals; particular difficulties are experienced in Apia. In Nuku'alofa, tenure problems are expressed in the existence of 'traditional urban villages' located in the urban area or the absence of suitable building land which can accommodate new migrants. In Funafuti the situation is more complex because of the mixture of government housing, private dwellings and Funafuti traditional village housing. Further, in each of the three urban centres there is very little freehold land. In all three states reclamation of lagoons is seen as a way of providing government with new urban land

which is not subject to customary control, a measure of the difficulty attached to urban planning and development.

Growth in most of the towns in the South Pacific is a result of government expenditure on infrastructure and administration. This weak economic base has placed those concerned with urban development and management in a difficult position. Urban public agencies have had great difficulty hiring and retaining qualified staff in the sector because of the small number of local engineering resources, in part a function of international migration and the limited capacity for planning and development. Urban physical planning, effective building codes and land use plans are all absent. There are few workable policies in place for the resolution of the region's environmental problems, despite a comprehensive array of environmental management studies stimulated by the UNCED conference in Rio de Janeiro in 1992, a situation of considerable concern in the atoll state of Tuvalu which is particularly threatened by any greenhouse-induced sea-level rise (Connell and Lea 1992).

In each of the states the tasks of urban management and planning are considerable, emphasised by the lack of municipal authorities and adequate enabling legislation. There are often limited financial resources for urban planning and management, as well as for many other services (including education and health). There is also poor or non-existent coordination between different service and delivery agencies, some of which are publicly owned and some private and which operate at both national and local levels. Moreover, there are virtually no studies, other than technical reports, which focus on urban development issues and little is known of the socio-economic status of the bulk of urban residents in Polynesia. Without a much greater understanding of the needs and problems of urban residents, and especially the poor, urban planning and services delivery are likely to remain inadequate. As urban areas grow such inadequacies will become more visible, more costly and less amenable to solution.

2

Population, migration and urbanisation

We must give the problem of population growth and its relation to our environment and society the top priority it deserves. All our plans and hopes for economic and social development will come to naught if we do not decide now to arrest our population and to reduce the number of our people to well below 100,000 (Hau'ofa 1977:26).

Population

The size of future urban populations is a function of both natural population increase in existing urban areas and rural-urban migration. The rate of natural population increase in all three Polynesian states has been high for several decades. In Western Samoa and Tonga, however, this has not produced a high level of population growth because of considerable international out-migration (Table 1). Tonga's population is currently perceived to be growing very slowly (although the absence of migration statistics makes this difficult to verify) and Western Samoa's is just increasing. The rates of population growth are no larger than rates of economic growth. Rural-urban migration in these two states has also been low. Consequently, urban growth rates have been low, and this situation is likely to continue unless there is a brake on emigration or some other substantial structural change (such as greatly reduced profitability in the rural sector or more

extensive industrialisation). None of these seem probable despite ongoing concern over emigration opportunities. In contrast, in Tuvalu there have been fewer international migration opportunities and these have rarely led to more permanent emigration. The population of Tuvalu is growing (from a very small base) more rapidly than in any other Polynesian state. Due to increasing population pressure on resources and heightened aspirations, rural-urban migration has also been high. Only Nauru, in the South Pacific region, is more densely populated. Population issues are therefore crucial in Tuvalu where future urban growth is likely to be rapid and where the prospects for long-term economic growth are more limited than in the two larger states.

Tonga Estimates of the population of Tonga in the eighteenth and nineteenth centuries are unreliable, being based on the judgments of mariners and traders at a time when the population was fluctuating considerably as a result of warfare and disease. The first census from which data are available was conducted in 1891 and recorded a population of 19,196. Censuses were held regularly in the twentieth century and recorded steady growth in the early years of the century and a more rapid increase in post-World War II (Table 2), a feature typical of other parts of the South Pacific.

Table 1 Populations of independent Polynesia (*de facto*), 1991

	Area (km ²)	Pop. (1991)	Annual pop. growth rate	Pop. (per sq. km)	GNP per capita (A\$, 1993)
Tonga	747	96,800 ^a	0.6	130	1,256
Tuvalu	26	10,114 ^b	1.9	392	1,100
Western Samoa	2,935	160,000	0.3	54	939

^a1989 population

^bThis is the *de jure* population; the *de facto* population was 9,043.

Sources: Cole, R.V. (ed.), 1993. *Pacific 2010: challenging the future*, Pacific Policy Paper 9, National Centre for Development Studies, The Australian National University, Canberra; South Pacific Commission, 1994. *Pacific Island Populations*, South Pacific Commission, Noumea.

Table 2 Population of Tonga, 1891–1990

	Population
1891	19,196
1911	21,712
1921	23,759
1931	27,700
1939	34,130
1950	45,070
1956	56,838
1966	77,439
1976	90,085
1986	94,650
1990 (est)	96,830

Source: Tonga, 1979. *Census of Population and Housing 1976*, Nuku'alofa; Funaki, K., 1993. 'Tonga', in R.V. Cole (ed.), *Pacific 2010: challenging the future*, Pacific Policy Paper 9, National Centre for Development Studies, The Australian National University, Canberra:126–34.

There are some problems with Tonga's population data. Since World War II four censuses have been undertaken in Tonga; those of 1956, 1966 and 1986 recorded *de facto* numbers, while the 1976 count was a *de jure* census. Although the intention of the 1976 *de jure* census was to provide more complete data on internal migration and temporary emigration, the decision was unfortunate since comparability with earlier and later counts was lost. Internal migration was less adequately reported than in earlier censuses and only 1.2 per cent of the population was found to be 'temporarily absent' overseas. Boundary changes between 1956 and 1976 have also resulted in problems of comparability. Furthermore, since recording of vital rates has been unreliable, there are no migration statistics. There was no post-enumeration check after the 1976 census and there are no indications of the reliability of the data.

In the 1970s, Tonga seemed poised on the brink of a Malthusian crisis. The population had been increasing rapidly, and by the mid-1970s its growth rate was around 3.2 per cent. At that time one prominent Tongan observed

[i]f, as projected, our population doubles in the next 34 years, a very large part if not all, of our inland lagoon environment will perish...The sands on our beaches are disappearing at what seems to be an alarming rate...If our settlements grow physically they will swallow up much needed land for agriculture...Once land is no longer available, beneficial mobility will be removed, endangering national unity and encouraging regionalism...Our plans for future development must take into consideration the plight of our landless and our poor people who constitute a social phenomenon alien to our history (Hau'ofa 1977:3-14).

Though the rate of natural increase has barely changed, the population has largely stabilised—mostly as a result of a high level of emigration to New Zealand and the United States of those in working (and thus fertile) age groups—and the predicted disasters have been averted. It is worth noting that in the absence of emigration, high fertility and declining mortality would push Tongan population growth to well over 2 per cent—higher than the economic growth rate.

The total fertility rate has gradually declined from 7.1 children per woman in 1966 to not much less than five in 1990. Tongan fertility declined in the 1970s partly as a result of emigration of those in the prime reproductive years, partly as a result of an increasing age of marriage, and partly as a result of some adoption of family planning. There has been a family planning program in Tonga since 1958 but it has so far had limited success due to considerable religious opposition. In the 1980s access to family planning services was still difficult and the subject was not considered a topic for open discussion. Those who practised family planning often already had more than three or four children (Connell 1983a). But, in the absence of social security benefits children continue to provide support in old age and in times of sickness. Children also play a significant role in family agriculture.

Infant mortality has more than halved since 1956, from around 90 per thousand to around 26 per thousand in 1986, and may now be somewhere in the low 20s. This reflects the effectiveness of health programs, especially maternal and child health care, and better

educational opportunities for women in general. The crude death rate declined from 14 in 1966 to about 8 in 1976 but there has been no perceptible further decline. Consequently life expectancy in Tonga has increased moderately for both males and females to about 67 years in 1990. There has also been a slight aging of the total population.

Most population-related issues considered in national development plans have centred on high fertility rates. In the Second Development Plan (1970–1975) the government stressed the need for a slower rate of population increase; this continued to be emphasised in subsequent plans which also referred to the relationship between population growth, human resources, migration and development. The awareness of these relationships, though, has not led to integrated development planning. The more stable contemporary population has not resulted in a more detailed examination of the links between population growth, migration and national development, nor has any real appreciation developed of the necessity for adequate migration statistics. Contemporary efforts to develop a population policy have been hindered by limited interest, fragmentation of effort (between churches, non-government organisations and government), inadequate resources, insufficient data for policymaking and minimal national coordination.

Emigration is almost certain to continue to be the single most important factor affecting population growth rates though total fertility rates may continue to fall. If emigration continues at roughly the same rate (though this is uncertain), the overall population may decline and, indeed, may now be declining. If some emigration continues, even at a decreased level, the national population is unlikely to grow substantially into the next century. Though this will be beneficial for some forms of service provision, such as education, it could lead to an aging and de-skilling of the population, as has occurred in the small Polynesian state of Niue.

‘In the 1970s, Tonga seemed poised on the brink of a Malthusian crisis’

Tuvalu Documentary evidence on the population of Tuvalu before 1865 is sketchy, but after that data are more readily available. In the last quarter of the nineteenth century the population increased from just under 2,500 in 1876 to just over 3,500 at the end of the century. There were considerable fluctuations in the population of several islands, much of which was a result of inter-island visiting that was then, and still is, an important feature of Tuvaluan life. Population growth was so rapid that as early as the 1890s, resettlement was suggested as a solution to what was perceived to be an impending overpopulation problem. Nineteenth century evidence suggests that the people maintained a fine balance between population and resources with extensive controls, including both abortion and infanticide. As early as 1865 it was suggested that the Tuvaluans were genuine Malthusians. They feared that unless the population was kept down they would not have sufficient food and the people of Vaitupu were reported to have such a fear of starvation that there was a rule that only two children should be reared in a family (cited by Munro and Bedford 1980:3). Whilst infanticide was common, it was counterbalanced by extensive adoption. These traditional forms of population control, however, were effectively abolished by missionaries, leading to more rapid population growth in the second half of the nineteenth century.

Between 1901 and 1911 there was a sharp decline in the resident population of Tuvalu, a result of both rising mortality levels and migration to Ocean Island (Banaba). Concern for the demographic future of Tuvalu became grounds for considerable pessimism. In the event, the period of decline was brief and from 1910 onwards the population of Tuvalu grew steadily (Table 3), and growth has been particularly rapid since independence in 1978. It grew fastest during the 1970s (averaging 4.3 per cent per annum between 1973 and 1979), as a result of return migration from the new state of Kiribati, but slowed to 1.7 per cent between 1979 and 1991. The slower rate of growth was a result of substantial migration away from Tuvalu. Excluding permanent emigrants but including those temporarily overseas (mainly seamen, Nauru workers or students), the *de jure* population of Tuvalu would have been 8,730 in 1979

Table 3 Population of Tuvalu (*de facto*), 1876–1991

1876	2,497
1887	2,902
1901	3,543
1911	3,080
1921	3,429
1931	3,994
1947	4,487
1963	5,444
1968	5,782
1973	5,887
1979	7,349
1991	9,043

Source: Munro, D. and Bedford, R., 1980. 'Historical backgrounds', in *A Report on the Results of the Census of the Republic of Tuvalu*, Government of Tuvalu, Funafuti:4–10.

and 10,114 in 1991. The *de jure* population is regarded in Tuvalu as the more appropriate total for planning purposes on the assumption that almost all those away from the country will return permanently at some point in the future.

The fertility rate in Tuvalu declined steadily between 1965 and 1979 producing, in 1979, a crude birth rate of 23.7 per thousand. Since independence fertility has risen but may have stabilised at around the 1991 crude birth rate of 29.4 per thousand, with the total fertility rate estimated at 3.4 births per woman (Teshfaghiorghis 1994). A family planning program began in 1968 and had considerable success until 1973 when there was an apparent decline in the proportion of acceptors (continuing least until 1979) when the proportion of women from the eligible group practising family planning was 21.4 per cent. More recently the proportion of acceptors in 1979 was twice as high in Funafuti as it was on other islands—this situation has been constant, with an acceptance rate of about 54 per cent (in 1990) on Funafuti, and 31 per cent on the outer islands. This has come about as a result of cultural inhibitions, the reluctance of men to participate or allow their wives to participate in family planning programs, lack of knowledge and contraceptive availability, and the desire of

households to have many children so that at least one might, through migration, become a successful wage or salary earner and provider of remittances (Chambers 1986). Increasing the extent of contraceptive use on outer islands will prove difficult.

The fall in the fertility rate in the 1960s and 1970s paralleled a fall in the mortality rate, especially after 1976 when the establishment of an administrative centre at Funafuti enabled improved service to the outer islands, and medical services, water supplies and sanitation were also improved. The crude death rate in 1979 was 15 per thousand and the infant mortality rate was 42 per thousand; the crude death rate has continued to fall, reaching 8.8 in 1991 and the infant mortality rate declined imperceptibly to 41 per thousand. The Tuvalu population is youthful, with 35 per cent aged under 15, and has an unbalanced sex structure. There are more females (4,561) than males (4,189) because of selective emigration of males as mineworkers and seamen—this imbalance is most pronounced in the age group 15–29.

If current fertility and mortality rates remain constant the population of Tuvalu will continue to grow steadily past the end of the century. As elsewhere in Polynesia the actual extent of population growth depends more on migration than natural increase. Tuvalu already experiences considerable threats to national development because of its small area relative to population size (and the distribution of that population over nine small atolls at some distance from other countries). National development plans have recognised these basic constraints and increasingly acknowledged that both a reduced rate of population growth and greater balance in its rural–urban distribution are necessary in order to avoid a reduction in what is already perceived to be an austere quality of life. A growing consensus has emerged that the rate of population growth must slow if Tuvalu is to achieve a pattern of sustainable development.

‘Economic conditions at village level in the outer islands favour larger families...so establishing new directions for population change in Tuvalu will be difficult’

Tuvalu is in the process of developing a comprehensive population policy, aimed at both fertility reduction and the slowing of rural-urban immigration to Funafuti. The need for this has been recently expressed by the new Prime Minister, Kamuta Latasi.

Tuvalu's population growth rate of 2.5 per cent is 'very alarming for us' Latasi said, and a committee has been established to conduct education tours of the country's eight (*sic*) islands. 'The only way to be successful with family planning is to make people understand. If they don't understand they won't care. It's not a matter of getting on the radio and saying if you have five children this is what will happen! You have to physically visit the island, get the blackboard and illustrate that if you have two metres of cloth it will cover two kids but if you have seven kids it won't'. Previous opposition of church groups to family planning has changed, Latasi said, with the realisation of how serious the problem is (*Pacific Report* 4 April 1994:7).

The new Population Policy Coordination Committee, established in June 1993, was intended to formulate a comprehensive national policy by mid-1994 incorporating maternal and child health, outer island development programs, a population redistribution plan and means of implementing slower rates of population growth. This is likely to be even more crucial with the anticipated return migration of workers from Nauru, but the task of implementation of slowing population growth rates is considerable.

Although the level of optional population growth is not specified, clearly a rate near replacement level would be in the national interest. This would amount to an average of less than three children per couple... Two children per couple may well be in the national interest, but few couples would find it personally advantageous to have such a small family. The vast majority specifically want two children of each sex not only to give parents support in their old age, but to provide sibling support for the children themselves (Chambers 1986:324).

There are many other reasons, including the need for strong families and some chance of access to education and employment, for having families with more than two children. Economic conditions at village level in the outer islands favour larger families because of shared responsibilities, so establishing new directions

Table 4 Population of Western Samoa, 1853–1991

	Upolu, Manono, Apolima	Savai'i	Samoan ^a	Total population
1853	16,793	12,444	29,237	29,330 ^b
1900	18,793	14,022	31,815	34,415 ^c
1921	20,632	11,890	32,522	36,343
1936	35,657	16,575	52,232	55,946 ^d
1945	43,768	18,654	62,422	68,197
1956	65,347	26,459	91,833	97,327
1966	95,218	36,159	..	131,377
1971	106,046	40,581	..	146,627
1976	109,675	42,218	..	151,893
1981	156,349
1986	112,228	44,930	..	157,408
1991	116,248	45,050	..	161,298

^aAfter 1966 the Samoan population was not separately recorded.

^bEstimate.

^cThis excludes 787 Melanesians from New Guinea.

^dIncludes 34 visitors from American Samoa.

Sources: Connell, J., 1983c. *Migration, Employment and Development in the South Pacific, Country Report 22, Western Samoa*, South Pacific Commission and International Labour Office, Noumea:16; Western Samoa, 1989. *Census of Population and Housing 1986*, Department of Statistics, Apia; South Pacific Commission, 1994. *Pacific Island Populations*, South Pacific Commission, Noumea.

for population change in Tuvalu will be difficult. What is true of Tuvalu is also the case in most parts of Tonga and Western Samoa.

Western Samoa Early estimates of the Samoan population date from the mid-nineteenth century and in 1853 a figure of 29,237 was recorded for Western Samoa (of whom 15,587 were on Upolu and 12,444 on Savai'i) (Table 4). Not until towards the end of that century was there significant population growth—in 1900 the total figure was 32,815. Although this excluded 787 Melanesians from German New Guinea, it included 195 Polynesians from Niue, Fiji, Rotuma, Uvea (Wallis) and Futuna (McArthur 1967:101). Disease and intermittent warfare prevented population growth but there was no sustained decline in numbers. Population grew at the start of the twentieth century until the 1918

influenza epidemic when about 8,000 people died, some 20 per cent of the total population (McArthur 1967:125). From then onwards there was a relatively steady population increase which accelerated in the two decades after World War II. In the inter-war years the annual population growth rate reached two per cent and continued to increase until the outbreak of war in the Pacific. After the war the growth rate increased again, reaching 3.7 per cent for the period 1945–51; since then it has never again reached that figure, and since 1956–61 each inter-censal period until 1986 has seen a decline in the growth rate. Since then there has been a very slight increase with the most important influence on the population growth rate being migration.

There is some evidence of a decline in fertility from around the start of the 1970s but the magnitude of that decline is somewhat uncertain; the 1971 census analysis estimated the total fertility rate during 1966–71 at 7.4, whereas the estimate for 1971–76 of 6.7 was associated with a crude birth rate of 37.4 per thousand. A fertility transition had begun to take place, especially in Apia where the total fertility rate was 5.5, whereas the three other regions of Samoa had an average rate of 7.1, indicating that family planning had no significance outside the capital by the mid-1970s. Since then the national total fertility rate has fallen to around five. The high rate indicates the limited prevalence of contemporary family planning.

In 1977 about 13 per cent of women in the child-bearing age group (15–45) practised family planning—it has been estimated that by 1979 this had increased to just 15 per cent (Stanley and Me 1979:6). There is some evidence to suggest that about a third of married women in Apia aged between 15–44 used some method of family planning, compared with less than one-fifth in the country as a whole. These are low figures when compared with other parts of the Pacific region (Stanley and Me 1979:51), especially when a number of reasons to explain lower urban fertility are considered, such as longer urban education, better employment prospects and efforts by women to improve opportunities for overseas migration by postponing marriage and childbirth (Tiffany 1979:134). At the start of the 1990s the proportion of women who practised family planning was still low and no more than 18 per cent (the real figure

may have been rather less than this). The impact of emigration and a shortage of eligible males have for some time served to depress fertility in Apia and the urban fringe (Wander 1971; McArthur 1967). By contrast, many reasons exist to explain the limited response to family planning, including the availability of children to perform work (especially in old age), the recognition of children's potential to become income-earners (Nardi 1983) and the limited access to family planning services. All are factors that currently tend to outweigh arguments in favour of more extensive family planning.

As with fertility, there was a very slight decline in mortality between 1966 and 1976 as life expectancies rose from 63 to 64 for females and 60 to 61 for males. Since then life expectancies for men and women have increased to 65 and 63 respectively. The crude death rate in 1976 was calculated at 7.9 per thousand, a relatively low figure for the region, and has continued to fall to around 5.0. The infant mortality rate in the mid-1970s was about 36 per thousand, falling to around 23 at the start of the 1990s.

Because fertility continues to exceed mortality, the most likely future population scenario for Western Samoa is one where a high rate of natural increase is accompanied by high rates of emigration. As elsewhere in Polynesia, migration is the most critical factor determining the rate of population growth and, despite Samoan concerns that entry to destination countries is being cut back, a continued substantial migration rate seems probable. There will therefore be a slow but steady population increase into the next century, the effects of which will be exacerbated because there is no comprehensive population policy in Western Samoa, nor is there much in the way of integration of population issues with human resources and development planning. There have been intermittent attempts to address population issues; in the early 1970s, at a time when there was national recognition of the need for a population policy, high levels of emigration drastically slowed population growth. However, concern over population pressure on resources and environmental degradation, along with increased demands for employment and services has resulted in a development policy that considers the reduction of birth rates 'an urgent matter'

(Western Samoa 1980:94). The first family planning program was introduced in 1971 and in 1980 population policy was redefined to aim at reducing the number of children by improving maternal and child health through child spacing to reduce pressure on land, services and jobs. Nevertheless, slow population growth and religious opposition prevented the development of a formal population policy until 1991 when a skeleton population policy was tentatively introduced. There is not yet any evidence of a development program that attaches any weight to population issues.

International migration

Tonga and Western Samoa share a history of substantial emigration lasting for more than two decades, whilst Tuvalu—with labour migration well established in the early years of the century—has experienced considerable migration overseas but not on the scale, or with the permanency, of that from the two larger states. In each Polynesian country population growth and urbanisation have been slowed by emigration. Migration (and the extent of return migration) will remain the most important influence on urban development in the immediate future.

Though both Tonga and Western Samoa experienced some emigration in the early post-war years, the large-scale movements effectively began in the late-1960s. This was for a combination of reasons, including substantial income differentials between Polynesia and metropolitan states like New Zealand and the United States, increased expectations including a demand for superior education and health services, improved transport links (especially air transport), a relative reduction in transport costs and growing population pressures on domestic resources (Connell 1983a, 1983b). The actual extent of emigration from Tonga is difficult to estimate because of the absence of departure cards and migration data. Unlike Western Samoa, which has a migrant quota in New Zealand and a special relationship with American Samoa, Tonga has no particular relationships and thus has relatively more

emigrants in Australia and fewer in other destinations. At the start of the 1990s there were around 50,000 Tongans overseas, including about 7,000 in Australia, 23,000 in New Zealand and 18,000 in the United States, as emigration continued.

There was migration from Western Samoa to American Samoa in the 1950s but the more extensive movements to New Zealand and the United States began in the 1960s. The New Zealand government sponsored selective migration and established a quota and, despite employment problems in New Zealand in the mid-1970s, there has been very substantial migration there and onwards usually to Australia, to American Samoa and often onwards from there to the United States. Net migration was low in the 1960s but jumped to around 5,000 per year in the 1970s, a considerable level for a small island state, and this acted as a brake on population growth. In the early 1980s there was little migration because of adverse economic conditions in New Zealand and migration streams increasingly shifted towards the United States. By the second half of the 1980s net emigration had again briefly reached over 5,000 a year and was running at more than 3,000 per year (Va'a 1992). This marks the most recent peak of high emigration before recession again in New Zealand prompted a downturn. Current estimates suggest that as many as 90,000 Western Samoans live overseas; of these perhaps 45,000 are domiciled in New Zealand, around 10,000 in Australia, 15,000 in American Samoa and more than 20,000 in the United States (mainly in California and Hawaii). Such estimates are crude and include second or even third generation Samoans born overseas, with limited affinity to Samoa, but they do indicate that there are as many Samoans outside Western Samoa as there are inside it (Ahlburg 1991).

Both Tonga and Western Samoa are now in a situation where more than a third (and perhaps half) of their ethnic population is overseas, in countries where their future is intricately related to economic prosperity, recession, restructuring and the nature of the employment market. At no time during the past quarter of a century has there been substantial return migration but in the mid-1970s there was some return and blocked movement; in the case of Western Samoa prospects for emigration were so poor at the

start of the 1980s that the 'broken dreams' of potential migrants contributed to a significant rise in youth suicide (Macpherson and Macpherson 1987). At a national level the economic future of the two states partly hinges around the continued flow of overseas remittances, and hence the continuity of migration (Ahlburg 1991; Brown and Connell 1993). Where there has been return migration to Tonga and Samoa, much of it appears to have been to Nuku'alofa and Apia rather than to rural areas.

If migration is curtailed for any reason at any of the principal destinations, though the transnational network of kin has spread its domestic human resources between them (Marcus 1981), the effects on the Polynesian states will be substantial. National income will decline as remittances tail off, increasing population pressures on rural resources (likely to encourage more rural-urban movement) and considerable frustration among would-be migrants. The circumstances in which international migration would be slowed, such as in recessions, would also be likely to stimulate return migration and thus exert further pressure on the urban economy, social structure and provision of physical services of many kinds. Over time many migrants have achieved permanent residence in the destination states (though there are also many illegal migrants and overstayers) and economic recessions in the principal metropolitan states neither seem imminent nor are likely to be catastrophic, although the unemployment rate of Pacific islanders in New Zealand was more than 24 per cent at the start of 1994. The possibility of blocked migration in the future, a situation ever-present in public debate (Macpherson 1992; Shankman 1993) however, emphasises the necessity for Polynesian states to slow their rate of natural increase in case the safety valve of emigration is closed or reduced to a trickle. However there is now something of a culture of migration in the Polynesian states: emigration is normal, expected and anticipated, and has become an important element in national social and economic systems.

The case of Tuvalu is rather different, though it is at least as serious. Tuvalu has experienced relatively little emigration and the number of Tuvaluans permanently overseas is less than five per cent of

the total population. Nonetheless in 1991 there were more than 1,200 Tuvaluans overseas which is rather more than ten per cent of the *de jure* population. The largest group of these (735) was working on Nauru where the phosphate workings were reaching the end of their life, ultimately necessitating that almost all those contract workers would have to return to Tuvalu, perhaps before the end of the century. The future of other overseas Tuvaluans—as seamen, students or contract workers in New Zealand—was scarcely more secure. Tuvalu therefore faces the more inevitable and perhaps more imminent return of a very significant proportion of its population, although short-term migration overseas will continue, and replace at least some of these. Just as in the larger Polynesian countries this is likely to place particular pressure on the urban centre, where population density and its impact on very limited resources is already considerable.

In rather different ways the national and urban futures of each of the Polynesian states are bound up with the present and future of international migration and the ability of these countries to seek out new potential destinations overseas. The three states have retained interests in overseas employment opportunities, especially in Tuvalu where there was pre-war settlement in Fiji (Koch 1978) and the Jackson Committee on Australian foreign aid in the 1980s recommended that special provision be made for migration from Tuvalu (and Kiribati) because of the improbability of conventional aid contributing to sustainable national development (Connell 1984). More recently Tuvalu's Prime Minister has stressed that his country is continuing to seek employment opportunities in Australia and that the country 'would not take no for an answer' on the provision of either employment or education opportunities. For those Tuvaluans who have been educated overseas,

we want them to come back, but certainly [we] cannot have everybody, even if they are graduates. There will come a time when we can only take back a portion of our population. The rest—we will have to assist them in obtaining employment overseas and we need to prepare people for when that time comes (quoted in *Pacific Report* 4 April 1994:4).

There has already been a brain and skill drain from each state and all are anticipating substantial future emigration. In such circumstances it has been particularly difficult to develop national population policies.

Urbanisation

Some demographic similarities within Polynesia mask differences in the history of urbanisation in individual countries. Tonga and Western Samoa have long-established urban centres and both the principal towns—Nuku'alofa and Apia—are substantial by Pacific standards, having more than a quarter of the national population living in these urban areas. In Western Samoa there have been no other competing (or complementary) urban centres, although there has been recent interest in developing an urban centre at Salelologa on Savai'i. By contrast, in Tonga both the other principal island groups, Vava'u and Ha'apai, have small urban centres which act as regional foci, though they are now much less important relative to the capital than they have been at any time in the past. In Tuvalu urbanisation is recent and did not get underway in any real sense until the mid-1970s. The capital, Funafuti, now contains more than a third of the national population. Urban population density is extremely high in a situation where the national airstrip takes up a substantial proportion of the atoll.

Tonga In the 1976 census three places in Tonga were considered urban—Nuku'alofa, Mu'a and Neiafu—and for the first time special tabulations were provided on the population characteristics of the capital. The census provided no indication of the reason for classifying these particular centres (rather than others) as urban, surprising given that two other towns can also be considered as fulfilling urban functions. Haveluloto (with a population of 2,243 in 1976) is contiguous to Nuku'alofa and is the site of most manufacturing industry, and Pangai-Hihifo (population 2,464) is the administrative centre of the Ha'apai island group (Table 5). In 1986, data for Mu'a were not separately recorded. Nuku'alofa continued to grow, with the two principal

Table 5 Urban population growth in Tonga, 1931–86

	1931	1956	1966	1976	1986
Nuku'alofa	4,005	9,202	15,545	18,312	21,383
Haveluloto	85	292	1,334	2,243	3,070
Mu'a	1,080	2,560	3,502	3,969	..
Neiafu	1,881	2,873	3,593	3,308	3,879
Pangai-Hihifo	1,451	2,803	2,675	2,464	2,388

Sources: Wood, A.H., 1932. *History and Geography of Tonga*, Wilson and Horton, Auckland:96–98; Walsh, A.C., 1982. *Migration, Urbanisation and Development in South Pacific Countries*, ESCAP, Bangkok:111; Tonga (various issues). *National Census of Tonga*, Statistics Department, Nuku'alofa.

urban districts of Kolofou and Ma'ufanga jointly having a population of 21,383, but there was more rapid growth in Greater Nuku'alofa. Greater Nuku'alofa, consisting of two urban districts plus Haveluloto and more outlying parts of Kolo'u and Kolomotu'a districts (including five small islands) had a population of 29,018. In 1976 the equivalent population was 22,561. On Vava'u the small town of Neiafu had grown slightly but in Ha'apai the even smaller centre of Pangai-Hihifo had continued a very slow decline.

Current estimates suggest the population of greater Nuku'alofa is probably of the order of 34,000 and almost all the urban population of Tonga resides here. Its urban dominance has steadily increased, though the urban population growth rate has been quite slow overall, being only around two per cent for Nuku'alofa proper in the 1966–86 period. Greater Nuku'alofa in the decade from 1976 grew at just under three per cent, suggesting that the urban area was growing at a rate of about five times that of the country as a whole and indicating that rural–urban migration was of some importance for urban growth. Between 1976 and 1986 the two fastest growing census divisions were Kolofou and Kolomohi'a in Greater Nuku'alofa which were growing at annual rates of 1.1 per cent and 2.9 per cent respectively. This growth also reflects the increasing population of Tongatapu relative to the other island groups.

In the 1970s a quarter (26 per cent) of all in-migrants to Nuku'alofa came from the remainder of the island and the capital had one-fifth (21 per cent) of the in-migrants to Tongatapu. The proportion of in-migrants from other regions was broadly similar for the town and the island. Several years later a similar pattern was apparent for the single suburb of Hala'o'vave (Dillon 1983:50-51). Of out-migrants, two-thirds of those from Nuku'alofa were resident in Tongatapu compared with about half (52 per cent) of Tongatapu out-migrants in Nuku'alofa. Out-migration to other regions was both proportionately and numerically more important from Tongatapu island than from the capital. Significant movement had therefore occurred between the islands rural and urban areas and the numbers moving in both directions were approximately equal. Thus, in terms of net migration within Tongatapu, no obvious pattern existed primarily because of the ease of commuting throughout Tongatapu (Walsh 1982:114) so that Nuku'alofa is not a centre for migration from the rural parts of the island.

In the 1970s, data on the continuity of residence in Nuku'alofa indicate that the age groups with the highest proportion of residents having been in town for less than five years were males, 25-29 and 30-34 years; and females 20-24 and 25-29 years, indicating that recent in-migrants to the capital were principally in those age groups (and the age groups just younger than those). These are typical of migrant age groups in other parts of the South Pacific suggesting that the general age-sex structure of Nuku'alofa is little different from that of other towns in the region despite the significance of emigration. Unfortunately, other than information on differential population growth rates, there is no data on internal migration in Tonga since 1976.

Western Samoa Though the population of Apia grew steadily until 1971, the onset of substantial rates of emigration coincided with the slower growth of the urban population (Table 6). The town only slightly increased its share of national population from 19 per cent in 1957 to 21 per cent in 1976 and it has remained with that proportion ever since. The urban growth rate has thus been the same as that of the nation as a whole.

Table 6 Population of Apia, Western Samoa, 1860–1991

	Population ^a	Annual increase (per cent)
1860 (est)	120	..
1877 (est)	150	..
1895 (est)	1000	..
1951	15,840	..
1956	18,153	..
1961	21,699	3.6
1966	25,480	3.3
1971	30,261	3.5
1976	32,099	1.2
1981	33,100	0.6
1986	32,200	-0.5
1991	34,126	1.2

^aThe present urban area officially consists of the two *faipule* districts of Vaimauga West and Faleata East.

Source: Western Samoa, 1986. *Census of Population and Housing, 1986*, Department of Statistics, Apia.

Whilst there has been some urban fertility decline, the most likely explanation for this is return migration from Apia. Rural–urban movements have lessened and some of the population increase in northwest Upolu originates in migration away from Apia; those migrants may nonetheless continue their involvement with the urban economy. In the last inter-censal period of 1986–91, both Apia and northwest Upolu gained population at the expense of the rest of Upolu and Savai'i. Apia grew at around one per cent per year as a result of net inward migration (and north-west Upolu by 0.5 per cent). There was some evidence that the significance of internal migration was then declining in the country as a whole. There is substantial commuting from villages to the east and west in lieu of migration and, even in the mid-1960s, commuting was common within 24 kilometres of Apia and from resource-poor settlements further away (Pitt 1970:172). Commuting is considered advantageous in that it involves little social or economic disruption to village life. The ease of travel has minimised the extent of urban sprawl and Western Samoa differs in this respect from most other countries in the region.

There has been no real attempt to decentralise urban activities from Apia, as few functions could be decentralised easily and slow urban growth has posed no real necessity to do so until very recently. The planned development of a second port at Asau in Savai'i together with some government offices was investigated but not proceeded with because of insuperable technical problems associated with suitable deep water access and anchorage. Subsequently, regional development has focused on rural projects of various kinds as the antidote to excessive urbanisation rather than the creation of new growth centres.

Tuvalu No country in the Pacific region has experienced more recent or more rapid migration than Tuvalu. Between 1973 and 1979, the period in which Tuvalu seceded from Kiribati to become an independent state, the population of Funafuti grew from 871 to 2,120 as a result of return migration from Kiribati and movements from the outer islands. In 1973 three other atolls had populations larger than Funafuti but by 1979 it was unchallenged as the most important island in the new nation. Only the atoll of Vaitupu had achieved relatively rapid growth in the same time period. During the 1980s that supremacy increased as Funafuti took on more of the trappings of a national capital and its population grew to 3,839 in 1991. It has now passed 4,000. Its proportion of the national population increased from 29 per cent in 1979 to 43 per cent in 1991 and has now moved closer to nearly half of the national total. Decentralisation is a crucial and immediate issue in national development. The urban situation is thus very different from that of other Polynesian states because of the high proportion of Tuvaluans living in a single place, the very high urban population density and the consequential difficulties in achieving adequate service provision or providing enough formal employment there. These problems have long contributed to some tension between the long-established 'true owners' of Funafuti atoll and migrants from other atolls. As early as the mid-1970s, 'demands for restriction of entry to the capital were being expressed by women's committees and island councils in Tuvalu (the outer islands seeking to retain active young people; Funafuti seeking to retain its separate identity) in April and May 1976' (Howard 1976:25).

Since then these issues and resentments have smouldered on but have not resulted in related policy formation. In a somewhat different way migration into Funafuti has begun to create an 'urban élite' of those who have wage jobs and government housing and are unwilling to return to their home islands and this élite may be self-perpetuating to the detriment of the development of those remaining on the outer islands (Tuvalu 1980:35). Further migration has accentuated those problems, produced more substantial problems of overcrowding and reduced the possibilities for developing appropriate urban management policies.

The problems of population growth in the South Pacific are well understood and contributions to the debate range from the headline-catching forecasts of a 'doomsday scenario' (Cole 1993) to more positive views pointing to opportunities in developing the human resources of the region (Chung 1994). In Polynesia, as has been shown, the problems are not uniform and have to an extent been ameliorated by international emigration and slower rates of natural increase than in Melanesia. Although there is a need for better demographic data and more population-related research, the primary challenge is to introduce more modern ways of tackling family planning and associated issues in conjunction with innovative economic development of a kind that has served other small island states well. In the 1960s it was recognised that 'the hardest things to buy in Samoa are contraceptives' (Pitt 1970:163) and, a quarter of a century later, that situation does not seem to have changed.

'The primary challenge is to introduce more modern ways of tackling family planning and associated issues in conjunction with innovative economic development'

3

The economic context of urbanisation

Most Samoans who work in the modern sector either at home or in New Zealand, are regarded by their relatives, if not themselves, as bridges through which *fa'a Samoa* is extended to tap new resources. Thus kinship pressure on Samoans living and working in urban settings continues to be dictated to by the concepts of *fa'a Samoa*. Great ideological issues are related to economic transformation (Meleisea 1992:63–4).

Like many other island economies in the Pacific, economic development in the three independent Polynesian island states is constrained by factors related to their small size

- remoteness and isolation (hence high transport costs to markets)
- diseconomies of scale (because of small domestic markets)
- limited natural resources and hence a narrow production base
- substantial trade deficits (with considerable dependence on trade with metropolitan states)
- few local skills
- vulnerability to external shocks and natural disasters

- a disproportionately high expenditure on administration and dependence on external institutions (such as banks and universities) for some key services.

Political systems have sometimes been fragile (evident in recent changes of government in Tuvalu, the growth of the 'democracy movement' in Tonga and current constitutional debates in Western Samoa over the relative role of constitutional democracy and the *matai* system—where the head of family or chief holds the title bestowed by that family), ecological structures are vulnerable and economies lack diversity. Set against this range of disadvantages, the comparative advantages of smallness and isolation are few, other than the retention of a degree of cultural integrity.

Each of the island states has a significant subsistence component in their national income—the remote areas and outer islands in particular rely on subsistence agriculture and fisheries. The principal exports are of agricultural produce, notably copra in Tuvalu, squash in Tonga and a range of products in Western Samoa; there are some manufactured exports from Western Samoa in particular and tourism is of minor but slowly growing significance in the two larger states. All three countries have benefited from aid flows and remittances, enabling them to run large current account deficits, maintain substantial bureaucracies and undertake relatively large public sector investment programs (of a kind that could not otherwise be financed in small economies). The public sector dominates formal economic activity in all of the states. Despite the availability of these external resources and generally sound financial management, national incomes have largely stagnated during the 1980s and 1990s. The combination of high rates of out-migration and the large aid and remittance flows, together with a resultant growth in the public sector bureaucracy concentrated in the three urban centres, has resulted in these states

'Economic development in the three independent Polynesian island states is constrained by factors related to their small size'

being labelled as typical MIRAB economies (Bertram and Watters 1985; Connell 1988b), in that they are heavily dependent on external support rather than on domestic production and trade, though this designation is unwelcome within Polynesia.

There are opportunities for development in several sectors, including agriculture, fisheries, manufacturing and tourism, though these have proved difficult to develop in the past. Although Tonga's recent success in creating a squash export industry to Japan and Western Samoa's Yazaki automotive component factory (established in 1991) demonstrate that potential, the island states are not well placed to compete in an increasingly free global trading system. The domination of the region's economies by agriculture means that formal unemployment levels are low but it is a factor of growing significance in the urban areas.

Tonga The Kingdom of Tonga consists of 36 inhabited islands with a total area of 730 square kilometres. The four principal island groups, the largest of which is Tongatapu, are spread in a north-south chain of about 900 kilometres, with the Niuas group even more distant. An increasing proportion of the population, amounting to two-thirds in 1986, lives on Tongatapu with half of these being resident in the capital of Nuku'alofa. In spite of being subject to all the constraints of a central Pacific location, including natural hazards, GDP per capita (approximately A\$2,100 in 1991) is above that in some other island states, basic infrastructure is relatively good and education and health standards are adequate. In some areas such as literacy and life expectancy the conditions are above average.

The domestic economy is mainly one of agricultural production characterised by the continuing importance of subsistence activities and an export achievement better than many other comparable countries. In the 1980s there was a transition from bananas and copra (which had represented 70 per cent of all export earnings in 1970) to vanilla and squash exports. By 1991 earnings from squash were valued at between one and one-and-a-half times the combined total of all Tonga's other exports (Sturton 1992:1-2). This remarkable growth enabled the economy to emerge from

recession in the early 1990s. Other agricultural goods, fish and manufactured products (valued at about 25 per cent of exports between 1989 and 1991) made up the balance. Vanilla production peaked in 1991 but has subsequently declined. Future prospects for the economy are rather narrowly based, with the volume of squash exports dependent on the Japanese market, the ability of producers to maintain quality and the possible entry of new producers. Niche marketing is thus a key characteristic of recent trends in agricultural development.

In terms of diversification, other important agricultural sectors are the minor but growing forestry industry located on the island of 'Eua, and a small fishing industry. Artisanal fishing grew in the 1980s with the support of the Development Bank but commercial activity has remained relatively undeveloped. A number of aid projects have specifically addressed important factors such as the provision of freezer facilities in Ha'apai and the availability of export markets but a variety of constraints have prevented significant exploitation of a very large national marine region. Local fishermen are not particularly amenable to changing work practices to support a regular export industry and fish cannot be delivered in good condition to the best export markets except at great expense.

Manufacturing in Tonga is a small-scale activity, though it grew in 1980 following the establishment of a Small Industries Centre in Nuku'alofa. A number of foreign-owned enterprises have begun operation through the Pacific Islands Industrial Development Scheme (PIIDS) and various complementary incentives. The principal industrial development is concerned with food, beverages, wood and coconut products and is primarily oriented towards import substitution. New industries were involved in the export of leather goods, knitwear, quilts and small amounts of industrial machinery. The woollen garment factory also expanded considerably and, by 1992, the Small Industries Centre had grown to employ more than 240 people. The steady success of this centre resulted in the opening of a second centre at Neiafu in Vava'u in 1990. However, despite the strong export growth of the 1980s which led to increased employment and a 10 per cent contribution

to GDP by the end of the decade, the industrial sector was faltering by the 1990s. Manufacturing appears to have undergone major structural change with a somewhat unusual move away from export orientation to production aimed at the local market, notably in paints and chemicals, food, beverages, furniture and related industries. While production for this part of the market has been growing, the main export-oriented textile and clothing industries faced major problems in the 1990s. They have mainly exported to Australia and were adversely affected by economic conditions there. By mid-1993, manufactured exports were at their lowest levels since the mid-1980s and the leather and knitwear industries had closed. Factories laid off workers and had temporary closures in 1993, creating growth in urban unemployment in the capital.

Tourism makes a small but significant contribution to the economy, although its performance has been modest in recent years. In 1978 it earned almost T\$4 million compared with T\$4.6 million for all other exports (including agriculture) and in 1981 it grossed T\$6 million making it the most important source of revenue after overseas remittances at that time. In 1992 tourist numbers reached 23,000 which represents a steady increase over a decade and foreign exchange earnings were estimated at T\$11.5 million or some 10 per cent of the national total. The industry is thus a major source of hard currency though it does not contribute greatly to GDP or employment at present. Tourism plant is deficient in comparison to many other parts of the South Pacific and new hotels are currently being constructed. The two main foci for tourist development are the capital and the northern town of Neiafu in Vava'u.

Overall Tonga's real GDP grew throughout the 1980s averaging some 2.2 per cent a year with the growth rate doubling in the two year period 1989-91. It fell in the following year after a severe drought and is struggling to return to earlier levels. In 1992-93 total exports fell from T\$19 million to T\$14 million (reflecting problems experienced in squash and vanilla crops) with a deteriorating trade balance. However invisible trade earnings rose by T\$16 million, the most important component being the remittances which increased by T\$3 million to T\$16 million. This

represents a large proportion of national income and is a clear indication of the significance of international migration.

Tuvalu Tuvalu is one of the smallest independent nations in the world in its population size, land mass and national economy. It is an archipelago consisting of three small reef islands and six coral atolls located on the western margins of Polynesia and some 1,000 kilometres north of Fiji. There is a total land area of only 24.4 square kilometres spread over 750,000 square kilometres of the central Pacific; the largest island of Vaitupu has just 4.9 square kilometres. The highest point in the country is no more than five metres above sea level and most areas are well below that, so Tuvalu is highly vulnerable to natural hazards and over the long term to the potential impacts of extended global warming and possible sea-level rise (Connell and Lea 1992). Over a third of the population is concentrated on the main island of Funafuti which has an area of just 2.4 square kilometres. Tuvalu suffers from most of the conventional disadvantages of small island states. These problems are further exacerbated by its small size, extreme isolation and fragmentation, and by thin and porous coral soils lacking in nutrients, which make agricultural and most other forms of development exceptionally difficult. There are also severe problems in administration, transportation and communications, and an inadequate social and economic infrastructure, a small entrepreneurial base, limited skilled human resources and few development projects that can attract external financial support.

In spite of these difficulties Tuvalu has experienced fairly impressive economic growth in recent years. The GDP per capita has steadily increased to around A\$1,300 representing growth in several sectors, including agriculture (especially the subsistence component), manufacturing and trade. The small and open economy and absence of a national currency restrict the ability of government to manage comprehensive macroeconomic policies. Tuvalu is heavily dependent on aid for development capital and technical assistance with almost all the budget receiving overseas support. The economy is particularly vulnerable to external influences including fluctuating aid flows and commodity prices. Aid is supported through the now sizeable Tuvalu Trust Fund

established in 1987. Remittances contribute more than 10 per cent of income and are mainly derived from nationals working in Nauru or on overseas shipping lines. Economic activity is dominated by the public sector which is responsible for most non-subsistence activities.

In contrast to many other Pacific island states, export agriculture in Tuvalu is of limited importance, contributing less than 20 per cent of GDP. Outside Funafuti, almost all the population are at least partly dependent on agriculture. Commercial production was once dominated by copra exports, but this ended in 1993 because of low prices. There is some limited potential for encouraging the production and local marketing of other crops. In view of substantial stocks of tuna the potential for a larger fishing industry is considerable and offers the best possibilities for future sustainable growth. The industry is currently dominated by small-scale subsistence activities. Fish exports, which were substantial from 1982–84, ceased in 1985 when the government-owned pole-and-line fishing vessel ended its local operations because of a lack of bait fish (Fairbairn 1993). Tuvalu benefits from licensing fees gained from its share of the multilateral fisheries treaty with the United States and some infrastructure and other support services have been developed for future fisheries expansion.

Manufacturing contributes less than 10 per cent of GDP and is unlikely to develop much further. Other than handicrafts, the sole export-oriented activity is a garments venture sending shirts to Australia through SPARTECA. A small number of processing activities—mainly in Funafuti—are involved in producing import substitutes of items such as soap and biscuits for the local market. There have been intentions to establish a 'mini industrial zone' on Funafuti but nothing has eventuated. Tourism is of limited significance because of high transport costs and limited facilities of all kinds. Most visits are related to government activities and

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tourism development prospects are poor, though a second small hotel was completed on Funafuti in 1993.

Future expansion of productive activities depends on developments in agriculture and fisheries, and the prospects for Tuvaluans of employment overseas. The external employment market currently accounts for around 18 per cent of the total labour force. Shifting the balance in national development from Funafuti to the outer islands is also crucial to the structure of economic change as the population has become extremely concentrated on one island, putting enormous pressure on services and land areas with consequent problems of environmental management. Because of difficulties in expanding agriculture and fisheries and the numerous obstacles to economic growth in such a small island state, Tuvalu is likely to continue to face adverse economic conditions in the foreseeable future.

Western Samoa Western Samoa consists of two large islands of recent volcanic origin—Upolu and Savai'i—and three very small populated islands. With a land area of 2,935 square kilometres it is the largest Polynesian state after French Polynesia but is much less fragmented. Both islands are mountainous, supporting dense rain forests and there are few coastal plains other than the main populated area of north-west Upolu which contains the capital of Apia. Although on the smaller of the two main islands, the north coast of Upolu supports three quarters of the national population of about 162,000. Much of Savai'i is relatively barren due to recent lava flows and the porosity of the soil so, despite heavy rainfall, water supplies are a problem. The country is prone to cyclones and has experienced two particularly devastating storms in recent years (Cyclones 'Ofa and Val in February 1990 and December 1991) with considerable loss of life and damage to the islands and the economy. The Western Samoan economy grew in the early 1980s at around two to three per cent per year but slowed down after 1987 and particularly after the cyclonic damage at the beginning of the 1990s. Cyclone Val was the worst storm this century, killing 12 people and devastating most of both islands with an estimated A\$400 million damage. The value of exports in 1992, for example, was equivalent

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The basis of the Western Samoan economy and employment structure is agricultural production, with exports in recent years consisting primarily of coconut oil, coconut cream and taro. Copra has not been exported since 1990, following the two cyclones, and cocoa exports also effectively ended in the same year. Indeed the total value of exports in 1992 was less than half that of 1988, a measure of the economic problems caused by the cyclones. Bananas were once the main export but since the mid-1980s are no longer significant, being severely affected by disease, cyclone damage, Latin American competition and poor shipping connections to New Zealand. By contrast coconut oil and coconut cream exports have been substantial, and were 39 per cent of the value of all exports in 1992 (and more than half of the value of exports in 1988, before the cyclones). Cyclone damage was particularly disastrous for coconut products, the export value of which fell from WS\$19 million in 1988 to WS\$3.4 million in 1993. In the first half of 1994 there were no exports and copra and coconuts were being imported from Niue and Tonga to maintain the coconut cream industry. Moreover the government was seeking a purchaser for its coconut oil plant. There have been numerous attempts to diversify agricultural production away from bananas and coconuts but without much success. A record 5,000 tonnes of cocoa for example was exported in 1962 but production has subsequently fallen, declining to only 595 tonnes by 1989. Attempts have also been made to stimulate the timber and cattle industries but with limited results.

‘Polynesia is heavily dependent on external support rather than on domestic production and trade’

to just five per cent of imports, a measure of the extreme vulnerability of the national economy to natural hazards.

Western Samoa is also one of the poorest countries in the region and was the only one classified by the United Nations as 'least developed' in 1971 (though few other Pacific island states were independent at that time). Although the GDP per capita was only about A\$1,000 in 1991, malnutrition is generally absent and education and health services are better than in many other countries classified as very poor. Contaminated rural water supplies did lead, however, to a typhoid epidemic in 1993. Aid is substantial, as might be expected in a MIRAB economy, and new government loans in 1992 were WS\$51 million, WS\$6 million higher than in the previous year. The country is also heavily dependent on private remittances. These rose sharply in the wake of Cyclone Val by WS\$33 million to WS\$107 million in 1992—of this, some WS\$12 million was recorded as transfers in kind. Most remittances come from the United States and New Zealand. From the mid-1980s the annual rate of economic growth has been less than one per cent, a measure of the depth of the global recession, low world commodity prices and cyclone damage to the agricultural sector.

In the mid-1970s taro became the most important export crop, after copra; the value of exports went up six times between 1977 and 1982 when exports were valued at WS\$2,136,000. By 1991 this had grown to WS\$6,878,000 and exports were valued at WS\$9,500,000 in 1993, some 58 per cent of the value of all exports. The future of the industry is now in considerable doubt. Much of the export crop was produced on Western Samoan Trust Estates Corporation (WSTEC) plantations, or purchased by WSTEC from small growers and exported to New Zealand and, to a lesser extent, American Samoa. A nationwide taro blight substantially reduced exports in 1994 and devastated the country's staple food crop. Only a few containers of taro left Western Samoa in 1994, whilst rice imports increased substantially.

There are valuable timber resources, especially on Savai'i, raising a conflict between the desire to stimulate exports and to conserve

important areas of tropical rainforest. Timber products accounted for less than four per cent of exports in 1988 and the proportion has continued to decline in subsequent years. Fisheries are as unimportant in Western Samoa as they are in any state in the South Pacific, though production has substantially increased in the 1990s through the greater availability of small fishing boats and fisheries aggregation devices.

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‘Polynesia is heavily dependent on external support rather than on domestic production and trade’

Until recently manufacturing was essentially small scale and oriented to import substitution, and primarily involved the processing of agricultural products. In the 1980s the Vailima brewery became the country's biggest industry (accounting for 12 per cent of the value of exports in 1992, but less than half that in all previous years). Cigarettes are also manufactured in Apia and accounted for 7 per cent of exports in 1992. A major new industrial development was the establishment of the Japanese Yazaki company at Vaitele in 1991 to manufacture car seat belts and electrical wiring systems, employing 1,500 people.

A small tourist industry developed from the mid-1960s but was not actively promoted until the 1970s. Tourist numbers passed 50,000 in 1979 but have only rarely exceeded that number in subsequent years. Most tourists are Samoans returning on vacation, with pleasure tourists accounting for only 36 per cent of the market in 1992. The industry has been on the decline since 1990. Almost all hotel rooms are in Apia with very little accommodation available elsewhere. Foreign exchange earnings from tourism were estimated at WS\$41 million in 1992, which was more than double national export income. Tourism is unlikely to grow quickly in the future, although the country has considerable potential, especially for ecotourism. The recently completed national tourism plan optimistically forecasts a doubling of capacity by 2001 (Western Samoa and Tourism Council of the South Pacific 1992).

The combined impact of taro blight and cyclones has resulted in a substantial decline in Western Samoan foreign exchange reserves which fell from nine months import cover in 1990 to just 4.6 months in 1994. The reversal in national fortunes can be gauged from the fact that by the middle of 1994 exports only paid for four per cent of imports whereas in 1988 they covered 20 per cent. Remittances have been the principal plank shoring up the balance of payments whilst public debt has doubled since 1991 (much of it owed to the Asian Development Bank and World Bank because of the high cost of infrastructure projects and agricultural schemes). In the mid-1990s prospects for economic recovery are limited as the full effects of the taro blight are yet to be felt and public expenditure is likely to be restrained.

Employment and the urban economy

In each of the three states formal sector employment is principally concentrated in the urban areas and a significant proportion of that employment—almost all in the case of Tuvalu—is located in the public sector. By contrast the bulk of the economically active population in each state is involved in the agricultural (and fisheries) sector. There are therefore significant rural–urban differences in the structure of employment.

Tonga Limited detailed information is available on the current structure of employment in Tonga. The most recent examination of the national situation was contained in the 1986 census. At that time, about half the population aged 15 and over was economically active, representing an increase in labour force participation since 1976 when 43 per cent were in this category. Approximately half of the employed population (10,800 persons) stated that they were in paid employment whilst 37 per cent were engaged in subsistence agriculture and seven per cent in commercial agriculture. Of those in paid employment some 47 per cent were in agriculture, fisheries and forestry; community, social and personal services accounted for a further 25 per cent; commerce accounted for three per cent and manufacturing just three per cent. Whereas the agricultural sector accounted for most male employment, it was virtually non-existent for women. Of the 4,046 women who were employed in 1986, the largest single proportion (29 per cent) was in professional activities and a further 28 per cent were in administrative activities. In both these groups the actual number of women employed was scarcely less than that of men. Those aged over 45 were more likely to be employed in agriculture than younger members of the workforce for whom administrative and professional activities were proportionally more important. Total employment grew by around 1.5 per cent per year between 1976 and 1986—much of that growth was in various small industry groups, notably financial services, electricity, water trade and manufacturing whereas the share of the agricultural sector fell from 51 per cent. There is little indication of the extent to which this may have changed since 1986.

The employment structure of Nuku'alofa is necessarily different from that of Tonga as a whole. More than three quarters (77 per cent) of employed persons in the capital were in paid employment: twice the proportion for the country. A further 7 per cent worked in family businesses. However, 4 per cent of the urban workforce were engaged in commercial agriculture and 10.5 per cent claimed to be solely involved in subsistence agriculture.

In 1986 the population of Tonga describing themselves as unemployed accounted for about 9 per cent of the economically active population, a reduction from the 13 per cent recorded in 1976 (which may be a function of both changes in the means of data collection and emigration). In Greater Nuku'alofa unemployment was 10.7 per cent compared with 8.2 per cent for the rest of Tonga. For Tonga as a whole the male unemployment rate was 6.4 per cent compared with the female rate of 18.7 per cent whilst the comparable rates for Nuku'alofa were 9.3 and 13.9 per cent respectively. Unemployment is particularly high in younger age groups. For youths aged between 15–19 it was as high as 27.6 per cent and the female rate in this age group was more than 50 per cent, an indication of the growing presence of youth unemployment despite a high rate of emigration. It is highly likely that the extent of overt unemployment has substantially increased in recent years. Inadequate access to employment, land and credit have led to increased levels of unemployment in both Neiafu and Nuku'alofa (Gailey 1992) and this, in turn, has stimulated emigration.

There has been no survey of the 'informal sector' in Tonga's economy though it is apparent that informal retailing has become important in the 1980s without any government assistance or encouragement. By the late 1980s the central Nuku'alofa fruit and vegetable market at Talamahu was surrounded by an untidy collection of individual vendors (and some stalls) almost entirely selling secondhand clothes. In 1990 an area of land not far from the vegetable market was set aside as a 'temporary' site for the flea market. No facilities were provided, vendors were expected to (and did) construct their own stalls and were charged a quarterly

hawker's licence of T\$5 (US\$3.75). This market, called 'The Fair', was described as it existed at the end of the 1980s.

[S]talls, which operate six days a week and sometimes number over 100 on weekends, sell a wide variety of second-hand goods including clothing, furniture, books, cassettes, machinery and even the kitchen sink. Many of the items sold enter Tonga without paying duty, and therefore have an edge in competition with local traders (James 1991:7).

The number of stalls has subsequently increased and at the end of 1992 the flea market contained more than 120, with room for more; some vendors, uncertain about their future presence in the market, had not constructed stalls. They were usually made of timber off-cuts and covered against rain; two or three of the larger stalls contained storage places in which goods could remain overnight. Otherwise traders brought their goods to the market by car, taxi or bus on a daily basis which set an upper limit to the volume of goods that could be sold (Brown and Connell 1993). A year later the flea market had been decentralised to a site on the main road out of Nuku'alofa and not far from the Vaiola hospital, in theory to make way for a replanting project. The number of stalls had increased further, proper toilets had been installed and there was greater diversity in the market; there were more cooked food vendors, more 'permanent' stores and a larger number of purchasers. Outside the flea market there are also a number of individual food vendors along Taufa'ahau Road, especially in the evenings; some are recent migrants, mainly from Ha'apai, either jobless or able to earn more from this sector (*Tonga Chronicle* 12 August 1993). In this sector of the economy the informal sector has become of considerable local importance.

Tuvalu Most of the workforce in Tuvalu are dependent on rural-based subsistence activities. Formal employment in the wage and salary sector accounted for the small total of just under 1,500 people in 1991 and highlights the importance to the country of overseas employment and remittances. More detailed analysis of 1988 employment data showed that some 68 per cent of all employment (just over 1,000

persons at that time) was in the government sector. Cooperative societies and non-government organisations accounted for a further 17 per cent of employment while only 14 per cent of all workers, just 130 persons, were employed in the private sector. Working for the government is more dominant in Tuvalu than in almost any of the other Pacific island states and has grown steadily since independence. It is also highly concentrated in Funafuti. There has been little examination of restructuring possibilities to reduce the proportionate size of the public sector or of privatisation of government services.

The concentration of formal sector employment in Funafuti (and to a lesser extent in Vaitupu) is strongly reflected in the official statistics. In 1991 no fewer than 936 people (68 per cent) out of the total wage and salary workforce were located in Funafuti. This proportion has remained much the same since 1979 indicating that the expansion in wage and salary employment after this date did not increase the concentration, despite rapid growth on the island over that time period. This suggests that unemployment on Funafuti has grown during the same period and has become a particular problem there because of the limited opportunities for some migrants of gaining access to subsistence resources. 'Anecdotal evidence suggests that only one in four of all school leavers can now find employment and that the subsistence sector is, in fact, becoming less receptive to the unemployed' (Forsyth and Plange 1992:45). The growth of the formal sector workforce has been twice that of employment opportunities during the 1980s. Unemployment is primarily concentrated on Funafuti and is likely to be greater among the unskilled and semi-skilled workforce.

Western Samoa The majority of the economically active population of Western Samoa is involved in agriculture, even within Apia. In 1979 some 70 per cent of the town's households were engaged in agriculture though 48 per cent of all households received no formal income. By 1989 that urban proportion had not fallen significantly. Between 1976 and 1986 the number of economically active people in the country grew from 37,400 to 42,400 and both employment and unemployment increased over that period. In 1986 around 20 per cent of the

economically active were employed in the public sector whilst many others were employed in government-owned authorities and corporations. Overall, around 50–60 per cent of the formal sector workforce were probably employed in the public sector (Miles et al. 1992) and the public sector accounted for a rather higher proportion of all wages and salaries.

The statistical extent of unemployment in Western Samoa is of limited analytical value because of the significance of rural economic activity. The 1991 census recorded 5,158 unemployed persons. This is nonetheless a significant increase on earlier years—the 1971 census recorded 232 unemployed and that of 1976 recorded just 88, though this was regarded as very much an underestimate of the real situation. Of those recorded in 1991, 65 per cent lived in Apia and northwest Upolu and 80 per cent were under the age of thirty. Almost all (85 per cent) of the unemployed in Apia had lived in the urban area for more than five years which suggests that some of these may not be willing or able to return, or move to rural areas. Unemployment, primarily an urban youth problem, is growing in significance; it has been attributed to a lack of jobs and limited education and skills (UNDP 1993), conclusions that are relatively general for urban Polynesia.

Employment in Apia is dominated by those in the secondary and tertiary sectors (whereas elsewhere the primary sector is dominant). Private employment scarcely exists around Apia and the nearby areas of northwest Upolu. Manufacturing, based in Apia, stagnated in the 1980s and employment levels were never more than 2,000; these numbers were boosted by the opening of the Yazaki plant in 1991 which employed more than 1,000 workers by 1992. This singular success has been the exception rather than

‘Unemployment, primarily an urban youth problem, is growing in significance; it has been attributed to a lack of jobs and limited education and skills ... conclusions that are relatively general for urban Polynesia’

the rule. Otherwise, because of the low growth of employment opportunities in Apia's urban labour market, there is an increasing number of unemployed secondary school graduates. There are some indications that a growing urban crime rate is one result of this and there are few programs either to induce some of the unemployed to return to rural areas or to develop appropriate employment programs (Miles et al. 1992; UNDP 1993:55). Looking at social and economic development in Samoa, UNDP found that

[y]outh residing in urban Apia were singled out as having special needs. In Apia, social support and social control have loosened and productive employment opportunities are restricted by limited access to agricultural lands. Urban youth are also reported to be more difficult to serve than their rural counterparts because of the weakness of community support structures, particularly in the leasehold areas settled by recent migrants from rural areas (UNDP 1993:59).

Broadly similar conclusions could probably be reached for Nuku'alofa or Funafuti.

As in Nuku'alofa, there has been a growing urban informal sector in Western Samoa in recent years, mainly involving retail activities around the market or on Beach Road, Apia. There has been no national attempt to promote the interests of the informal sector, even though it is regulated: roadside and market vendors pay daily taxes to the Lands Department. As in Nuku'alofa, a number of 'informal' activities have become more 'formal', with the construction of more permanent wooden shops. There is a general consensus that as many as five to six hundred households are engaged in informal sector activities such as selling vegetables, handicrafts, imported garments and other consumer goods. Many of the imported goods were supplied by relatives and friends in American Samoa and Hawaii (Miles et al. 1992:126-7). In both Tonga and Western Samoa there has been competition between the formal and informal sectors and growing demands from business to decentralise competing retail activities and bring them under a tighter fiscal regime. In Samoa, for example, it was recorded in the press that 'any clean-up effort of Apia cannot

succeed if the vendors doing business along the streets are not moved to a location. This is where most of the filth in the town emanates from' (*Samoa Observer* 24 January 1992), a conclusion that seemed to be without much evidence. While there is a need to identify certain regulations that would protect the formal business sector from unfair competition, there is also a need to provide protection and space for the informal sector because of its existing potential and positive impact on both incomes and employment.

The urban economy: an unknown world

Despite the significance of employment in the urban area and the concentration of public and private sector formal and informal activities in Apia, Nuku'alofa and Funafuti, there are virtually no data on the particular significance of the urban economies and their relationship to national and regional development. There is little information too on the sectoral distribution of urban unemployment or, more significantly, on the contribution of the urban economy to national development. Where there is information, much of it is outdated. In Samoa the UNDP has recommended that development assistance be targeted towards economically disadvantaged or vulnerable households, some of whom were thought to be urban migrants, but wryly concluded 'there is no data base by which to identify disadvantaged or vulnerable households' (UNDP 1993:10). The same could be said of Tonga and Tuvalu.

Information on urban incomes and expenditure patterns is largely absent, so there is little known of the extent of urban poverty or welfare problems. There is some indication that nutritional and health status is often worse in urban areas. In Samoa infant nutrition in 1969 was worse in rural Savai'i than in Apia, but by 1979 the extent of malnutrition in Apia was estimated to be three times that of rural areas. In 1992 half of all malnutrition referrals came from Apia or suburban areas. Non-communicable diseases are also more significant in Apia where their extent is twice that

in rural areas (UNDP 1993:45–6). This latter situation is also true of Nuku'alofa (Finau et al. 1987) but there is less evidence of malnutrition. Similar data is apparently unavailable for Tuvalu. The greatest problems of urban residence appear to be increasingly experienced in urban Polynesia by those who have been in urban areas for long periods of time, often being born there and lacking alternative options for household development.

Only in Tuvalu has urbanisation significantly increased (from a very low base) in recent years: in Tonga and Western Samoa there has been emigration rather than urbanisation. There has been significant growth in unemployment in each of the capital cities—especially among the young—and steady growth in the informal sector, though only limited handicraft and fresh fish sales are evident in Funafuti. A number of businesses have low profits and generate less capital and income in the urban sector compared to the rural sectors of the economy. Moreover the towns themselves are quite small. This situation limits the potential for raising taxes in urban areas to fund municipal development programs and also suggests problems of cost recovery for service provision.

Relatively little is known about the urban economies of Polynesia, and in particular, there is limited information about urban unemployment and the origins and aspirations of those currently unemployed. Even less is known about urban wages and salaries, the extent to which urban poverty exists and whether its presence limits access to, and the ability to pay for, urban services. These considerable data constraints limit the possibilities for reaching appropriate conclusions on urban economic management and illustrate the comparative neglect of urban issues in the region.

‘There has been significant growth in unemployment in each of the capital cities—especially among the young’

4

Urban planning

I think one of the reasons why there are 12 town planning reports gathering dust in our archives, is that under our present land tenure system it is perfectly possible for a very wealthy household to build a mansion next door to a very poor household...If you zone towns with the best will in the world, and a government made up of angels, you are still going to end up with better services to those areas which are wealthy than you would provide to those areas which are not. With this rather impossible mixture we have now, we are more or less forced within our limited ability and resources to provide the same services for everybody, and I'd like someone to come along with a town plan which does not destroy that. I don't think we are ever going to have a town plan (laugh) (Crown Prince Tupouto'a of Tonga reported in *Matangi Tonga* March-April 1993:11).

The lack of conventional physical planning legislation or urban municipal government is a major and, until recently, seemingly intractable feature distinguishing capital cities in Polynesia from those in Melanesia. The need for such controls and guidance over development, together with a suitable urban institutional framework to carry them out, is widely recognised in the literature as an essential ingredient in the resolution of current urban development problems in the region (Ratcliffe and Dillon 1982; Western Samoa, Department of Public Works 1984). Urban planning is generally regarded as an essential prerequisite to other forms of infrastructure improvement but is useless without the capacity to implement planning priorities and to control unwanted

development. This reality has been acknowledged in a succession of adviser's mission statements and consultants' reports in Western Samoa and Tonga (see Nomachi 1990, 1992; Nicholas Clark and Associates 1993a, 1993b, 1993c; Western Samoa and Tourism Council of the South Pacific 1992). Both the Western Samoan and Tongan governments have formally considered the introduction of physical planning legislation for more than a decade but have not been prepared to accept its introduction. In Tuvalu there have been physical plans but none have been implemented. The reasons for this, and why Polynesian urban centres appear to lag behind some other parts of the South Pacific in urban management, are complex and cover a number of issues in addition to equity considerations.

Although it is usually argued that urban planning and zoning controls are introduced to ensure orderly development and distributional equity in areas such as service delivery, Western cities are often characterised by substantial spatial inequality in the provision of social and physical infrastructure. Polynesian towns are collections of urban villages and generally lack the spatially well-defined income distinctions found in most other urban centres. This is closely related to the presence of large areas of customary land within the towns. Any attempt to modernise these settlements through the establishment of urban governance and planning must come to terms with land tenure realities. This in turn closely relates to the basis of traditional power and the way in which it is exercised in Polynesia. Under such circumstances the introduction of land use planning legislation is seen as a means of removing control over land from traditional authority and placing it in the hands of government and the bureaucracy. The fact that both the government and the bureaucracy in the region are also dominated by tradition does not make such a transfer any easier and has resulted in no enactment of planning legislation.

In this chapter various attempts to modernise urban management and planning in Polynesia are illustrated through the experience of Western Samoa and Tonga since the early 1970s. This was not then and is scarcely now an issue in Tuvalu. Considerable difficulties have been faced by government departments and aid

donors in introducing new measures to ensure orderly urban development in each of these countries, though their individual circumstances differ considerably. It would be quite wrong to conclude that serious attempts have not been made to address problems in urban governance and planning. Draft legislation has been under consideration in both countries for at least two decades. The orderly and optimum development of cities rests on popular recognition of a desired lifestyle and the acceptance of the costs and benefits in achieving it. Urban planning is usually the means adopted by government to conduct acceptable interventions in guiding and controlling development. Stripped to its essentials, urban administration in Western democratic societies consists of a three-part package made up of the presence of popular support for government action to establish an urban administration; the preparation of technically appropriate plans; and a means of implementing them through an elected and accountable body. This is the model inherited from colonial times in most of the South Pacific and this chapter examines the difficult experience of introducing and accommodating it in Polynesia. The evidence presented is biased somewhat towards the case of Western Samoa, where urban settlement is most advanced, documentary evidence is more readily available and popular debate most extensive and accessible.

Popular support for action?

The existence of widespread and popular support for bureaucratic measures to determine patterns and priorities of (and for) development and how it will be paid for is a major assumption in Western urban planning systems. Although the subject of frequent controversy, a variety of individual freedoms are given up to allow this process to occur. In Polynesia the persistence and importance of traditional village-based settlement in both rural and urban areas directs individual and group loyalties to centres of local power, such as the village *fono* of Western Samoa. The significance of these traditional structures is recognised in the Western Samoan

Village Fono Act of 1990 and the necessity for even the police to defer to the customary decision-making process. The introduction of Western forms of urban planning under these circumstances cannot ignore the lack of a collective decision-making constituency to accommodate the needs of wider groupings of villages, such as occurs in the greater Apia urban area. The existence of enough popular support at any level for conventional planning activity to occur in cities like Apia and Nuku'alofa is not at all certain, although the need for such legislation to be introduced is universally assumed by foreign advisers and observers. The extensive delays encountered in the enactment of planning legislation in Western Samoa and Tonga may be largely due to a political perception by government that it is not yet acceptable in Polynesian urban society.

Before examining the lengthy process of introducing urban planning, it is necessary to comment on the extent of support for it in Western Samoa and Tonga. It is unrealistic, perhaps, to expect extensive and popular demands for urban planning in small island developing countries which have only recently experienced the pressures of urban growth. Further, the articulation of problems in terms of planning needs is a sophisticated response demanding a high level of education and experience of other places. The first point might have been true up to a decade ago but in Apia, Funafuti or Nuku'alofa, the pressures of urban development are now readily apparent. Polynesians are some of the best educated and most literate people in the South Pacific region and are amongst the best travelled. Other reasons, such as the views of prominent traditional figures like the Crown Prince of Tonga (*Matangi Tonga* March–April 1993:9–13) which emphasise stability and continuity rather than change, are clearly highly influential.

A review of the main English-language newspapers in Western Samoa and Tonga over the period 1991–93 reveals some direct references to urban planning and administration but more space is devoted to problems associated with a lack of it. The growth of Apia in an uncontrolled and piecemeal fashion exemplifies the lack of planning and has provided the press with many opportunities for complaint in recent years. Two editorials in the

Samoa Observer are representative. In the first, a new and popular awareness of urban conditions is claimed and the problem of poor municipal housekeeping blamed on government failures to provide an effective urban administration.

Ombudsman Professor Jack Richardson is right that Apia's footpaths are the 'worst in the world'. He is also right that people who walk those side-walks and queue up to government offices do not complain because this, to them, is just a way of life. They were born with shoddy sidewalks, filthy, car-wrecking roads and endless queuing up on bureaucracy's doors, so how can they complain? But times have changed and with that, people's attitudes have changed. They are now sitting back and ask[ing] questions, insisting upon answers. They have become less gullible, more assertive. They are filled with revulsion every time it rains and the sidewalks are covered in slime and mud. And that feeling of loathing may soon be made more evident. The roads and sidewalks of Apia need to be cleaned up immediately. And the people need not queue up for hours to pay bills which keep the government in motion. The government should, instead, make things easier for the public by insisting on an effective and caring workforce. It must give up on the arrogant idea that the people are a passive lot, easy to please, manageable (*Samoa Observer* 15 March 1991).

In this instance the solution was seen to be in the creation of a new town council whose function would be to manage urban affairs effectively. Neither urban planning nor even the need for a guiding plan document was mentioned. A year later the same paper drew attention to dangers in land reclamation from the sea as a means of addressing the lack of strategically placed land for expansion in Apia, a major problem in several small island capitals in the region.

The idea of reclaiming land from another huge area of ocean on Apia's coastline is hard to believe. If the bad roads, poor sanitation and the deplorable swamps at Saleufi cannot drive people out of their minds, burying another huge part of Apia's coastline most definitely will. Plans by the government to relocate the shops alongside Beach Road are

in order. But reclaiming land from the coastal waters behind the New Market on to Mulinu'u for the purpose is a decision that needs to be looked at more closely. What we have at present is a small town, congested and water-logged. Not only does it dearly need space to breathe in, it wants infested water drained out of it. A large area of reclaimed land which would subsequently be built on would only aggravate the problem we are trying to solve. Bear in mind that water displaced is not water lost. In this case, the displaced water would only heighten the sea level so that it is conceivable that a good part of Mulinu'u Peninsula would submerge in the future (*Samoa Observer* 18 March 1992).

There are fears in many of the atoll states, especially Tuvalu, that global warming and future sea level rise will severely affect coastal settlements (Connell and Lea 1992). Similar concerns extend to land reclamation from the sea, as in Apia.

This is relatively flat land we are talking about here. In fact, it is barely above sea level, and any rise of which therefore would affect the environment significantly... Sea level rising could be disastrous to those several government houses and properties in Mulinu'u including the Lands and Titles Court, the Broadcasting Department, the Observatory, the Ombudsman's Office and even the Legislative Department. Imagine MPs walking knee-deep in sea water before climbing the steps to Parliament (*Samoa Observer* 18 March 1992).

Further discussion in the same editorial pointed to the need to drain existing swamps in the town before any more reclamation took place and the need to investigate the merits of alternative sites for displaced land uses as a priority. Such actions would of course be investigated, costed and prioritised in an urban plan.

As yet no plan is in place, and development of recently reclaimed foreshore land in the centre of Apia for government offices is the source of considerable controversy. The construction of a new government office building on land earlier selected as public open space started in December 1991 with the financial and technical assistance of the People's Republic of China. The total floor area of the nine-storey building was designed at 12,500 square metres,

making it the single largest office construction in the country with an estimated budget cost of US\$10 million. Mid-way through the contract an editorial in the *Samoa Observer* gave an indication of how popular opinion in the town reacted towards the development.

Whoever got this thing to be built on the waterfront anyway? All its doing is block out the view thus shortening everyone's vision. That reclaimed area should have been made a public park for everyone to enjoy... These games power-hungry men play are maddening, maddening... and it has always been the case, its the ordinary people who end up carrying the burden. This is something everyone should think seriously about (*Samoa Observer* 4 March 1992).

The paper could also have pointed to a variety of other effects of this large complex sited on low-lying reclaimed land. Among the more obvious are the need for proper treatment of sewage effluent and the considerable traffic-generating capacity of a building located on a poorly organised and already overcrowded urban road system. Developments of such size demand a proper technical assessment of their effects on a small town since the costs of rectifying any deficiencies, such as infrastructure defects, will be considerable and have to be paid at the expense of other necessary public works.

Government is blamed for a lack of commitment to solving urban problems, and in Western Samoa the non-government environmental organisation, the *O Le Siosiomaga* Society, convened a public meeting in March 1992 to discuss the lack of achievement. A public servant and chief planner from the Public Works Department, Tuuu Ieti Taule'alo, addressed the gathering and listed numerous planning initiatives including two draft acts but blamed the lack of progress on a failure to develop a legal framework for urban planning.

'Unless the decision makers provide a framework and commit themselves to planning, very little can be done. Without proper urban planning procedures, the present unplanned features of Apia will continue unchecked and associated impacts will become more and more difficult to

address'...Tuuu said he believed one of the possible reasons past planning initiatives had failed was because Parliamentarians had misunderstood them. 'They were certainly never aimed at taking people's land over' he said. 'Opposition to the changes centred on issues such as compensation, nationalisation of land and the rights of landholders' (*Samoa Observer* 13 March 1992).

Despite the report of considerable criticism being levelled at the national government at the meeting, when it came to supporting a suggestion that an Apia Residents Action Group be formed to address some of the issues raised, no decision was made. Inertia and conservatism prevailed.

A review of the *Tonga Chronicle* for the two years of 1993 and 1994 failed to reveal any direct reference to urban planning or the need for a separate urban administration in Nuku'alofa. In one of the very few comments on land use planning from government sources, Tukia (1993) has supported the introduction of a Land Use Zoning Ordinance after an opportunity for public hearings. This has emphasised the utility of urban plans in reducing the various negative aspects of urban growth, however nothing has yet been said about the likely difficulties in securing compliance with planning controls or of creating a suitable (and accountable) form of administration to carry them out. Considerable faith is placed in 'planning' as a solution to many problems, ranging from traffic congestion to new forms of housing development, but there has been no consideration of the difficulties of securing enforcement in a town largely comprised of residential plots held under customary tenure. This is not entirely surprising given the authoritarian and traditional nature of the Tongan government but it is an indication that the urban development debate has not addressed the *realpolitik* of the local situation.

'In Apia, Funafuti or Nuku'alofa, the pressures of urban development are now readily apparent'

Towards physical planning in Tuvalu?

There are a number of problems with urban development in Funafuti that need attention. Concentration of government and associated services has made Funafuti the largest centre of wage and salary employment in the country. This has resulted in problems of urban migration, overcrowding and unemployment. Many of the migrants who have not succeeded in obtaining cash employment are unable to support themselves from subsistence activities, as they would in their home islands, because they do not have land rights and because the agricultural areas available for subsistence are already crowded. There are associated problems of water supply, sanitation, waste disposal and construction of housing. Food supplies are also inadequate from local sources and there is heavy dependency on cash and imported goods for the necessities of life. None of these problems has yet led to the establishment of any real notion of urban management and planning, and Tuvalu has no real human resources in this area.

This has not prevented the formulation of physical development plans for Funafuti by external consultants. The first of these appears to have been in 1973; it set out guidelines for the development of Funafuti as a national capital. These guidelines were generally followed in relation to the establishment of government housing and commercial areas. Subsequent plans were less successful and growing pressures on land resources have resulted in infilling and less organised housing development. Moreover, a longstanding Land Use Planning Committee has had no real success in regulating land use and consequently

Funafuti in Tuvalu provides an example where physical plans have been produced several times over the past two decades. None of these has been implemented and there are still no maps clearly defining boundaries or marking the locations of houses and government offices. Partly this is due to the complexity of the land tenure system, and the lack of involvement of the chiefs and the old men's groups in the planning. The various *maneapa* (meeting houses) are a focus of town life, just as in the villages in the atoll

countries, and perhaps the planning process should utilise this structure (UNDP 1994:34).

As elsewhere in Polynesia intentions to establish physical planning have been very far from reality. It is yet another step to be in a situation where urban planning and management can be considered separately from national development issues.

As early as 1978, in the first national development plan, the government sought to increase the functions of the council on Funafuti to meet urban needs but this has not occurred. Funafuti Town Council has an annual recurrent revenue of A\$30,000 hence its resources are extremely limited. Although the official functions of the Town Council (and other island councils) are extensive, and mainly concerned with the maintenance of public buildings, they are generally not carried out because of the limited finance available. Development on most islands is officially controlled by the council but Funafuti is an exception because the national government provides some facilities for its own use on land that it has leased. The process of controlling development is unsatisfactory and regulatory supervision of construction is effectively non-existent. The extent to which it is feasible to have a more powerful town council for a small island where central government has important interests and where capital and skilled human resources are limited is debatable. It does however mean that there is no urban planning and management.

Official recognition of the problem

The introduction of urban planning in Western Samoa

The succession of attempts to institute modern urban planning in Apia demonstrates that considerable attention has been given to this problem over a long period in one of the states. The difficulty of establishing a modern system lies not so much in a failure to appreciate that such developments are necessary, but in grappling successfully with underlying factors which have ensured that all previous efforts at reform have met with defeat.

This underestimation of South Pacific *realpolitik* on the part of many advisers and consultants appointed by donor countries has perpetuated an extraordinary succession of unfulfilled recommendations dating back, in the case of Apia, to 1934 (Western Samoa, Department of Public Works 1984). Two decades later, well before independence took place, there was an attempt to confront the challenge of physical planning by creating a Town Planning Committee. The terms of reference recognised most of the important planning and development control issues facing the town and was required to place before government 'firm recommendations [and] such estimates of cost, urgency and priority it feels competent to give' (Western Samoa, Department of Public Works 1984:2.3). A full-time officer was to be appointed, assisted by a technical panel, but no appointment was made. The committee thus met only once in 18 months because it was not provided with material to consider. In 1956 it was recognised that urban planning would be fruitless unless a local authority was constituted to administer it and first steps were taken to achieve this via an Apia Advisory Committee. The Minister of Lands served as Chairman with the committee including the Directors of Works and Health, the Chief Surveyor, representatives of the Chamber of Commerce, the Catholic Mission, and Legislative Assembly Members from the area. In the words of the 1984 Apia Town Plan

[u]nfortunately, the Chief Surveyor was not relieved of his other duties, and after an initial start with the recommendations regarding traffic patterns, bus terminals and after raising the question of zoning, departmental preoccupations of his regular job pushed planning further and further into the background. By early 1959 the Apia Advisory Committee had, for all practical purposes, disappeared entirely (Western Samoa, Department of Public Works 1984:2.5).

Even in colonial times it was impossible to establish successfully an effective urban planning system.

The first master plan for Apia was completed by the Director of Works in 1964 and a town planner appointed to his department in the following year. Thus began the production of a series of

physical plans and reports lasting for three decades, none of them backed by either physical planning legislation nor the executive powers of local government. In recent years expensive and comprehensive tourism, environmental and urban services plans have been produced, all of which comment on the need for urban planning and the legislative ability to implement it. This weakness had been officially recognised, and in 1972 Cabinet decided that responsibility for urban planning should rest with the Public Works Department and draft planning legislation was prepared. A Cabinet committee recommended in 1973 that the legislation be deferred indefinitely. Another town planner was appointed in 1977 and Cabinet once again constituted a Planning Committee and initiated the preparation of a Town and Regional Planning Act that was completed in 1979 (Western Samoa, Department of Public Works 1984). But, as before, the legislation was never passed into law. More than a decade later, in 1993, yet another piece of draft legislation to set up a Town and Regional Planning Board and Regional Planning Unit was in preparation.

Just as before, contemporary efforts to provide a legislative basis for urban planning must face the perennial problem of implementation. The pending creation of an Apia Municipal Authority is recognised in official reports and yet another interim body, the Greater Apia Development Coordinating Council, is proposed to oversee the planning of the town until municipal government can be established (Government of Western Samoa and Asian Development Bank 1992:13). Responsibility for physical planning has been transferred from Public Works to the Department of Lands, Surveys and Environment, a move which may improve plan-making capabilities but puts into question the conduct of development control. All these actions have done little more than tinker with the symptoms of a deeper problem, and constantly shift responsibilities around. During the 1973 parliamentary debate on the 1973 draft planning legislation a Member of Parliament stated that

[t]he most precious treasure of a Samoan is his land, and if the country is so conscious of its land, I do not blame them, because we now see that lands have been taken away

gradually for purposes of the Government for public purposes. I do not intend to support the (Town Planning) Bill to the extent that the people is [*sic*] denied the right to control their own lands (Western Samoa, Department of Public Works 1984:6.1).

Approximately one quarter of land in the Apia urban area is held under customary tenure (60 per cent is freehold) and almost all of it is used for residential purposes. As government land and freehold stocks are exhausted, pressure will build to develop the customary areas. Trends towards nuclear family formation have led increasingly to *de facto* 'ownership' of customary land in several parts of the Pacific, putting pressure on government to come up with new forms of leasehold, or other arrangements, which will allow some of this land to be used for planned urban development. As an official report puts it, the solution must somehow incorporate tradition as well as allowing modern development to take place.

There appears to be a demand for freehold and *de-facto* 'ownership' of customary land by increasingly nuclear families. At the same time, there is a fierce desire to maintain Samoa's customary land tenure system as the basis of the *fa'a Samoa* [tradition]. Failure to address this issue and to provide access to land in a way which does not alter the basic principles of customary tenure is likely to lead to increasing land disputes and potential reduction of access to land for those with least resources who have traditionally been guaranteed land for their housing and productive needs (EDU International in association with GHK/MRM International 1992a:14).

At the core of all planning issues is land tenure.

Planning in Tonga

Acceptance of a need for urban planning is relatively recent in Tonga and dates back to the preparation of enabling legislation in the early 1980s (Withy 1981; Tonga Ministry of Lands, Survey and Natural Resources 1992). As in Western Samoa, the drafting of land

use planning legislation did not mean acceptance by government and, after more than a decade, a new *Land Use, Natural Resource and Environmental Planning Act* (1992) was drafted which incorporated a full schedule of provisions including the creation of a planning authority, Land Court and series of town, district, regional, maritime and national planning schemes. On paper at least there is considerable planning activity in Tonga but almost all of it is only of an advisory nature and not yet backed by the force of law. Despite this seeming lack of action in implementation, Tonga has had significant experience in the 1980s and 1990s in the preparation of regional plans for the Ha'apai and Vava'u island groups which resulted in some direct urban planning and infrastructure provision.

Pressure in the mid-1980s for better coordination of development planning from bilateral aid donors led to the preparation of the Ha'apai and Vava'u integrated regional plans (W.S. Atkins International 1989; Tonga Central Planning Department 1988) and a regional study for 'Eua (Sevele and Vete Consultants 1990). The plans were preceded by government-sponsored development workshops held in some of the regions enabling consideration of local priorities plus information exchange (Tonga Central Planning Department 1982a, 1982b). Several of the recommendations contained in the regional plans have been implemented, including the establishment of Development Committees and, in the case of Vava'u, a master plan for the town of Neiafu (Kinhill Kacimaiwai in association with Riedel and Byrne 1992). Although only advisory at this stage, this urban plan is the most advanced document of its kind in the Kingdom and falls under the jurisdiction of the Ministry of Lands, Survey and Natural Resources.

Nuku'alofa, the capital, with a city population of 21,383 in 1986 (defined as the villages of Kolofou, Ma'ufanga and Kolomotu'a), does not have an urban plan. The greater urban area includes a population of an additional 10,000 and suffers from a severe shortage of environmentally suitable building land. Lack of planning and the pressures of considerable population growth have led to the use of low-lying, flood-prone land close to the centre in recent times. A number of planning and development initiatives

have been introduced in recognition of the pressures which have built up in the Greater Nuku'alofa area including extensions to the township of Popua (Spennemann 1987) and a proposed master plan designed to deal with sewerage needs, waste dumping and other urban issues (Lea and Connell 1995). Of particular concern is the increasing pollution of the Fanga'uta Lagoon system and the possibility of land reclamation from the sea (Kinhill Riedel and Byrne in association with PPK Consultants 1993). The Tongan land tenure system 'does not conform to the generally accepted zoning principles of town and country planning' (Tonga Central Planning Department 1991:76) and has led to difficulties in redevelopment of existing built-up areas. Reclamation, as in Western Samoa, appears a feasible alternative. It is even a way of creating small new stocks of freehold land.

I don't think you can touch the traditional land now, it's too deep in tradition, it is hereditary, and even sentimental attachment to it, but it may be possible to amend the land law so that you can reclaim from the sea, maybe that can be called freehold. Because, after all you are not taking anything away from anybody or any future generation, you can sell it and do whatever you like with it. It would also help traditional land owners, because it means that they will be protected from the sea, and any investment that is going on in the freehold part, adds a value, and would also raise the value of their property without their having to do a stroke of work, and it should appeal (Crown Prince Tupouto'a of Tonga interviewed in *Matangi Tonga* March-April 1993:11).

Land tenure lies at the heart of planning issues and there is considerable reluctance to, and difficulty with, reforming tenure systems, even in Tonga where the present tenure system is a relatively recent creation. Much of the difficulty surrounding land development and planning in both Western Samoa and Tonga concerns the interrelationship between tradition and modernity represented in very different approaches towards the control of land use. Pressures to introduce new and sustainable

'At the core of all planning issues is land tenure'

environmental practices in particular have led to some debate and action to reconcile traditional and modern decision-making practices.

The nexus between parliamentary and customary law in Western Samoa

Difficulties experienced in the urban management of Apia are one facet of a much wider requirement that there be some reconciliation between controls over development enacted by the Western Samoan parliament and traditional decision-making structures of *fa'a Samoa*. This need has been underlined in the increasing pressure placed on all levels of society in the Pacific to examine and improve environmental practices. In Samoa it is customary decision-making which effectively controls development over some 81 per cent of the country including the coastline, lagoons and reefs. Cornforth (1992) examines two important pieces of legislation, the *Lands, Surveys and Environment Act* (1989) and *Village Fono Act* (1990), which attempt to codify decision-making in a range of situations affecting the environment and natural resources. Although it would be wrong to claim success in bringing together parliamentary and customary law-making codes in Western Samoa, these two acts go some way towards recognising the realities of village level decision-making. The *Village Fono Act* enables the courts to recognise village rules and penalties for minor offences but is restricted in jurisdiction to a particular village. The *Lands, Surveys and Environment Act* allows the Minister 'to enter into agreement with owners and occupiers of customary lands for the purpose of protecting their natural resources and environments' but, as Cornforth points out, 'does not exclude other ministers and their departments from implementing conflicting objectives' (1992:1). Further, such an agreement with a minister has little force over the actions of individuals if not also bound by other laws and regulations.

Cornforth has made a general observation of the effectiveness of environmental and resource protection built into the two acts, that 'the boundaries which delimit the influence of government, the village, and private land owners do not coincide with environmental boundaries, and there exists neither overall

planning law, nor any satisfactory integrating mechanism which might bring the two codes together to the satisfaction of all parties' (Cornforth 1992:2). Similarly, the boundaries of responsibility for public urban services delivery and infrastructure provision cut across the boundaries of the Apia villages. This lack of a common focus to accommodate community-wide planning needs has created a form of bureaucratic paralysis—key problems are recognised and the means to deal with them identified but good intentions are overwhelmed by difficulties in implementation and control. The problem does not arise from a refusal to accept control over personal actions in Samoan society, where sanctions of a traditional kind can be very effective at the village level, but out of an inability to accept collective responsibility for pressing development outcomes and needs in the urban area. However this is exceptionally difficult in Samoa where the *matai* system remains of enormous significance and where villagers within the urban area are traditional landowners with full authority over land use and, more importantly, legislative control over a range of issues. Thus within Apia there are two quite different tenurial and legal systems; imposing contemporary urban management procedures in such a context without extraordinary levels of consultation and participation is fraught with risks and uncertainties.

The Department of Lands, Surveys and Environment has recommended amendments to the *Lands, Surveys and Environment Act* (1989) to allow the incorporation of local aspirations in village resource management plans prepared after full and popular consultation. This, it is hoped, would allow a collective approach to the environmental problems facing groups of rural villages. Measures such as this are probably appropriate in a rural setting but do not provide enough guidance for everyday control over development in an urban area. Here the challenge is to enact more intrusive urban planning legislation which accepts the existence of customary urban villages in Apia, yet is capable of gaining widespread support. Non-government organisations such as the *O Le Siosiomaga* Society have for some time drawn attention to examples of current urban mismanagement in public meetings (Vanderburg 1992) and subsequent press reports (*Samoa Observer* 13 March 1992). It thus appears to be generally recognised that

new urban planning legislation and some form of urban government will be an essential part of dealing with pressing needs in Apia.

Urban government in Apia: the baby in the Fugalei Swamp

There have been calls in recent times in the Western Samoan print media to establish a town council in Apia as a means of implementing yet to be enacted planning legislation. The motivation appears to be that of increasing frustration with obvious examples of poor urban management and the lack of a tier of local government which can be held readily accountable. The extent of the debate, as illustrated in the press, is limited but does demonstrate the emergence of a popular demand for action which, as already indicated, is one of the pre-requisites for an effective planning system. Only two Western Samoan examples were found in a search of national newspapers over the period 1991 to 1993 to illustrate the nature of local opinion. The first example is an editorial that calls for the introduction of an Apia Town Council as a means of improved urban environmental management. Attention is drawn to political and financial implications but in seemingly vague, naive and unconvincing terms.

But seriously consider how to get rid of the ugliness in town and keep it away permanently. Perhaps a Town Council, as some concerned people have suggested, is the answer to the problem. Such a body could be established independently of the government, but allocated funding under the government's annual budget. As the Town Council grows and becomes more confident of itself, it should then be able to embark on money-earning projects to assist it financially. Companies could be asked to fund projects aimed at lifting the place's image up, or provide materials to enable these projects to be carried out. Also, such rates as motor vehicle fees and driver license costs paid by residents of Apia and its suburbs could be directed to the Town Council. The Town Council could organise work groups to assist in drainage work, sidewalk resurfacing, lawn mowing, gardening, trash collecting and so forth, drawing on the community's unlimited volunteer work force. This would reduce loitering around town by many young people who will now find life more meaningful, and feeling useful at the same time for

being able to make a contribution to the community (*Samoa Observer* 15 March 1991).

The altruism displayed here is admirable but the general tone of the editorial indicates little in the way of political consciousness toward public sector economics. It is unrealistic to expect the enjoyment of anything more than minimal independence for a body that would be substantially funded by central government. It is even more optimistic to expect a voluntary force of concerned citizens to band together in work parties in place of a paid municipal labour force in anything more than a token gesture. Nearby examples of municipal governments in Melanesia make valid comparisons when considering the future prospects of a new Apia town council. Urban local governments in Solomon Islands (Honiara) and Vanuatu (Port Vila) are possible examples of what could occur in Polynesia. They are underfunded and under-equipped to fulfil the normal range of municipal functions and kept in such condition, apparently, by central governments that have no wish to build up political competition from an effective (and independent) urban administration in the national capital (Connell and Lea 1993).

A year later, in a letter published by the *Samoa Observer*, a literate and outraged 'Apia slum dweller' put the case again.

Your editorial of last Wednesday (March 11, 1992 *Fugalei swamps and dead baby*) was thought provoking and heart rendering [*sic*] in the thought of an innocent human baby floating in the filthy swamps and being eaten by pigs. We pride ourselves as the paradise of the South Pacific and a God fearing country that attends church twice a Sunday all in white as snow clothing and look what we have done to the babies—eaten by pigs—bahhh!!! I say 'we' because this is a crime created by society and a government which does not care about the welfare of its people, a government which turns a blind eye to this eye-sore slum right in the middle of Apia city. If the government had cared about the welfare of these people who live in these slums, it would have passed legislation years ago on the standards of dwellings that should be built; improved drainage; created an Apia City Council which should draw its representatives from the Apia

City Community...Once we have an Apia City Council, then we have a body which should be empowered to visit dwellings within their own small village suggesting improvements and instigating fund raising projects with government support which should provide at least 50 per cent in a tala-for-tala system of incentive to help these slum dwellers (*Samoa Observer* 18 March 1992).

This correspondent calls for an elected town council which could overcome the usual Western Samoan practice of government by appointment and particularism: 'that is why many government instigated projects fail, because it does not use the very people whose lives it is meddling around with' (*Samoa Observer* 18 March 1992). There is thus some evidence in Western Samoa at least of popular support for a more effective means of determining and implementing urban policy. By late 1993, however, there was still no official word of how and when an Apia town council would be established nor debate about the political and financial implications of setting it up.

More recently, in September/October 1994, representatives of community organisations in Apia attended a bilingual forum organised by the World Bank that 'decisively rejected the need for a municipal authority for Apia, asserting that existing community-based structures...and agencies could serve more effectively and at less cost' (World Bank 1995:80). According to the Bank, the move to create a city council for Apia could result in

- possible duplication of services provided by departments of the (central) government and water authority
- overburdening an already fragile capacity to provide infrastructure and deliver services
- imposition of municipal taxes/charges in a climate of unusually vocal taxpayer opposition to the newly imposed value added general sales tax, especially in the context of likely increases in charges for services such as water supply, solid waste, etc.
- creation of a government structure that does not take advantage of the opportunities for [the] community

- participation offered by the country's strong *matai* system (World Bank 1995:100-1).

In the Bank's view, the most appropriate strategy would aim to set clear goals, minimise overhead costs and demonstrate accountability. It was considered here that strengthening the Environment and Conservation Division of the Department of Lands, Surveys and the Environment would be the best short-term solution. Its functions should be expanded to develop basic ground rules on land use, improve coordination between central government departments and agencies that provide city-level infrastructure and services; and introduce a streamlined process for obtaining building permits (World Bank 1995:101).

Although it possesses a number of merits, the success of this solution depends on institutional strengthening of the Department of Lands, Surveys and the Environment to manage development in Apia on a day-to-day basis. The challenge remains to create a development control system backed by appropriate legislative powers that will command central government as well as community-wide support. Thus the key question in Apia (as it is in most of the independent South Pacific) is how best to implement and sustain agreed urban development strategies, rather than the presence or absence of a city-level of government *per se*. There are, after all, several examples in Melanesia of town councils unable or unwilling to tackle obvious difficulties such as the regulation of traditional housing areas or to attract the kinds of revenue needed to accomplish their existing functions effectively.

Addressing the issue of planning

By any standards urban management and planning is in its infancy in the independent states of Polynesia, despite numerous reports in both Tonga and Western Samoa recommending the establishment of planning bodies, principles and practices. Nor has it been established in Tuvalu despite the urban problems emerging there. Only in Western Samoa has there been any serious

consideration of creating a genuine urban authority but it has never been a high priority and it is unlikely that it will become one in the near future. The absence of effective mechanisms for physical planning and urban management has at least become a topic of debate there. In Tonga more formal urban planning has largely been rejected and in Tuvalu it has yet to become an issue despite the existence of the Funafuti Town Council. In Polynesia there are few effective organisations (even line agencies) below the national level and the lack of an effective urban planning system has contributed to problems in management and service provision. Changing this situation lies in the political rather than the technical sphere.

‘The boundaries which delimit the influence of government, the village, and private land owners do not coincide with environmental boundaries’

5

Urban land issues

There has been only superficial economic transformation of Samoa since the initial impact of the west. Most people in Samoa continue to live in *nu'u* [locally based polities] and to practice a subsistence based economy. *Fa'a Samoa* provides the basic structure on which the subsistence economy operates. These rules guarantee that everyone, at least theoretically, regardless of sex, rank, social origin, descent or religion is assured of a piece of land to cultivate and live on, shelter and protection and care in their old age. But in practice, owing to greatly increased mobility and other influences, the principles do not apply as effectively for a minority, who are consequently disadvantaged or need to be provided for in other ways (Meleisea 1992:64).

Although many issues of land tenure and land use have been thoroughly studied in Polynesia, the particular and growing problems associated with urban development have received much less attention. In part this is a reflection of the recency and limited extent of urbanisation but it is also due to a lack of special provisions created to manage land and development in the towns. As Meleisea (1992) notes, with respect to the situation in Western Samoa, tradition (*fa'a Samoa*) continues to dominate much of social behaviour, even in the capital. This is equally true of Tonga and Tuvalu. Conditions are not uniform across the sub-regions of the South Pacific however, in spite of the great majority of land in Polynesia being held in communal tenure. In Samoa and Tonga almost all of the small amounts of alienated freehold land in

individual ownership are restricted to the main towns but in Tuvalu there is little communal or government-owned land and most is held under individual title by households. The interests of the Samoan and Tongan hereditary chiefs are reinforced by their continuing dominance of the political system and their enormous influence on land matters, though this is no longer the case in Tuvalu (Crocombe 1987a:393).

There is a general regional problem of 'adapting tenures which derive from combined customary and colonial precedents, to serve the needs of non-customary, post-colonial societies' (Crocombe 1987a:390). Moreover, 'traditional precedents are of little relevance for modern urban living' (Crocombe 1987a:386), hence it is in the towns where pressures to reform traditional land practices are greatest. As in Melanesia, the challenge confronting island governments is not found in the welfare of longer term urban residents, many of whom enjoy the security of a registered title or communal rights, but in satisfying the needs of migrants drawn from the rural hinterland or outer islands to seek a new life in the city.

Urban land is scarce in Polynesia, even in relatively less populated Western Samoa, largely because governments are unwilling to exercise their legal rights to acquire additional customary or individually-held land for urban purposes. As a result, there is severe pressure on the small amounts of industrial land, almost no opportunity to redevelop existing residential areas to higher densities, and pressure to reclaim marine and lagoon areas for various public uses. Effective urban management and planning demands an ability to control land use for priority public purposes (see Chapter 4). The reality in most of Polynesia is not so much a failure to accept this objective but a lack of agreement as to the most appropriate means of achieving it. Authoritative sources have pointed the way for more than two decades.

Public authorities must ensure that it [urban land] is made available at reasonable cost to all who need it and must avoid land becoming concentrated in the hands of a few persons who, by the accident that their ancestors held rural land which became urban, or because financial advantage has

enabled them to acquire a monopoly position, deriving large sums from less fortunate fellow men. This necessitates comprehensive planning and either extensive public ownership of land which is leased to users, or extensive public control over private land. The socially generated surplus in rising land values should be used for the common good (Crocombe 1987a:387).

Among the most important works that have considered issues of land tenure are a series of publications originating from the Institute of Pacific Studies at the University of the South Pacific, Suva. These include the third edition of Crocombe's (1987a) major collection on land tenure in the Pacific; a collection on the atoll states (Crocombe 1987b); edited papers on public lands policy (Larmour, Crocombe and Taungenga 1981); land tenure and rural productivity (Acquaye and Crocombe 1984); the land rights of Pacific women (Institute of Pacific Studies 1986); and the special land needs of immigrants (Mason and Hereniko 1987). A relatively small number of other studies are locationally specific to the three main Polynesian countries examined in this book. For Tonga among the most useful are those of Fonua (1975); Rew (1979); Na'a Lemoto (1981); Ratcliffe and Dillon (1982); Moengangongo (1986); Maude and Sevele (1987); Lua (1987); Langi (1987); Tonga Central Planning Department (1991); Pulea (1992); and James (1993). For Western Samoa: Tiffany (1979, 1980); Thomas (1981, 1984, 1987); Western Samoa, Department of Public Works (1984); Fana'afi (1986); Galuvao (1987); Matheson (1987); Meleisea (1987, 1992); O'Meara (1987); Pauli (1987); Samasoni (1987); EDU International in association with GHK/MRM International (1992b); Western Samoa National Planning Office (1992); Western Samoa and Tourism Council of the South Pacific (1992). For Tuvalu: Naneseni (1981); Leupena and Lutelu (1987); and Clarke (1993a). Only a small number of these contributions look in any detail at the needs of the urban areas.

Land issues in Polynesia are complex and relate closely to the composition of society and workings of the economy in the region. There are no easy solutions to these issues which are found throughout Oceania (including Australia and New Zealand) but the focus of this chapter is to highlight circumstances in the towns

where a resolution of current problems must be found. Each state requires an individual approach and concentration on priorities.

Tonga

The land tenure system in Tonga is unique in the South Pacific, as it provides for individual ownership with security. All land is ultimately the property of the Crown but large estates are owned and operated by a small group of less than 40 nobles. Altogether there are four kinds of estate: royal estates belonging to the King; royal family estates; hereditary estates belonging to nobles; and government estates under the control of the Minister of Lands (Maude and Sevele 1987:121). Every male Tongan on attaining the age of 16 years is entitled to a bush allotment (*'api uta*) of about 3.3 hectares (on which rent is payable) and a town site (*'api kolo*) of 0.16 hectares. The allotments are granted from the estate of the noble where the applicant lives, subject to the agreement of the noble concerned. In other cases a land grant may be made from land under government ownership. This system is based on the belief that all Tongans should take part in the basic agricultural economy and in theory provides for considerable equality in access to land.

Legally, every holder of an allotment is required to plant 200 coconut palms and maintain them weed-free. Traditionally, all men are allocated an *'api* so that they can be agriculturally self-sufficient, but many of the young no longer receive such land grants because of population pressure on the limited land resources. Although some 60 per cent of land in Tonga is farmed through these small allotments, some have been amalgamated. About 28 per cent of the total in the early 1970s was held in the form of larger farm units by the King and nobles. This proportion is likely to have fallen to less than 20 per cent due to some redistribution. Sub-division of allotments, though legally permitted since 1958, has been made little use of and could lead to problems in agricultural production. On the other hand such technical inefficiencies could be offset by the introduction of more equity in the distribution of

land suitable for subsistence production and hence bring about a reduction in food imports. A related concern is that of absentee landlords and the possible redistribution of their lands. Recent evidence suggests that Tongans domiciled overseas are taking advantage of high rentals available in Nuku'alofa in the 1990s to build new dwellings on their own *'api* to let commercially.

Land and development in Nuku'alofa The land system in Tonga was developed at a time when there was sufficient land for distribution to all adult males and does not 'conform to the generally accepted principles of town and country planning' (Tonga Central Planning Department 1991:76). Moreover, nineteenth century land legislation was designed to prevent the appearance of a land market, and was only changed as late as the mid-1970s to allow the leasing of customary allotments (James 1993). The small size of holdings and short periods of leases (few owners wish to enter into long-term formal leases) means that informal arrangements are more common (James 1993:224-5). These in turn are not conducive to the emergence of regulated private sector development or the expenditure of investment capital by either the landholder, who is not using the allotment, or by the user who has no security of tenure.

Residential land in Nuku'alofa is in very short supply, with newcomers forced to settle or squat in swampy areas around Popua and Sopa to the east and west of the town. Prices for leases (including cash and gifts) in the better parts of the town are high: T\$150,000 was asked in 1991 for a ten-year lease of 0.12 hectares in a central Nuku'alofa location; and T\$30,000 for a fifty-year lease on a suburban site (James 1993:225). In the absence of enforceable planning, urban land uses are haphazard and ill-defined. Two trends are apparent, one a result of deliberate policy and the other an informal adjustment in the nature of existing land holdings. The government appears to be placing great store on the possibility of reclamation from the Fanga'uta Lagoon system to create new supplies of urban land, whilst rural tax allotments are increasingly being subdivided to provide for town allotments. The government's Inter-Departmental Environmental Committee (set

up during the fifth development plan period 1985–90) has made several recommendations for the introduction of planned land development and the introduction of land-use planning (Pulea 1992) but nothing has happened yet.

It is difficult to comment usefully on urban land strategy when there appears to be an absence of approved policy. The *Sixth Development Plan* (1991–1995) put the situation succinctly.

[A]lthough more than a third of the population is urban, Government's policy towards urbanisation and human settlements in urban and densely populated areas has not yet been formulated (Tonga Central Planning Department 1991:257).

This does not mean a total absence of government activity in formulating new environmental planning legislation—the *Sixth Development Plan* confirms that such new legislation and a subsequent land-use plan for Nuku'alofa are under preparation. The fact is, as the national development plan also states, 'the absence of land-use planning and building codes hinders national housing development. In particular, there are no adequate zoning procedures or specific building requirements for construction within flood-prone areas' (Tonga Central Planning Department 1991:257). The advent of adequate urban land-use planning in Tonga will signify a major change in the power exercised by traditional authority. It is small wonder that the introduction of measures which have already found a place in many other parts of the South Pacific (outside Polynesia) is taking so long to accomplish.

Western Samoa

The Apia town area is the dominant administrative, commercial, and service centre of Western Samoa, but it is also a collection of locally autonomous villages organised by descent group memberships and hierarchies of chiefly titles... 'Aiga links are activated for securing residence and land rights. Chiefs control access rights to scarce residential

land and, indirectly, access to agricultural holdings, since an individual must be a village resident to be eligible for leased government land (Tiffany 1979:166).

In the traditional Samoan land tenure system, any particular piece of land is owned by the extended family (*'aiga*) whose members first cleared and planted it. The extended family takes its name from the *matai* title under whose authority the members work and live, and administrative control over this land can only be exerted by acquiring the relevant *matai* title. Various changes associated with modernisation, such as increasing population, urbanisation, more cash cropping and alienation of some land, have been accompanied by altered perceptions about land tenure (Thomas 1984). Increasingly, most Samoans are seeking exclusive control over their own land rather than sharing those rights with extended family members. Land in any particular place may be owned under old, new or altered tenure arrangements, although the new form of individualised tenure is not the legal norm, causing problems in resolving difficulties before the Land and Titles Court. Under the Western Samoan constitution it is illegal to sell or mortgage customary land unless authorised by Act of Parliament.

Land suitable for urban development in Apia in 1984 comprised a mixture of four main kinds of tenure: freehold (1,948 hectares); customary (744 hectares); WSTEC (plantation) (719 hectares); and government land (437 hectares) (Western Samoa, Department of Public Works 1984). Thus about half the land suitable for urban development within existing boundaries was freehold, about 20 per cent each were in customary tenure and owned by WSTEC, and the remaining 10 per cent was controlled by government. In the 1990s the tenure mix has changed very little but there has been new construction over the whole urban area and changes in attitude have occurred towards customary holdings of several kinds. The 20 per cent held under customary tenure in the urban villages is more than 90 per cent in residential use and thus subject to traditional control. The majority of housing in the urban area, about 70 per cent, is built on freehold land but such land is in very short supply: there are now problems in finding land for housing development (EDU International in association with GHK/MRM International 1992b).

The presence of discrete groups of outer island people in Pacific towns is not uncommon, even today. The case of Apia demonstrates that urban land holdings can be complicated by factors associated with early colonial economies. One example indicates how this is so, and how social relations remain crucial to urban development. In the mid-nineteenth century a German trading firm recruited Niueans to work in Samoan copra and cotton plantations. They were given permission to occupy land near the centre of Apia known as Aai-o-Niue (Niue settlement) and have now extended their occupation to five blocks in the Tuamasaga land district (Matheson 1987). The land is held under a mix of tenures with individual rights of ownership only certain in three blocks. Uncertainty about permissive occupancy and security of tenure in the rest has prompted many Samoan Niueans to migrate to New Zealand. The land at Aai-o-Niue was originally divided according to the villages of Niue where the residents came from (Samasoni 1987). Continuing doubts about the status of Niuean families living in Apia for more than one hundred years are a good indication of the strength and persistence of Samoan traditional custom surrounding land holding. Samasoni (1987:89–90) observed that the Niuean community had to act together to seek permission from the local high chief about proper surveying of plots or even leasing arrangements. Options to purchase at some future time were another possibility, as was further integration with Samoan families.

The changes in land tenure in the urban area are not only in the direction of more individualism, as far as the household groups are concerned, but are also found in the occupational behaviour of those owning freehold land.

There is a tendency for the small amount of freehold land to effectively decrease over time in terms of the land market. Where land is developed it tends to be treated in the same way as customary land; it is regarded as belonging to the extended family and is most unlikely to be resold. Where it is leased, this tends to be on a relatively short term perspective of up to twenty years, which discourages long term investment. Thus the historical demand for freehold plots cannot effectively continue to be satisfied for most

households under present conditions (EDU International in association with GHK/MRM International 1992b:30).

Field research conducted as part of the 1992 housing sector study (EDU International in association with GHK/MRM International 1992) indicated that the minimum residential plot size in Apia is about a quarter acre because of on-site sanitation requirements. Undeveloped freehold land is in short supply and prices for centrally located plots have risen sharply in recent years. Poorly drained but otherwise commercially viable land in Fugalei, for example, has increased in price from WS\$7,000 for a quarter-acre block in the mid-1980s to WS\$70,000 in 1992. More typical are the subdivided former plantation plots in the Siusega area which had an original purchase price of WS\$6,000 in 1988 and were worth WS\$15,000 four years later in 1992. Similarly in 1994 half-acre blocks at Afiamalu and Aleisa were on sale at between WS\$16,000 and WS\$20,000.

Significant changes to existing urban land administration and tenure conditions are recommended by the 1992 housing sector study in response first, to doubts about the availability of sufficient housing land becoming available in the future; and second, the necessity to make some adjustments to the existing customary tenure system. Existing residential land availability is reduced by the failure of owners to secure development finance or by speculative holding but prospects for improvement are present in the considerable government ownership of WSTEC (plantation) land. In the longer term, the picture is less encouraging as stocks of government land become depleted and pressure builds up to develop customary land. The solution is seen in more government intervention in the release and subdivision of publicly-held plantation land and modifications in legislation to enable customary land to be leased for longer periods. This will require the Department of Lands, Surveys and Environment to initiate a land management program which will include an inventory of government land suitable for development and a plan to ensure that sufficient public land is available for housing and other urban needs in a rational manner (EDU International in association with GHK/MRM International 1992a:13-14).

The demand for freehold and *de facto* ownership of customary land by increasingly nuclear families, set against the continuing strength of *fa'a Samoa*, led the 1992 housing sector study to recommend changes to the existing law. This would allow leases on customary land to be extended to 99 years and have the beneficial outcome of providing adequate security for mortgage loans and thus provide more opportunity to develop extensive customary land stocks. This alone would not be enough to ensure access to adequate housing finance for low-income families and further recommendations suggest that the Housing Corporation examine innovative financial instruments in its own lending program. Among the possibilities are other forms of collateral such as community-based guarantees and chattel mortgages. Group-organised housing loans could have the beneficial effect of bringing village-based community organisations and non-government organisations, especially women's associations, into land and housing development.

Tuvalu

The circumstances of land-holding in Tuvalu differ significantly from those found in Tonga and Western Samoa in that almost all land is privately owned by local citizens apart from a small amount of communal land controlled by local government. Crown or public land is limited to foreshores and roads but can be acquired for public uses from customary holdings. Most government buildings are on leased land. About a quarter of Funafuti's land area (59 hectares) has been alienated or leased by the government. Indigenous land rights were codified by means of registration

‘Urban land is scarce in Polynesia...largely because governments are unwilling to exercise their legal rights to acquire additional customary or individually held land for urban purposes’

under two colonial land commissions—the Kennedy Lands Commission of 1935 and the Lake Lands Commission in 1948. Government possesses three legislative powers to acquire land.

- *The Crown Acquisition of Lands Ordinance Cap. 24* contains powers for compulsory acquisition for public purposes with due compensation. It has been used twice (on Funafuti) to allow expansion of the airstrip and the building of housing for civil servants.
- *Neglected Lands Ordinance Cap. 23, 1959* empowers government to acquire land that is not being well looked after and redistribute it to the more needy.
- *The Foreshore and Reclamation Ordinance Cap. 26* identifies the foreshore lands (between high and low water levels) as Crown land (Naniseni 1981:11–13).

Commenting on the changes which have taken place in attitudes toward land in Tuvalu, Leupena and Lutelu (1987) suggest that the following are important.

- Customary tenure has been codified and simplified.
- Land holding groups are now smaller and lands more fragmented.
- The household is now the most common land holding unit.
- Improved health and other social advances have increased population and a land shortage.
- Land has acquired a monetary value related to commercial uses.
- Land shortages have led to a reluctance to sell, lease or transfer rights, leading to more land disputes (Leupena and Lutelu 1987:165).

In the future, continuing migration to seek employment overseas, permanent emigration, an enlarged commercial fishing industry, continuing foreign aid and birth control, combined with more intensive land use are seen as the main means of ameliorating severe pressure on land resources (Leupena and Lutelu 1987).

More recently Clarke has reported that UNCHS (Habitat) estimates in 1984 indicate that Funafuti Atoll's 236 hectares of land above high water is subdivided into at least 1,516 plots owned by 87 family groups.

The push to develop the infrastructure of a modern urban...government and economy has tended to bypass land management and planning issues. The land and land-based resources of Fongafale Islet are now under severe stress and deteriorating at an accelerating rate: they are not even mapped so they can be studied, considered, planned and managed for appropriate protection, conservation, enlargement, enhancement and use for future generations. Much recent development and currently proposed development, is environmentally unsustainable, as well as being economically unsustainable in terms of recurrent costs and the foreseeable availability of capital (Clarke 1993a:19).

This fragmentation and the absence of formal documentation of ownership are obvious constraints to urban management and planning if and when this becomes an issue in Tuvalu. Maximising the development potential of the scarce land resources is already difficult and Tuvalu is one of the few countries in the world—alongside neighbouring Kiribati—where there is active reclamation of land to provide space for urban development, a measure of the need for developing wide-ranging policies on sustainable development.

Addressing the priorities

Throughout Polynesia a substantial amount of the land in urban areas is held under customary tenure and is almost entirely beyond the reach of regulation and management. The relative absence of freehold land is raising costs as new developments are concentrated on expensive plots on sites that are not necessarily the most appropriate (as is readily apparent on the Apia waterfront), whilst freehold land is generally very difficult and expensive to obtain. The present political systems in each of these

states suggest that this situation is unlikely to change in the near future. It is scarcely surprising that commissioned reports on key urban development issues in Polynesia rarely omit reference to the need to modernise and reform land management practices but few are prepared to indicate in their recommendations what should be done. Frustrating though this may be to some government agencies and the private sector, it is probably a realistic position to take. A central difficulty in the debate about urban futures in the South Pacific is the universal problem of addressing specific urban strategies of one kind or another when basic (and missing) elements of the discourse cover much more fundamental issues. Land is one such example because most of the standard solutions to questions of urban expansion and the provision of appropriate amenities and services presuppose considerable public control over land development. The fact that this supposition does not apply (in varying degrees) across the region prevents a realistic assessment of many specific recommendations. In each state, governments are actively pursuing the possibilities of land reclamation, not so much because there is an urban land shortage of a physical kind (though this is undoubtedly a factor in some places) but because the shortage is artificial. To rectify the problem means exercising government powers that are controversial and threaten the basis of traditional society.

There exists, however, a shortlist of urban land issues that require priority treatment but it would be presumptuous in the extreme to do more than underline their importance here. A failure to tackle them soon will prejudice the success of many other measures currently being examined in every urban settlement in the region.

**Control
over
public
land
assets**

The efficient functioning of urban areas demands the alienation of appropriate land holdings for the benefit of the whole urban community. In some instances this will require the exercise of public powers to resume urban land and to do so in a way that can provide some future certainty for urban growth and expansion. The land-use plans that signal such intentions scarcely exist in Polynesia and the means of enforcing them are not clearly understood. Basic infrastructure plans for each of the Polynesian

capitals, backed by appropriate enforcement (and compensation) is an urgent priority.

Equity and land development It has been frequently indicated (see Meleisea 1992) that the modern expansion of urbanisation has disadvantaged poor urban migrants with little or no rights to settle on urban land. The interests of the urban landless demand priority attention in every Polynesian capital and the discovery of locally appropriate ways of ensuring their security in the future. The social and legal investigations necessary to list and evaluate alternative possibilities have not yet been undertaken. Very little is known about the migrant poor in the region and the likely response to government measures designed to assist them.

Urban land scarcity The artificial shortage of urban land needs to be addressed in ways that recognise that the problem is not limited to physical issues alone. Apia and Nuku'alofa are towns still partially comprised of unplanned urban villages developed at low densities on communally held land. Some of these land holdings will be required to accommodate essential urban services and housing at higher densities than provided traditionally. Reclamation may ease this burden in certain locations at enormous expense, but will not solve it. Thus a way must be found to involve the customary leaders of urban communities in municipal management. Although the introduction of urban local government is under consideration in one independent Polynesian country, no innovative attempts to introduce traditional authority into the urban debate have been undertaken. A starting point here could be the joint examination of this problem with representatives from neighbouring Melanesian capitals where both urban debate and municipal experience are further advanced.

‘A way must be found to involve the customary leaders of urban communities in municipal management’

6

Housing

Mele who helped in our house came from Vava'u to give her seven girls a better chance. She lived in a packing case in a swamp in Sopus. Her sister had a small concrete house nearby. When it rained and the water rose too high, Mele et al. moved to her sister's house. She bought coral rock to raise the land level and tried in vain to get some rights to the land. An area of land was allocated by government for low-cost housing after the cyclone. It was very swampy and aid organisations said it was no good. Mele bribed her local noble but to no avail. The land was later taken over for high-cost housing. Bad luck, poor people. They remained where they were in their rubbish bag and scrap village (*Te Amokura* January 1994).

The housing sector in Polynesia has only recently attracted government attention with full-scale analysis and policy formulation in Tuvalu and Western Samoa (Clarke 1993a, 1993b; EDU International in association with GHK/MRM International 1992a, 1992b, 1992c). The recency of official interest in these two countries, plus the failure to review the sector for more than a decade in Tonga, points to relatively manageable housing conditions in the main towns of the region in the past. Indeed, low urban growth rates have delayed some of the more obvious problems of land shortages and overcrowding. Though housing conditions in Polynesia are generally regarded as quite good by developing country standards, this situation is changing in all three countries. Pressures on urban development have increased in the

past decade with dwelling densities in Funafuti (Tuvalu) among the highest in the world. Recent housing studies in Western Samoa and Tuvalu, however, have enabled a detailed appreciation of housing conditions to be made and are of considerable importance in reviewing other significant areas of urban policy such as land tenure, infrastructure provision and services delivery. There is also some evidence in Western Samoa that questions raised about urban management in Apia during the housing review of 1992 placed some pressure on government to consider both the introduction of physical planning legislation and the establishment of an Apia town council.

Before examining the individual circumstances of the three main Polynesian countries, it is necessary to briefly indicate the key characteristics of the housing sector which are common across the region. These features typify living conditions in the Polynesian capitals and distinguish them from human settlements in many other parts of the world.

- There is very little formal housing provision either by the public or private sector and most dwellings are self-built via direct paid labour.
- Space standards have traditionally been generous in Western Samoa and Tonga in the past, with plots large enough to accommodate septic systems. This feature is not true of Funafuti in Tuvalu where land is at a premium.
- Traditional or *fale* house design is characterised by an open structure with no walls or partitions and an oval thatched roof supported by wooden columns and rafters. European rectangular designs made of cement blocks with corrugated iron roofs are now the dominant type across the region.

‘Low urban growth rates have delayed some of the more obvious problems of land shortages and overcrowding’

- Much of the region is cyclone-prone and special construction standards are required with respect to strengthening housing against strong winds (Lapish and Lynch n.d.).
- The net increase in the urban population in Polynesia is low in comparison with Melanesia due to high and persistent levels of out-migration, resulting in relatively low housing demand and very little squatting.
- Land and housing are an integral component of traditional Polynesian lifestyles where dwellings are occupied by extended families comprising several generations.
- Housing is often communally financed by extended families with major contributions coming from overseas remittances.
- There are generally no requirements to obtain 'planning permission', and building permits are usually only required for non-traditional structures.
- Housing finance is not well developed, with limited opportunities for borrowing by low-income earners.

With changes in family life, the availability of urban land and prospects of urban employment, these characteristics are not static. There is a movement towards smaller, more nuclear families some of which are motivated to invest in urban residential property in Polynesia while members of the family are working overseas. Others have been forced to enter into informal renting arrangements on existing customary plots under overcrowded conditions. In these circumstances the traditional composition of the Apia and Nuku'alofa urban villages is threatened without any new and workable administrative structures to take their place. Demand for urban housing is also likely to increase if the migration of the young and educated to jobs in the industrialised countries of the Pacific Rim is threatened. This will place additional pressure on *ad hoc* and outmoded attempts to manage urban growth which provide minimal opportunities for new housing. As in several of the other subjects addressed in this book, the situation in Western

Samoa receives more attention because Apia is the most urbanised settlement in Polynesia and because more is known about the housing situation there than anywhere else in the region.

Western Samoa

The terms of reference for the 1992 housing sector study called for a set of recommendations to the government as to its 'appropriate roles, objectives, policies, priorities, programs, targets and resources to facilitate the provision of housing and housing finance in the country, with special emphasis on provision of affordable housing to low income families on a sustainable basis' (EDU International in association with GHK/MRM International 1992a: Appendix 1-A). The six month study was conducted in two parts; a comprehensive housing supply and demand survey followed by an examination of the administrative, social, physical and financial environments within the housing sector. In addition, there was a review of the *Housing Corporation Act of 1990* in order to make recommendations to government on the future operations of the corporation and any changes required in the legislation.

This was by far the most comprehensive examination of housing in Polynesia and revealed a sector scarcely touched by any form of government intervention with a small and undeveloped formal housing production system which had been involved in only one major project in 1992. Overall, house building yielded about 500 units per year. Traditional homes or *fale* are rapidly being replaced by European designs to the extent that 71 per cent of residences in 1992 were of European type. Although this is probably desirable in an urban setting because of new needs for privacy and security, it raises the necessity for construction to meet acceptable engineering and architectural design standards, a requirement that is not present under traditional building practice. Plots are large, typically of one quarter acre, and cost between WS\$15,000 and WS\$20,000. Densities are consequently low, putting housing costs out of the reach of low-income groups. The development control process is scarcely operative in Apia with no planning permission

required for construction of *fales*, though permits are required for non-traditional houses; however inspections are not made nor certificates of completion demanded. As the study team observed, 'there is thus no precise information on the number of houses that are actually built' (EDU International in association with GHK/ MRM International 1992a:7).

Cyclones in the late 1980s and early 1990s extensively damaged the national housing stock to the point that individually organised forms of self-help have not been able to cope. Added to the growth and segmentation of the housing market in Apia, cyclone damage has led to unprecedented pressures on residential accommodation. Further influences are found in demands for modern rental accommodation from expatriates and others attracted to work for the public sector, and from Western Samoans returning from employment overseas. Heightened demand has raised the price of construction materials and building costs, exacerbated by the high import content of the industry. Building industry skills are also in short supply in a country which has traditionally exported much of its best trained workforce. The 1992 National Housing Study concludes that land supply is not a problem overall but is an important issue in flood-prone parts of Apia. Squatting, as normally defined, does not exist in the town but some areas of church and customary land have experienced unacceptably high levels of overcrowding and some road easements are used as living quarters at night. These problems are reflected in rising freehold land prices and an overall lack of control over urban development.

Five national housing objectives were formulated as an outcome of the 1992 housing study and are contained in the National Housing Policy Statement (Western Samoa 1993a)

1. enhance the provision of adequate housing for the greatest number within a planned housing and urban development framework
2. promote and expand private sector involvement in housing for low-income families
3. achieve national preparedness to deal with a disaster housing situation as in the event of a national calamity

4. institutionalise the process of implementing and updating the National Housing Policy Statement and the National Housing Program
5. strengthen the Housing Corporation as the agency responsible for implementing a nation-wide housing development program.

Housing demand

There are several demographic factors revealed in the 1992 National Housing Study which will determine effective levels of housing demand.

Among them are the exceptionally large average household size in the country of 8.17 persons, continuing high natural population growth rates, and the likelihood of future restrictions on the volume of out-migration permitted to enter longstanding host countries. Within Western Samoa, rural-urban population movement (from Savai'i in particular) to Apia is leading to a spatial redistribution of existing households. High and low growth projections made for the housing study suggest a national population in 1996 of between 168,000 and 174,000. Cyclone damage has shifted the focus from housing improvement and replacement to repair. In the four years between 1992 and 1996 improvements are likely to demand 220 to 440 units of accommodation per annum and the market for new housing will be between 200 and 700 units. Surveys carried out shortly after the cyclones of the early 1990s put the number of houses needing significant repair at 15,000 dwellings and the total in this category still amounted to some 7,000 in 1992. It was estimated that the costs of reconstruction would be around WS\$103 million of which three-quarters would have to be found from institutional sources. Affordability is a serious problem, with personal incomes unlikely to rise in the immediate future to any significant extent, nor for there to be significant change in wealth redistribution.

Housing delivery

Besides the large, informal, and individualised self-build method of providing dwellings, there are four main components in the production and delivery of housing in Western Samoa, comprising three branches of government and a small formalised capacity in the private sector. There is also a small amount of non-government church activity.

The total figure for new dwelling construction in Western Samoa is not known but estimates in the 1992 National Housing Study suggest that it is of the order of 500 units a year. The extent and value of low-cost housing construction must also be estimated, however this is made particularly difficult because many households live in poor quality structures formerly used as alternative shelters by people possessing other dwellings. Building permit figures show an average unit value of WS\$24,000 from 1987 to 1991 and 200 approvals a year. Most new dwellings are built using informal methods. In the 1992 National Housing Study 33 per cent were constructed by the occupants or by using unpaid labour; three per cent were of similar localised construction but assisted with a loan; 19 per cent were constructed by paid workers without a loan; only 1.4 per cent were purchased ready-built; and 29 per cent were inherited. In Savai'i self-built homes amounted to 49 per cent of the total. Interestingly, most European-style houses were constructed by 'carpenters' who are present in most villages and work with a number of assistants. They are paid in cash unless helping a member of an extended family, in which case payment would be organised through obligation and reciprocity (EDU International in association with GHK/MRM International 1992b:28). There are four main providers of housing in Western Samoa.

Housing Corporation. Modernisation has led to the progressive decline of the family *fale* as the major form of domestic building in the urban area of Apia. The proportion of European-style housing grew from 14 per cent in 1971 to 43 per cent in 1981 and, by 1992, 71 per cent of main houses were of this type (EDU International in association with GHK/MRM International 1992c:29). The new, more expensive forms of housing and their lack of affordability for low-income groups led to the establishment of the Housing Corporation in 1990. This public sector housing finance company is an independent statutory body with the principal objective of lending money on mortgage or other security to those unable to gain such assistance through normal commercial banking loans. Maximum loan limits in 1993 were set at WS\$30,000 per project at 2 per cent below market rates for up to 20 years for housing and 10 years for land purchases. Since its establishment the Housing

Corporation has approved some 782 housing loans amounting to WS\$7.7 million. Waiting lists are long, and lending activity has been curtailed since mid-1992 because of a lack of funds. The Corporation is now the body primarily responsible for implementing government policies and the vehicle for promoting the participation of the private sector.

Public Works Department. Although there has not been a government department responsible for housing planning, the Public Works Department has had oversight of public infrastructure development and building control. Under the newly recommended National Housing Policy (Western Samoa 1993a) the department will continue to exercise public regulatory functions towards building construction. It is also responsible for disseminating information on cyclone-damage repair and for extending technical assistance to low-income families concerning the application of architectural and engineering design and construction methods. As far as housing is concerned, and contrary to the situation in the past, the Public Works Department will not have regulatory powers extending beyond building regulation and associated infrastructure provision.

Department of Lands, Surveys and Environment. The Department has a long-established responsibility for lands and the environment, and has more recently acquired the important functions of urban development planning and land management. These functions will include the eventual drawing up of physical land-use plans and the control of development through town planning, zoning, and housing subdivision. A key and as yet unresolved question is the creation of an Apia municipal authority of some kind and the implementation of a town plan.

Private sector. Although very small, both in the number of households involved and its financial size, the formal and private

‘Cyclone damage in the late 1980s and early 1990s extensively damaged the national housing stock in Western Samoa to the point that individually organised forms of self-help have not been able to cope’

component of the Western Samoan housing market is the principal provider for middle and upper-income groups. The chief elements of this sector are banks, building industry professionals, developers, freehold land owners, and suppliers of building materials. The building construction industry is split into overseas-based foreign firms and one sizeable local contractor. Only one major housing project (costing some W\$4 million) was in evidence in 1992 but there are indications that modern housing production is growing through the development for rent of some modern apartment buildings in Apia. As far as domestic dwellings are concerned, it is estimated that professional contractors are only providing 40 to 50 houses a year (EDU International in association with GHK/MRM International 1992c:23).

The government intends to rely substantially on a revitalised private sector for most new housing initiatives. Production will be a private sector responsibility with government intervention only if the sector is unable or unwilling to undertake a project. Even public projects will be undertaken through joint ventures with private concerns. Community self-help schemes and traditional production through the extended family are to be encouraged through the strengthening of village support systems (Western Samoa 1993a:5). According to the National Housing Policy Statement, housing will occupy a more prominent position in government priorities.

1. Housing priorities shall emanate from the Cabinet. Proposed policies shall be initiated by the Housing Corporation and submitted for consideration and for cabinet approval. An inter-agency task group comprising senior officers from concerned agencies shall be organised to deliberate on a proposed policy during the review process. The Housing Corporation shall review and integrate proposals of other agencies concerning policies and other housing issues.
2. Urban development planning for Apia shall be pursued and completed. For this purpose, the Lands, Surveys and Environment Department shall develop the organisational capacity and expertise to undertake town planning

and zoning and to regulate housing development including subdivisions.

3. In pursuance of the National Disaster Shelter Assistance program, a task group consisting of public and private sector representatives shall be organised, the main function of which shall be to oversee the Government's response to the need for shelter in a disaster situation (Western Samoa 1993a:5).

Tonga

There is no Tongan equivalent of the Western Samoan National Housing Study of 1992, though there have been several attempts to consider the prospects of the whole housing sector (Rew 1979; Ratcliffe and Dillon 1982; Hammond 1987). A problem with all these reports, however, is that they did not incorporate a thorough investigation of the housing situation in the country and sought to base recommendations on sparse census and other material. The result was a succession of recommendations in the absence of a national housing policy statement or housing plan, however these were not adopted in any coherent form. Little has changed in the policy environment in the succeeding decade. In a remarkably frank statement, the *Sixth National Development Plan* recorded the absence of any policy on housing and urbanisation (see p. 84 above).

Tongan housing comprises two main types—European and Tongan—divided into various sub-categories according to materials used in their construction. Figures for 1976 and 1986 show that European-style houses built either of brick and cement or wood have increased proportionately by 22.3 per cent (from 2,128 to 2,602) and 43.9 per cent (from 6,316 to 9,000), respectively, at the expense of those of Tongan construction. Tongan-type housing with an iron roof and wooden walls decreased by 18 per cent and those with an iron or thatched roof and thatched walls by 65 per cent. Interestingly the number of houses with a thatched

roof and wooden walls increased by 74 per cent reflecting a preference for house structures with both European (wooden) and Tongan *fale* (thatch) features. Overall this represents significant change in house types (Tonga Central Planning Department 1991:256).

Although private house construction declined by some 12 per cent during the 1980s, housing loans from the Bank of Tonga grew between 1985 and 1989 by almost a third annually and now represent 40 per cent of the Bank's loan portfolio. Other sources of finance for housing come from remittances and private savings (Tonga Central Planning Department 1991:255). But, as the national plan also points out: '[t]he absence of land-use planning and building codes hinders national housing development. In particular there are no adequate zoning procedures or specific building requirements for construction within flood-prone areas' (Tonga Central Planning Department 1991:257). As elsewhere, therefore, there is a shortage of appropriate land for housing in Tonga, a situation that has led to the considerable redevelopment of many *'api uta*. Where once Hau'ofa could observe that 'our individual residential allotments are larger than those in just about any other Pacific country, and bigger than even the average suburban house blocks in industrial societies in the west' (Hau'ofa 1977:10), many have now been substantially subdivided with all kinds of infilling and redevelopment.

In 1979 Rew (1979) was able to outline the key parameters of the sector using secondary sources and concentrated on various measures to strengthen the availability of housing finance. He argued against the creation of a new housing authority or ministry which would not serve Tonga's best interests.

Experience elsewhere shows that the time taken to establish a new authority diverts attention from housing projects and possibilities which are eminently feasible using existing institutional resources. Too often the end-product of separate housing institutions is a building and development code which can never be enforced and one or two expensive housing projects which can make little impact on construction activity or social welfare (Rew 1979:59).

However, his recommendation that the Central Planning Department be the primary centre for government housing policy formulation was of doubtful validity at the time and does not appear to have been adopted, though no other department took on the role. Planning is not a strong branch of the bureaucracy in Tonga and even the limited influence of the Central Planning Department is resented in the main line ministries (a factor which hampered the preparation of the regional plans for Vava'u and Ha'apai in the mid-1980s).

Eight years later an adviser from the United Nations Centre for Human Settlements (Habitat) came up with ten recommendations, some of which were so broad as to be almost entirely incapable of adoption in the name of housing reform (Hammond 1987:25–8). They are listed here in abbreviated form as an illustration of the less than useful practice of managing major components of government social policy through *ad hoc* external advice.

- A master plan for Nuku'alofa should be prepared as a matter of urgency.
- A comprehensive national housing policy linking development strategies to achievable implementation levels should be formulated as a matter of urgency.
- A committee should be set up with representatives from all institutions and agencies involved in the construction industry to examine the impact of the land tenure system on the industry, and to contribute to formulation of the national housing policy.
- Because of natural hazards, basic construction standards should be introduced to improve the safety features of buildings.
- Government should strengthen capacity to implement housing policy through the creation of a specialised unit in the Ministry of Works.

‘The commitment of the national leadership to housing policy formation and urban planning has long been absent in Tonga’

- Rural housing quality should be improved through affordable solutions and use of local building materials to assist self-help.
- A savings and loan institution should be established.
- Government should consider the promotion of housing cooperatives.
- Community services may be organised through the cooperatives as a means of legitimising their existence when the primary housing needs are satisfied.
- A well-conceived housing program can yield national social and economic benefits in terms of employment and tourism.

The report nevertheless ends with the following: 'having regard to the size of the islands and its tourist potential, it is especially important that policies relating to housing and its financing should be well conceived and the limited available resources wisely applied and rationally programmed' (Hammond 1987:28). Not surprisingly, there was no action by the government of this small Polynesian country when presented with generalisations more appropriate to much larger states. Individually, the recommendations had merit but were not couched in useful or operational terms. Though a master plan for Nuku'alofa would be of considerable assistance to all planning of public expenditure and private development in the town, none has materialised for reasons discussed at length in Chapter 4. Similarly, the formulation of a National Housing Policy is hard to oppose on any grounds but requires the commitment of the national leadership (in this case the King and Cabinet) to make it work. That commitment to housing policy formation and urban planning has long been absent in Tonga.

Significant advances are being made in some areas of urban development. These will assist in better housing provision and management in Tonga but they are *ad hoc* and based on a crisis management approach to public needs. Several of the more obvious and welcome developments are the completion of the Neiafu master plan, the improvement of water supply and quality

in Pangai (Ha'apai), the preparation of management plans for the Fanga'uta Lagoon system and other low-lying areas of Tongatapu (Kinhill Riedel and Byrne in association with PPK Consultants 1993), the Tonga Water Supply Master Plan Project (PPK Consultants in association with Riedel and Byrne 1992a, 1992b, 1992c), and the reorganisation of the Ministry of Works with Australian assistance (Snowy Mountains Engineering Corporation 1991). Such measures do not collectively address many of the issues central to a national housing policy. Until a properly constituted study with full government backing is carried out as in Western Samoa and Tuvalu, it is hard to see much in the way of progress.

Current national planning objectives envisage government improvements to housing access in the context of rapid urbanisation in five main ways

- promoting inexpensive sanitary housing and innovative construction
- appropriate training in construction and organisation of community groups to assist in water supply and sewerage operations
- providing financial assistance via low-income housing schemes
- initiating programs of household sanitary improvement
- introducing zoning as well as building codes to allow rational housing development (Tonga Central Planning Department 1991:259).

The last of these measures presupposes the existence of enforceable town plans and planning legislation of a kind that has remained unenacted by parliament for many years and there must be a suspicion that they are still words written in a national plan rather than statements of real intent.

‘[In Tuvalu] there is virtually no private housing market...and no government ministry is responsible for overall shelter policy’

Tuvalu

Almost half the population of Tuvalu (3,850 in 1992) live on the islets of Fongafale and Amatuku on Funafuti atoll in 474 private houses at a 1991 density of more than 16 persons per hectare. Fongafale islet, which contains the seat of national government, had a population density of over 20 per hectare in the early 1990s, a figure that has been projected to increase to 47 persons per hectare by 2006 (Clarke 1993a:12). Growth figures of this magnitude, coupled with finite and fragile land resources, have raised the spectre of a 'doomsday scenario' for the nation (Cole 1993) and demand the immediate introduction of comprehensive measures to ensure sustainable development. Strategic land use and housing plans are clearly of great importance in this country which is already facing the problem of a rapidly growing population.

Housing issues in Funafuti have long been of concern in Tuvalu. At least as early as 1981 overcrowded housing was a subject of parliamentary debate, and it was considered whether it was appropriate to provide housing for all government employees or whether government workers should be appointed to Funafuti from outer islands. In the more 'traditional' housing sector there was a shortage of housing thatch (and firewood) and greater dependence on imported materials. Most houses in Funafuti are now permanent structures with cement floors and aluminium roofs and electricity; less than 20 per cent are of traditional materials with thatched roofs. Most public servants are accommodated in government housing maintained by the Public Works Department. There is virtually no private housing market. The level of building activity is limited since particular ministries have responsibility for the administration of specific aspects of housing development and no government ministry is responsible for overall shelter policy, so little attention has been given to preparing a national housing development strategy. Moreover there is insufficient land available for new construction other than on reclaimed areas where costs would be considerable.

This situation has been exacerbated by continued rural-urban migration and problems that have followed the early situation,

after separation from Kiribati, when it was agreed that public servants could own their homes after ten years. It was then believed that public servants would wish to retire to their home islands but few have chosen to do so. As the Prime Minister has noted, 'nobody wants to go back home. They all want to retain their houses. The landowners are up in arms, saying you [the government] are not going to acquire any more land' (quoted in *Pacific Report* 4 April 1994:3). This emphasises the need for decentralisation and there are plans to decentralise the Fisheries Department to Nukufetau: the present situation has led to overcrowded housing and considerable pressure on land, water and other resources.

Housing development has until recently been *ad hoc*, in response to perceived needs. Clarke (1993a) has outlined the succession of housing initiatives that have occurred since the comprehensive destruction of all dwellings on Funafuti Atoll by Cyclone Bebe in October 1972. Fifty-five public service houses were requested of aid donors in 1984/85 and led to a special tropical housing design report in 1985 (the Sansom Report) which recommended a one-and-a-half storey, 58 square metre design, made of imported materials. This was rejected, however, in favour of manufactured houses built by a Fiji-based engineering contractor which constructed 10 dwellings by 1989. After the appearance of design problems and extensive cost overruns, an Australian appraisal mission recommended closure of the project. This mission, the Dickson-Cholerton Appraisal Mission Report (AIDAB 1990), identified four key housing issues that required attention as

- urbanisation of Funafuti
- assessment of housing demand including standards and affordability for the public and private sectors on Funafuti and the outer islands
- development of an equitable method of delivery of housing including both private and public capital
- the need for a comprehensive land planning management policy.

The recommendations that followed were to set up a working group in the government to review and prepare a strategy for housing policy, conduct a housing sector review, operationalise the results of the review to agree to a housing policy and prepare project requests to donor countries, and make recommendations after the review as to future Australian participation in the Tuvaluan housing sector (Clarke 1993a). The upshot was the commissioning of the housing sector review which commenced in mid-1992. The review recognised that the solution to a number of pressing housing problems in Tuvalu would involve major changes in the conduct of the development process itself. Housing in this sense is a reflection of the growing pressures of urbanisation in a tiny atoll state. The report, which ranges across many cultural, economic, social and physical concerns, recognised several key issues

- national population growth and concentration on Fongafale islet: uncontrolled growth leading to urbanisation pressures has occurred as a direct result of policies in the national economic development plan and the lack of environmental land use planning controls. In Clarke's words, 'the unique reality of Tuvalu is the unforgiving scarcity, separation, fragmentation and density of use, of the people's lands and land-based resources' (Clarke 1993b:3)
- the need for people-oriented, island-oriented and community-oriented national development objectives
- the need for national sustainable development objectives
- the likelihood of a 'doomsday scenario' for Fongafale
- the need for separate departments of (a) economic planning and statistics and (b) environmental planning and assessment
- the need for environmental planning law and a land-use plan and control system for Fongafale Islet and Funafuti Atoll

- the need for a unified management organisation for the primate city on Fongafale
- the need to develop a popular, participative Tuvaluan housing industry
- the need to evolve a Tuvaluan cultural identity in styles of tropical house design and building technology
- the need for special assistance for housing in special places or for particular groups
- recognition of the debilitating, de-skilling effects of housing dependency
- the need to motivate everyone, including government employees, to stimulate demand for and supply of, private housing investment and enterprise
- recognition of a housing objective for government to enable people to house themselves
- the need for action to increase the flow of housing finance and to stimulate people to invest land, local materials, skills, time, labour and cash savings in housing for owner-occupancy, lease and rental
- introduction of incentives to motivate government employees to stimulate housing supply and demand by obtaining their own housing.

A detailed sustainable development objective and strategy is also contained in the review which is based on the overall desire to 'enable today's families and communities to make life and living on each island and atoll more sustainable, safe, healthy, stimulating, enjoyable and attractive for future as well as for present generations' (Clarke 1993b:31). Economic, environmental and housing strategies and priorities are listed and include recommendations which would undoubtedly transform the culture and management of development in Tuvalu. Though it might be argued that nothing less is acceptable in a situation of critical land shortage and other severe problems in the near future, it should also be recognised that the acceptance and implementation of many of these measures is unlikely in the short term for reasons that

have already been discussed in regard to conditions in Western Samoa and Tonga. For example, one environmental priority according to Clarke is to locate, define, survey, design and control all Funafuti land and marine development for uses such as disaster-safety foreshore areas, the road system and housing sites and integrate such zones into a management plan. The second environmental priority is to enact suitable planning and assessment law to enable control of changes in land and marine use and development activity. Sensible though these priorities are, they depend for their adoption on a major change in attitudes towards land and development. This may eventually be forced on the people of Tuvalu because of the steadily increasing population growth but it is first necessary to consider the obstacles to implementation of such a plan.

The primary challenge in facilitating the required changes is to examine what must change in Tuvaluan society before acceptance of land-use planning becomes a reality. In the Clarke report a recommendation to prepare a discussion draft of an environmental planning and assessment bill includes the suggestion that such legislation 'could, for example, be adapted from the key principles and procedures enabled by the NSW [Australia] Environmental Planning and Assessment Act, 1979' and that 'the provision of such a Discussion Draft should not involve the cost of a visit to Tuvalu' (Clarke 1993b:47). Yet the same report incorporates extensive recommendations about the need to introduce forms of physical housing development which are sensitive to local conditions and culture. The report's recommendations in this regard are based on detailed investigations in almost all the islands. The apparent inconsistency suggests that less attention is paid to local sensibilities when development control is under discussion than when more tangible physical examples of the housing process are involved. There is every likelihood that Tuvaluan draft planning legislation prepared in this fashion would suffer the same fate as experienced in other parts of Polynesia. The experience of nearby Polynesian and Melanesian countries with introduced urban planning procedures is more relevant to future Tuvaluan needs than a system that has evolved from British antecedents to suit local conditions in Australia.

Housing futures

It is apparent that there has been no more than reluctant government involvement in regulation of the housing sector in each of these states. There are few planning controls relevant to the design of houses or housing projects and no requirements to obtain planning permission and where there are building codes, they are not policed adequately. In Tonga and Tuvalu there is no organisation concerned with housing issues and no specific financial support for housing construction. There is no public housing in any of the states other than that provided for public servants. The plans that have been produced in the past have rarely taken note of either Polynesian culture or the realities of conservative Polynesian political systems.

It is not possible in a summary volume of this kind to address the detailed housing policy priorities in the region that have been the attention of major investigation in recent times. It is worth noting, however, that where there are properly resourced studies available, their recommendations ought to be the subject of detailed assessment. This task is not an easy one in small Polynesian governments who may require special assistance just to assess the myriad of proposals outstanding in each of the main urban sectors. The 1992 Western Samoa Housing Study is a good example of this dilemma. Here a very substantial three-volume report identifies 20 recommendations covering almost every aspect of that country's housing situation (EDU International in association with GHK/ MRM International 1992b:85-99). There is also a wealth of new empirical material supporting the various conclusions drawn. However, although the general housing circumstances may be similar in many respects in Western Samoa and Tonga (though less so in Tuvalu), the value of the recommendations lies in their relevance to local conditions. Thus the first priority for Western Samoa is to assist low-income families to repair cyclone damage, followed by specific measures to encourage the private sector to participate more in servicing the needs of the low-income segment of the housing market.

In Tonga and Tuvalu the priorities are not the same. It is a major priority in Tonga, for example, for the government to commission a proper housing review of the kind now available in Western Samoa and in Tuvalu. Existing material is very dated (Ratcliffe and Dillon 1982; Rew 1979) and addresses only a fraction of the issues demanding attention. In Tuvalu, Clarke's report (1992a, 1992b) has highlighted the needs of a small atoll community facing a difficult situation in terms of population and even possible sea-level rise. There the priority is to initiate sustainable policies towards housing and urbanisation under circumstances where land supplies on Funafuti will never be sufficient for national needs.

Housing policy is often a proxy for developing general urban policies. There are few components of the urban situation that reflect the demands of growth, expansion and the changing economy, as well as housing. Sensible housing policies cannot be formulated without appropriate land management, environmental controls, transport and infrastructure provision of all kinds, not to mention a good understanding of building industry economics and national approaches towards finance and taxation. The perennial question of housing subsidy is an issue in all three countries but the one available detailed housing report (EDU International in association with GHK/MRM International 1992a, 1992b, 1992c), recommends avoiding it by seeking long-term sustainability of programs. This ought to be possible by ensuring affordability and full cost recovery. All in all, urban housing in the region is good by international standards in the developing world, but the main reason for this is the relative lack of pressure for growth and change in the capital cities. Current evidence points to rapidly worsening environmental conditions and a need to respond to the basic problems identified in this chapter.

7

Water supply, sanitation and other services

On hearing that the septic tank at Yazaki Samoa at Vaitele had overflowed causing waste fluids to run onto the road there, OTR [‘Off the Record’ column] wondered if those who had built Samoa’s biggest building in terms of floor space ...were aware of the ability of around 1,500 people estimated to safely work in such a place, to make human waste. OTR is aware that the building has been in use for less than a year. He is also aware that the government put up the \$5 million or so to build it as an incentive for Yazaki to bring its business to Samoa. This means that Yazaki is leasing the building from the government. No wonder then that the leaking septic tank has been allowed to discharge waste for six months. Fixing the problem seems like a responsibility of the government’s. OTR thinks that the problem should be attended to immediately to save Vaitele residents from the foul smell and school children from picking up waste on their feet (*Samoa Observer* 17 November 1993).

Water supply, sewerage and waste disposal problems are among the most obvious problems of urbanisation in Polynesia. Complaints about government inadequacies in service provision or maintenance, such as the recent example from Apia quoted above, are regularly found in letters to the press and newspaper editorials. It is still possible, as illustrated in this example, for huge public subsidies to be paid as an inducement to attract private industry to the region, yet for grossly inadequate provision to be

made for the supply of essential urban infrastructure and services. A lack of effective land-use planning has inevitably resulted in the introduction of uncoordinated urban development, resulting in unanticipated negative impacts of various kinds. Residents living in the Vaitele suburb of Apia, close to the new Yazaki plant (ironically located opposite the South Pacific Regional Environmental Program offices), have neither the protection of legally enforceable urban plans nor an elected local government representative able to take their case to a municipal council. At much the same time, and in the same place, SPREP was 'being obscured by a nearby tar-making plant which has been spewing out clouds of soot for months. Residents living near the industrial zone have not had much luck in complaining to local health authorities or the environmental body as nobody has the authority to step in' (*Islands Business Pacific* December 1993:13). Under such circumstances a remote and not particularly accessible national government and its service ministries were targeted as responsible. This dependence on distant authority to provide most of the modern essentials of community life derives from the colonial era and the propensity of colonial administrations to create small and dependent urban outposts across the region.

There is increasing evidence from many parts of the developing world that urban infrastructure provided by government agencies at high levels of service are not affordable. Cotton and Franceys (1994:15) identify the following seven basic infrastructure sectors which can benefit from cost reduction and more participatory forms of management, in recognition of the need to make future provision of sustainable services.

- **Ground preparation** to provide the foundation for the construction of shelter, including the protection of low-lying land from inundation by flood waters and prevention of soil erosion and movement on steep hillsides.
- **Drainage** to permit both stormwater and household waste water to drain away without creating stagnant pools.
- **Access and roads** to define site layout with clear boundaries for housing plots, access routes, rights of way and emergency access.

- **Water supply** to provide clean water in adequate quantities to cope with basic needs.
- **Sanitation** to remove and dispose safely of human wastes; this is an essential component of environmental health.
- **Solid waste management** to ensure that refuse which is generated on the site is collected and disposed of.
- **Power supply** for cooking, lighting or to run other electrical appliances (Cotton and Franceys 1994:15).

The conventional, top-down way of providing this infrastructure is, according to many local or donor-financed professionals, the norm in most of the South Pacific. It is a system which has served the region poorly, with standards being based on levels prevailing in the industrialised countries and those usually charged with implementing the new infrastructure having 'little or no knowledge or interest in communities residing in the settlement' concerned (Cotton and Franceys 1994:16). For real advances to be made, costs must be reduced and strategies devised to provide services more widely.

Western Samoa

The provision of water has until recently been the responsibility of the Public Works Department—much of the urban area of Apia receives water from a piped supply. There are considerable difficulties in providing adequate supplies because of high levels of leakage and wastage. Apia water consumers pay a small annual charge for their supply, hence draft legislation was introduced in 1992 for a more obvious user-pays system which would provide for metering in all government offices and private homes. The policy was aimed at rationalising use rather than increasing revenue. Western Samoa and especially Apia have what is probably the highest water consumption rate in the Pacific—of the order of over 450 litres per capita per day—three or four times more water than in most countries (and substantially above an approximate

10 litres per day in Tuvalu) (World Bank 1995:84). The high level of consumption is primarily a result of virtually free supply and considerable wastage, along with the lack of water meters, sabotage and illegal tapping of pipes. Vandalism, leakage and breakdowns also lead to poor water pressure and a reduction of quality. This has placed extra burdens on the economy by channelling more funds into building adequate structures to meet these high usage rates. Provision of urban water supplies has been both difficult and expensive because of the virtual absence of surface water, despite high rainfall.

Most of Apia's sewage is currently disposed of in backyard pits or septic tanks. This has led to increasing health risks and concern over environmental management. Effluent from small industries is discharged directly into lagoons, as is much of Apia's sewage. Open drains carry sullage and a variety of toxic wastes from such services as dry cleaners, petrol outlets and the national hospital into the main harbour, a recreation area for many children. This is accentuated by waste material from the market and nearby bus station. There are major pollution problems in Apia harbour and Vaiusu Bay to the west, in terms of eutrophication and bacterial contamination; living coral and mangrove areas have both declined (Klinckhamers 1992). Existing environmental regulations are not enforced because this requires cooperation between departments and also involves village organisations. The natural resilience of Apia's coastal systems has been significantly reduced through human actions—including over-fishing, reef blasting and dredging—and the vulnerability of the coastline is considerable, despite the construction of a new sea wall.

More general problems of urban environmental management have become visible and more serious. The management of swampy areas at Saleufi, Taufusi and Fugalei has been difficult. The development of a proper drainage system ran into problems following the construction of a new seawall which has led to chronic flooding in Apia.

It began when they reclaimed Apia's waterfront raising the sea level so that waters coming down the drains could not

escape quickly into the ocean. This was aggravated when the hills were recklessly cleared for farming...so that much erosion took place when it rained. It still does. But as a result of all these floodings...the low-lying areas in the middle of town are swamped every time it rains...now Apia is once again the 'ugliest little town in the world' when flooding buried the centre of the town under muck and slime yesterday morning (*Samoa Observer* 7 February 1992).

These problems have stimulated reflection on their causes and consequences. At an urban environment seminar convened by the World Bank at the East-West Center, Honolulu, in August 1993 in which a number of South Pacific countries participated, each country supplied answers to a number of general questions about the condition of their urban services. Those supplied by the Public Works Department of the government of Western Samoa provided a rare and useful insight into official views and priorities (Western Samoa 1993b:7-9). Some of the responses are listed here in full, followed by more detailed discussion in the light of recent consultants' reports and newspaper articles.

What is the current status of urban environmental sanitation services in major centres?

The newly constructed Apia Water Supply Project has provided Apia with potable treated water. Due to the excessive use of water, untreated water has been put back into the system to meet the demand. The sewerage system of Apia is septic tanks and cesspit. Problems in low lying areas of Apia could result in our newly constructed surface water drainage project [being] ineffective. There is high priority to introduce a centralised sewerage system for Apia and the Surface Water Drainage Project should also be extended to other low lying areas of Apia. To solve the problem, disposal trucks are provided by individual business people, however they are not being used very often and the cost is expensive. There is a need to drain often. Our newly established Building Code requirement is the provision of a septic tank to the new construction building in the Apia area. However, due to the lack of town planning legislation, there is little control on provision of cesspit toilet construction on low lying areas and also on customary land.

What are the major problems/issues which constrain the adequate provision of urban environmental sanitation?

Institutional arrangements. There are too many organisations which are involved in environmental issues. Public Works Department, Department of Lands, Survey and Environment, Department of Agriculture, Fisheries, and Health Department. There is no central planning group which could take care of urban problems.

Shortage of funds. There are only 19,000 out of a population of 160,000 who pay any taxes. The user pays system would be difficult to implement as a majority of people do not pay taxes, however it is a must if we have to maintain sanitation.

Customary land. The village can do what they want. Close villages could affect each other, as run-off problems of lower lying villages are created by higher villages. The population concentration is also caused by customary land problems as extended families have the right to a particular area of land (Western Samoa 1993b:7-9).

The chief problems indicated here are the physical difficulties associated with poor drainage and periodic cyclone destruction, the presence of large areas of uncontrolled customary land in the urban area, weak and disorganised institutional management and lack of legislative powers, and a weak fiscal base from which to initiate infrastructure improvements. Pit latrines are not unusual in much of Apia since there is inadequate finance to develop more complex schemes. Most of the urban population has a piped water supply but this is not always adequately treated, and persistent low pressure disrupts supplies. Water supply problems, rubbish and waste disposal are prominent causes of complaint among Apia residents who are very much aware of the need to upgrade services to modern and reliable standards. It does not appear, however, that this concern is sufficiently well articulated to provide community-led support for existing government efforts. Several examples of the prevailing situation are found in the national press. On 16 April 1992, under the headline 'Polluted water ignored by government departments', a report in the *Samoa Observer* states that coliform counts were found to be as high as 6,000 at the

Afiamalua water intake which supplies the top section of the Cross Island Road down to the Bahai Temple in Apia. The Department of Lands, Surveys and Environment has indicated that the pollution comes from animal or human sources in the catchment and that there is no legal means of enforcing protection while the cooperation of farmers in the area is required. Clearly there are inadequate formal controls to cope with emerging problems which require community involvement and some legislative context before they can be solved.

How does the public value urban environmental sanitation services, as free public goods or exclusive private goods?

The public always view urban environmental sanitation services as free public goods. The attitude for maintaining drainage is very poor. No one wants to take responsibility and they throw things/rubbish inside drains. The attitude towards the usage of water. Far too excessive. The government should encourage the user pays system and cost of maintenance should be at least recovered.

Would it be feasible to privatise urban environmental sanitation services?

We have privatised some urban environmental sanitation services. These services privatised rubbish collection, the collection of solid waste (disposal truck) and some road and drain maintenance as well (Western Samoa 1993b:7-9).

There is evidence that such privatisation has posed problems in Apia and that service standards are erratic and unsatisfactory.

An angry resident at Vaivase-uta wants to know when a pile of rubbish in front of her house and her neighbour's house will be picked up. The woman who did not want to give her name said the last time her rubbish was collected was the end of June. 'It's now more than two months and nothing is done about that rubbish... All I want to know is whether my rubbish will be collected or not—might as well pay another contractor to do the job right', the woman said... Other families nearby also have rubbish piling in front of their homes. Attempts to contact the manager of the Waste

Management Company who are responsible for collecting the rubbish were unsuccessful (*Samoa Observer* 3 September 1993).

In this instance the newspaper carried a follow-up article a couple of days later under the heading 'Trash story rubbished' in which a director of the Waste Management Company was quoted as saying that they collect rubbish around the town area once a week. Apparently the Department of Lands, Surveys and Environment contract two companies to undertake the work but 'oddly enough their contracts expired two months ago but it is understood the Tenders Board has yet to decide who will get them. There are reportedly four tenders vying for contracts' (*Samoa Observer* 5 September 1993). Basic good management procedures, even when established, are difficult to keep in place.

Decisions about significant community-wide change and improvement can take a very long time to resolve. Part of the difficulty is the proliferation of public agencies, the difficulties of defining responsibilities in what are sometimes new areas, and the predictable problem in coming to a decision where customary land may be involved. It was reported in March 1992 that a new rubbish dump for Apia was to be sited at Lafi Tafaigata to enable modern waste separation and recycling to take place (*Samoa Observer* 22 March 1992). A year later the same newspaper carried the following report.

Much has been reported in the newspapers and on the radio about the resiting of Apia's rubbish dump. The old dump in the mangroves at Vaitoloa is in about the worst place that a rubbish dump could be. Mangroves are the single biggest contributor of productivity for coastal and lagoon fisheries... Today Vai'usu Bay is the most polluted area of lagoon in Samoa... Rubbish dumping is only part of the picture... The Department of Lands, Surveys and Environment has begun the development of a new dump at Lafi Tafaigata the development of this facility is being carefully planned so that it forms a central part of an integrated waste management strategy for Apia (*Samoa Observer* 20 March 1993).

Though the development of this much-delayed integrated waste management strategy for Apia is crucial, since Vaitoloa is one of the biggest mangrove swamps in the country, much of the success of such a strategy will depend on progress in setting up effective mechanisms of urban management and an overall land-use plan. In addition, modern notions of sustainability represented by recycling and waste separation are demanding in skills and costs and require considerable community support. Thus success in operating the new dump at Lafi Tafaigata will depend on some key factors which have little to do with the generation and collection of waste itself.

The administration of water supply and sewerage treatment in Western Samoa has undergone a transformation with the preparation of a water resources master plan and the passage of new legislation in 1993 to establish a new Water Authority and a piped sewerage scheme in Apia, to conserve environmental sanitation and minimise the extent of health hazards and the pollution of inshore marine waters and surface water (*Water Amendment Act 1992/1993; Water Authority Act, No. 9, 1993/1994*). The outcome has been the establishment of a new Water Authority as an autonomous corporation to replace the Water Division of the Department of Public Works. This is an alternative to the full privatisation which is being introduced in other parts of the region such as Vanuatu and, as several reports indicate (GKW Consult 1989; Robert 1993), the administration of water and sewerage in Western Samoa has been in crisis. Besides severe technical problems, with up to half of the water being unaccounted for and wasted, the Public Works Department's Water Division has been criticised for low productivity, poor billing and a very low public image. Billing, for example, was carried out once a year in January by means of a register of water connections, and consumers called upon to pay their rates at the Division's offices on Upolu and Savai'i. In theory consumers who did not pay before the end of June would be disconnected but, in practice, partly because of an unreliable register, less than half the consumers actually pay their water bills at all. Since there is a total of some 15,000 house connections, this would suggest that more than 7,000 would be

removed from the system but the real figure has only been in the hundreds.

At least two severe constraints confronting the Public Works Department in its administration of water supplies have prevented it operating efficiently. For political reasons, the water rates approved by government were completely irrelevant to any cost recovery objective; therefore, the Water Division became totally dependent on government subsidies and good will. Under the government's tight control on personnel recruitment and salaries, the Water Division was unable to develop and implement appropriate and dynamic human resources policy (Robert 1993:16).

Water tariff calculations are based on a generally agreed limit of no more than 5 per cent of family income. Estimates put the 1993 minimum average monthly family income in Western Samoa at WS\$600 per month (Robert 1993:42), placing the limit at a WS\$30 monthly charge. Although the average monthly family bill successfully charged by the Electricity Power Corporation is between WS\$30 and WS\$40, there is likely to be a negative reaction and a reluctance to pay a more realistic charge for water. Among the key factors are

- the traditional attitude of Samoans to consider water to be a natural resource to satisfy vital needs and to be available in abundance
- water consumption habits, including the lavish use of water and considerable wastage
- the poor condition of the water supply systems in most parts, especially in rural Samoa
- the ignorance of the population to budget requirements for operation, repair and maintenance in the water supply sector, and the funding of such expenditures (GKW Consult 1989:1/11).

The problem for a government expecting the new water administration to 'break even as soon as all required rehabilitation programs are completed' (Robert 1993:44) is to come up with a

feasible tariff structure which enables a significantly better return than the average WS\$48 annual flat rate currently paid by domestic consumers. The chief means of achieving this is to extend meter connections to all urban and major rural consumers and decide whether to implement a 'hard' option of recovering operation, maintenance and depreciation costs or a 'soft' option of recovering operation and maintenance costs only. The actual costs for a standard Western Samoan family consuming about 120 cubic metres per quarter would increase from the current flat rate of WS\$12 per quarter to WS\$67 (hard option) or WS\$45 (soft option), increases of 450 or 275 per cent, respectively. Implicit would be an increase in collection rates from domestic consumers from the present 44 per cent to 90 per cent after nine years (Robert 1993). The challenge of modernising this key sector of urban infrastructure service provision has significant economic, administrative and social implications for government. Contrary to other public utilities, the Water Authority will not have a monopoly over water supply (since district operated schemes will not be included) and there is a fear of a 'two-speed' water service eventuating which will consist of a free, intermittent and unsafe water service, where the Authority is not involved, and a costly supply where it is. The costs of sewerage and waste water disposal in central Apia will also be high, with a 1992 construction cost for a screening plant and sea outfall estimated at WS\$42 million (Robert 1993:6). It is not surprising that the government should have delayed a decision on establishing a modern water supply and sewerage system for so long.

Are there other constraints, such as custom land tenure, inadequate urban planning, lack of proper coordination, political interference, people's lack of concern and awareness etc. which oppose the improvement of urban services and the environment?

The biggest constraint to our country for the implementation of urban service improvement would be customary land. Due to our cultural problems, the negotiation to solve some of these problems could be a very long and tedious process and although reinforcement in the law is in place, no officials or politicians are prepared to resort to the law until all

sources of negotiation are exhausted. We have a very high system of extended family which makes most of us related to each other and often interferes with decision making or lack of.

Coupled with this was another comment made in response to other questions and framed in similar terms. This pointed to the difficulties in implementing desirable changes in Western Samoa even if the nature of the problems are well understood.

With rapid urban growth, do squatters contribute to increasing problems of inadequate infrastructure provision? What is the influence of local tradition and culture on settlement patterns, environmental behaviour and general attitude[s] towards participation and cost recovery?

The rapid urban growth has meant that there are many squatters living in our catchment areas. They clear vegetation for planting taro and this causes water quality problems. Other problems are created by our customary land and the way people develop their land. There are no patterns and this often leads to random area development. This certainly creates problems with water and sewage. The water main layout and drainage becomes a problem. On the other hand, the 19,000 tax payers out of 160,000 population could make cost recovery an objective that will be difficult to obtain.

As already noted, the solutions to Apia's growing problem with urban services delivery and management must contend with traditional attitudes towards individual and collective behaviour preventing the introduction of limitations on personal freedom. Under the circumstances an essential first step will be to raise public awareness through an information and education campaign. Among the key issues that have been identified are

- the [new] Water Authority: how and why it can perform better than the [PWD] Water Division and the Districts
- the cost of mobilising, treating, storing and distributing water

- the need for increasing the water tariffs for better service (Robert 1993:54).

The same consultant has also advised the Authority to avoid discussion of water quality and health hazards, as long as raw water is supplied to consumers—a measure of the manner in which water quality has become of enormous concern.

Tonga

There are considerable problems with water quality in Tonga, if not with supply. Ground water supplies in Nuku'alofa are polluted from the outflow of septic tanks which serve 70 per cent of households and most commercial establishments, and from pit latrines. The incidence of negative pressure in the reticulation system, combined with inadequate chlorination has produced a considerable potential problem of faecal contamination of urban drinking water. This was recently described by a Snowy Mountains Engineering Corporation consultant as 'an environmental disaster waiting to happen' (personal communication). About 85 per cent of the national population uses groundwater, whilst the remaining 15 per cent rely on rainwater catchments; this appears to be broadly the situation in Nuku'alofa where brackish groundwater is used for washing, cleaning and flushing toilets where piped supplies are available. Rainwater is used for drinking. Demands on water supplies increased significantly during the 1980s with the average daily consumption in Nuku'alofa reaching around 80 litres.

Water supply has also been the subject of major investigation in Tonga in recent years and the preparation of a series of master plans (PPK Consultants in association with Riedel and Byrne 1991, 1992a, 1992b, 1992c). In addition, increasing concern about the environment has led to overview reports which also consider the state of water supply, pollution and other issues (Pulea 1992). The key problems are not the same as in Western Samoa owing to very different geological circumstances on Tongatapu, which is a raised limestone island with no surface water, and the existence of a Tonga

Water Board established under a separate Act in 1986 (*Water Board Act 1986*). According to the *Sixth National Development Plan* (Tonga Central Planning Department 1991:248–9), concern has been expressed about damage to freshwater lenses by over-pumping resulting in sea water intrusion; the poor enforcement of existing water regulations; and poor legislation which allows only minimal control of water pollution and does not set adequate standards.

Although the urban water systems of Nuku'alofa, Neiafu, 'Eua and Pangai/Ha'apai (which supply about a third of the population) are controlled by the Tonga Water Board, two other authorities have important responsibilities. The Ministry of Health is responsible for rural supplies in conjunction with village water committees and the Hydrogeology Section of the Ministry of Lands, Survey and Natural Resources has responsibility for pumping and water testing and manages ground water resources through its drilling program (Pulea 1992). Besides some important national recommendations covering matters such as the clarification of responsibilities among the main agencies, the improvement of data and the powers to control the use of the water resource, the Tonga Water Supply Master Plan considers specific improvements to provision in each main centre. In Nuku'alofa this covers measures to overcome the four main problems of

- significant revenue and non-revenue leakage
- severely undersized transmission pipework from Mataki'eua to the distribution system
- undersized distribution pipework
- consumption levels and the use of booster pumps leading to very low and at times negative pressures occurring within the distribution system in many areas. This may be a public health risk as contaminants could be drawn into the distribution system (PPK Consultants in association with Riedel and Byrne 1992c:27).

Besides rectifying and upgrading the physical aspects of the supply system, the master plan for Nuku'alofa has recommended a rigorous leakage detection and control program; a system of

operating and controlling water supply facilities and the wellfield; a public education program for water conservation; emergency operational measures; a record compilation system; and a major institutional strengthening program. It would appear from water usage records in Nuku'alofa that the existence of a separate water board has assisted in making the Tonga water delivery and cost recovery system considerably more efficient than in Western Samoa. Almost all consumers are metered, and these are read on a monthly basis and rate notices are hand-delivered to consumers. Charges are increased in four progressive steps from T\$0.44 for the first 1,000 gallons (4.55kL) to T\$0.637 for 10,000 plus gallons (45.5kL) (1990 figures). Although the number of water disconnections has been increasing annually, the figure for 1989 numbered only 96 out of 4,840 domestic meters in the urban system. Average consumption for the town is put at 831 litres per connection a day (1989 data), with about a quarter of supplies disappearing in unaccounted leakages. Growth of the urban population is adding about 160 new households to the system annually, mostly as a result of in-migration from outer islands.

The total population of Nuku'alofa is forecast at about 43,600 by 2011. The likelihood that residential development may continue in an unplanned way is a key difficulty for water and the provision of all other services. In the words of the Nuku'alofa water supply master plan, 'the current demand for land is being satisfied through opportunistic development of garden allotments (*'api uta*) in and around the Nuku'alofa area and by Government subdivision of Government Estates in the low-lying areas of Popua and Sopus' (PPK Consultants in association with Riedel and Byrne 1992b:4). There is no direct mention of land shortages but it is increasingly obvious that only two potential sources of land for new housing development exist in the Nuku'alofa area: 'improvement to and implementation of mechanisms to enable redevelopment of

'Urban waste management and pollution are as serious in Tonga as they are in Western Samoa and other parts of Polynesia'

existing but vacant, leased land in the urban area; and production of new land by reclamation in appropriate areas' (Kinhill Riedel and Byrne in association with PPK Consultants 1993:6). Both means of increasing the supply of residential land will have significant effects on the Fanga'uta Lagoon. Recent investigations suggest that four main development proposals will require future servicing by urban utilities.

- **Popua area development.** A proposal exists for a substantial mixed-use development to the east of Nuku'alofa.
- **Causeway proposals.** A number of different alignments have been proposed for causeways across the lagoon, all aimed at reducing travel time from east to west.
- **Reclamation proposals in the Pea Sector of the lagoon.** There are numerous proposals for further reclamation in this area. The most significant single project is that related to the expansion of the Cultural Centre, although a large number of single block individual reclamations around the perimeter will probably result in a greater overall impact on the lagoon.
- **Land sub-division on the southern and eastern fringes of the Pea Sector.** A large area of land fronting the southern shores of the lagoon from Ha'ateiho to Nukuhetulu has been sub-divided and apparently allocated. Most of this area is low-lying and development and reclamation here would lead to very widespread destruction of mangrove communities (Kinhill Riedel and Byrne in association with PPK Consultants 1993:6-7).

Some idea of the scale of disturbance that is involved, all influencing the state of the lagoon, can be assessed when it is considered that in addition to these major proposals there are also plans to extract sand and gravel from the lagoon, introduce aquaculture and construct various roads around its edge. It is not surprising therefore that urban waste management and pollution are as serious in Tonga as they are in Western Samoa and other parts of Polynesia. Municipal dumps are typically located in mangroves and there have been disturbing reports of the dumping

of paint residues, pesticide containers, batteries and plastics and general urban wastes in an unregulated manner. The Nuku'alofa dump at Popua is frequently burning, causing pollution over residential areas and pesticides are said to be contaminating the area (Pulea 1992). Municipal solid waste is managed by the Ministry of Health through three main pieces of legislation but there is nothing to regulate what may or may not be dumped.

- *The Garbage Act 1949* covers the storage of garbage in covered cans.
- *The Public Health (Refuse Dumping Ground) Regulations* define 'refuse' to mean any rubbish, offal or waste matter and enables the declaration of dumping sites. No environmental assessment is required.
- *The Public Health Act 1913 (as amended, Part V)* provides remedies through the issuing of abatement orders after an inspection for environmental problems under the law of public nuisance (Pulea 1992).

The most substantial and widespread problem of waste management in Nuku'alofa, and to a lesser extent in the other small Tongan towns, is the disposal of sewage in latrines and septic tanks. There is no sewage treatment for any land uses including public toilets, hotels, public buildings, industrial sites and private households. In Nuku'alofa more than two-thirds of households use septic tank soil absorption for disposal, 20 per cent use pour-flush latrines and 10 per cent use pit latrines. As indicated by Pulea (1992), sludge is collected by Department of Works pump trucks and placed in small dyke enclosures to the east of the town. A decade ago Beltz (1984) revealed that the most severe problem lay with the soil absorption systems because many septic tanks allowed surface leakage, especially in the sub-sea level areas of the town in the old Sopa lagoon area and in Popua. A piped sewage collection system was not recommended for Nuku'alofa in 1984 on the grounds of the flat terrain, high groundwater table, low population density, low water use, vulnerability to disaster, demands for skilled personnel and high cost (Beltz 1984:32). It was considered that this would be a necessary development when

population density and consumption increased substantially but smaller, incremental improvements would suffice in the meantime. As in Apia, the question which must now be asked is whether that time has come and how the whole urban management of the town can be restructured to make a standard improvement of this kind possible.

Tuvalu

No atoll state has been easily able to provide adequate water supplies (or related services) to a growing urban population, though the situation in Tuvalu is better than in either Kiribati or the Marshall Islands. Within the last decade the country has nevertheless experienced a number of occasions when rainfall was limited and public water supplies had to be rationed. This occurs after a period of about a month without rain. After such periods in 1985 and 1986 the government set out a water shortage policy which forms the basis for current planning. In the 1980s most households took advantage of an aid project to establish small ferro-cement tanks associated with small areas of roofing iron over kitchens, whilst public buildings had larger public cisterns. The situation in Funafuti was like that on other atolls. The national policy developed in 1986 was aimed at providing everyone with access to a minimum of 50 litres per day, rather than about 13 litres that was then the average, via both direct household and community storage. A project began in 1990 to establish more adequate facilities, though the target of 50 litres—a minimum international figure—has proved beyond reach.

Conditions were particularly difficult on Funafuti in 1990 and two small reverse-osmosis desalination plants were flown in. Matters worsened further with an outbreak of cholera affecting most of the islands: while efforts were being made to improve supply, water sanitation was also a critical issue (Reynolds 1992). The Funafuti Town Council has its own cistern and water, but this is usually restricted to Funafuti-born residents. Water from government

cisterns is distributed for a fee but rationed severely in drought conditions. The government has considered the privatisation of various functions over the medium term, and it will be essential to ensure that existing public water supplies are retained and maintained if privatisation of the water supply goes ahead.

A large number of households in Tuvalu are without toilets. For the country as a whole some 29 per cent of all households had no toilet in 1987, and used either the bush or, more generally, the beach. On Funafuti some 84 households (21 per cent) had no toilet, little different from the national average. However 157 households (39 per cent) had flush toilets, while there were only 21 others in the nation. Much the same proportions had water-sealed toilets, mainly pit latrines. Since flushing is manual and inefficient because of the design of the toilets, and water is often scarce, they are used less frequently than might be expected. Though there is a tanker on Funafuti there are no adequate facilities for the treatment and disposal of sludge. The 1990 outbreak of cholera was the result of poor hygiene caused by a lack of water, contamination of supplies and of lagoon water due to poor sanitation, and disease transmission by flies.

Only two atolls, including Funafuti, have a garbage collection service. Many urban households practice recycling; tins are used for gardening and vegetable matter is used for compost or fed to domestic animals. Garbage is collected twice a week in Funafuti on payment of a fee. Tractors and open trailers remove the waste, stored in cut-down 44-gallon drums. This has not always worked; complete drums have disappeared for water storage, half-drums have been used for garden pots and mesh boxes (also used for garbage) have become pig pens. The collected material is dumped in borrow pits (remaining from the wartime construction of the airstrip), which are porous and subject to tidal action, hence garbage both contaminates the underground water lens and, since pits are not covered, is a danger to public health (Clarke 1993a). Hazardous wastes, including batteries and oils, represent a particular problem and there are increasing quantities of non-biodegradable glass, polythene and plastic waste. Disposal

methods need to be revised and they will be expensive since pits need to be sealed and lined to protect groundwater reserves, and covered to reduce the risk of exposure to various disease vectors (Reynolds 1992). Groundwater is not however generally used and when it is this is mainly for livestock, washing clothes and bathing. One of the most crucial areas of development in Funafuti is the collection and disposal of liquid and solid wastes—Reynolds (1992) observed, 'for Funafuti time is running out and action is needed now'. That action is still to be taken.

Future directions

At the beginning of this chapter it was noted that a conventional, top-down, way of providing urban infrastructure services usually employed in developing countries provides high standards at considerable cost. The result is a poor level of overall service, neglect of newly developing and poorer sections of the urban area and difficulties in maintaining systems because of their considerable demands on technology, capital and skilled human resources. A much-debated possibility is the extent to which community involvement can achieve more cost-effective and equitable provision of services in urban areas of the developing world where needs are complex and where existing facilitating agencies and local governments are inadequate. Community-based strategies for rural water supply and sanitation are widely promoted by the World Bank (if certain preconditions are present) and there is a need to examine their feasibility in the small urban settlements of Polynesia. As already noted, towns like Apia and Nuku'alofa are still collections of urban villages, possessing some of the characteristics of rural communities in their social and demographic composition and societal structure. At least five main conditions have been identified by the World Bank for successful adoption of community-based projects and it will be apparent from the evidence contained in this chapter that most of them are not present in Polynesian towns.

- Communities must be involved in all stages of the project, not simply as unpaid labour.
- The roles and responsibilities of community and government agency must be clearly defined at the outset and both parties must be prepared to fulfil their obligations.
- The facilitator agency must act as a supporter of the community, not as the owner or manager of the program.
- Contact between the community and the facilitator agency should be through staff whose primary skills are in organising and motivating communities rather than in technical matters.
- Government agencies need to fulfil their limited but vital tasks of motivation, facilitation, training and technical assistance (Briscoe and Ferranti 1988, cited in Cotton and Franceys 1994:20–1).

Few, if any, of the technical reports on infrastructure provision in Polynesia reviewed in this chapter have anything to say about community-based infrastructure provision and it would seem that, other than in a very recent World Bank study (1995), the lessons learned and experience gained in other developing countries have yet to be assessed for their relevance in the Pacific region. Admittedly it is difficult to define the community within different parts of urban Polynesia. Nevertheless Polynesian urban dwellers ought to be every bit as capable as those participating in the widely publicised Orangi Pilot Project in Karachi (Pakistan) in organising community involvement and paying for the full cost of house sewerage connections and even secondary sewers from their own resources. A key factor in the Karachi example was the existence of sufficient prior demand for the service (Cotton and Franceys 1994). It is likely that much lower residential densities in Polynesian towns (apart from Funafuti) have delayed the urgency to find collective community solutions to basic services provision for water supply, sewerage and waste disposal.

8

A question of implementation

The cynic and the Third World administrators, weary of receiving a never ending stream of experts bearing gifts of the latest advice, might well see these fluctuations as more general to meeting the needs of the now considerable development studies profession than responding to real problems—a sort of planned obsolescence in ideas (van Arkadie 1977:409).

There is no shortage of technical advice about overcoming deficiencies in urban management and delivery of basic urban services in most of the developing world. This is certainly true of Polynesia where expensive and detailed reports on most important aspects of infrastructure provision fill the shelves of government departments in Apia, Nuku'alofa and Funafuti and in some instances have been replicated several times in recent decades without noticeable effect. This situation is not new and is not uncommon in much of the developing world. It underlines the truism that the success of measures designed to overcome physical problems of rapid urbanisation in poor developing countries depends ultimately on the quality and performance of the institutions responsible for carrying them out (World Bank 1983). But if this is so, why is it that so much urban project aid and advice is directed towards individual sectoral issues, such as shelter and water supply, when it is evident to all those involved in urban affairs—locals and foreign advisers alike—that many well-founded intentions in these areas may never be accomplished? Urban

development in Polynesia has arrived at the stage where implementation and the means of carrying out appropriate and approved recommendations are the chief regional priorities.

There are many common themes to urbanisation in Polynesia: none of the towns have plans or provisions for urban management, issues affecting urban development are pursued in several different departments (between which there are often both conflicts and uncertainties over the divisions of responsibility), there are high costs of providing services (especially water) and little success in achieving user-pays principles. Piecemeal development is the norm, raising the costs of, and the pollution caused by, intra-urban mobility. Necessarily there is no integration of physical, economic and environmental planning—and little hint of the first and last of these—despite worsening urban social, economic and environmental conditions. To some extent this is a function of the absence of urban authorities, despite some token developments and decades of discussions—this absence reflects political realities in the Polynesian states. Less obviously it relates to the absence of skilled human resources and to the substantial costs of the urban bureaucracy.

In each of the three principal urban centres—Apia, Funafuti and Nuku'alofa—there are active programs of land reclamation from the sea and the lagoons. These programs are evidence of the problems of urban development in terms of absolute land shortages and indicate, especially in Apia, the way that reclamation of land enables governments to avoid the more difficult problems of land tenure. As many consultants, politicians, academics and citizens have observed, it has become increasingly necessary for governments to tackle land tenure issues, especially in urban areas. That time has now arrived.

‘There is no shortage of technical advice about overcoming deficiencies in urban management and delivery of basic urban services in most of the developing world’

Underlying the failure of many approaches to urban growth in Polynesia is a concern that the Pacific way of life is rural and that urbanisation, or at least its negative connotations, is not part of the Pacific way. New urban trends of growing unemployment, environmental mismanagement and social conflict are as unwelcome in Polynesia as they are in any part of the world. However, there is very little good information on the urban world; data are not always differentiated by urban and rural divisions and some of it, such as that relating to unemployment, is extremely difficult to assess. Without adequate information about socio-economic and environmental changes in urban areas, the tasks for policy formation are made more difficult, especially where bureaucracies are small and there are many other pressing matters of national and international significance.

There are four major and underlying factors that stand out among the many issues discussed in this book which impinge on the ability of Polynesian governments to manage the course of urbanisation in the region

- the continuing significance of customary land tenure in and surrounding the main settlements
- the problem of creating a viable sub-national level of government to take over responsibility for urban affairs
- difficulties in achieving equity in the improvement of urban services
- the need to integrate the management and delivery of urban services in the context of an urban plan.

Every one of these factors is closely related to the traditional nature of Polynesian society and explain why it has been so difficult in the region to adopt standard statutory planning and institutional models that have been accepted (though not always put into practice) in neighbouring Melanesia. In many instances it is not possible to talk realistically about technical solutions to urban service problems because the preconditions for orderly urban management are not present. In other words a whole stage in the local development process is missing, and attempts to evaluate

and choose between different possible urban strategies are often meaningless as a result. Improvements are not impossible under the present *ad hoc* mechanisms but too little attention has been paid to implementation.

The question of equity applies to many facets of government policy but is seen most obviously in the lack of amenities in some parts of a city. Polynesian settlements do not exhibit the major physical differences between rich and poor suburbs evident in many other cities in the world. Indeed, this has been greatly to their advantage in the past and is in contrast to conditions in some of the Melanesian capitals. However, current attempts to restructure the provision of some basic services like water supplies and sewerage are based on notions of cost recovery. Most urban residents in Polynesia will not welcome the imposition of new charges for basic services unless they are convinced the burden of paying for them is shared equitably and justified by the improvements made. While this is understandable, there is little or no direct way in any of the three capitals for urban residents to express their wishes and participate in the urban decision-making process, making equity difficult to achieve. Equally, while there is concern for equity in most considerations of development planning and especially in the delivery of urban services, such concerns are not always apparent in the political systems of Polynesia. In Samoa, for example, the Prime Minister, Tofilau Eti, has told parliament that the government was not responsible for the poverty of individuals: 'each individual will have to take the blame for their being poor' (*Samoa Observer* 20 January 1993). In these circumstances, where public responsibilities are minimised, the task of urban management becomes more difficult. The old adage of 'no taxation without representation' applies here and is likely to hasten pressures for some new form of local government to be established in Apia and Nuku'alofa in particular.

'There is little or no direct way in any of the three capitals for urban residents to express their wishes and participate in the urban decision-making process, making equity difficult to achieve'

There has been considerable social change in Polynesia, especially in the urban areas, with a trend towards smaller families and some weakening of traditional authority and social control. New forms of education and employment, television and international migration have all influenced the changing balance between 'tradition' and 'modernity'. Suicide has reached high levels in Samoa (though that rate has not increased in the past decade) and crime and alcoholism have posed new problems in situations where there are few welfare provisions, or effective non-government organisations, to cope with these developments. Urban economic improvements have failed to keep pace with the rate of urbanisation, slight though it is, so that social problems have multiplied. Even so, traditional Polynesian socio-political systems, notably in Samoa and Tonga, have largely remained in place despite the challenges of universal suffrage and the democracy movement (So'o 1994; Lawson 1994). These systems are both hierarchical and conservative, and largely uninterested in the establishment of new forums that might engender debate and dissent. This might easily be the case in the process of establishing appropriate and equitable urban management procedures. At the core of urban planning in Polynesia is politics.

Getting things done

Polynesian governments have been given (and paid for) some of the most comprehensive advice imaginable about actions required to improve urban conditions in the region. The absence of a recognisable urban constituency and urban political culture has done much to prevent popular debate from determining where priorities lie. It is obvious, for example, that the costs of upgrading the whole water supply system in Apia or Nuku'alofa could swallow up all sources of infrastructure funding for many years to the exclusion of other deserving projects. Governments need the popular support of the urban population and attempts must be made to secure local agreement on what is needed most. Getting things done in the Polynesian capitals is much more than a question

of good technical advice or the availability of finance—it demands a change in national thinking that will foster urban consciousness and urban responsibility.

There are several underlying factors that must be addressed if the issues highlighted in this book are to be realistically addressed. It is quite clear that the hard urban development problems are not technical ones (though these may be very expensive to overcome) but are political and institutional matters that are often avoided because they are so difficult to confront. The debate about customary land throughout the South Pacific is one such example and it is well recognised in the development literature that the achievement of better housing and improved services is largely dependent on resolution of urban land issues. 'It is important to bear in mind that the land issue involves changes in the structure and function of institutions and as such is beyond the limited concerns of professionals—architects, planners and engineers—involved in specific programs for housing the poor, although it may be detrimental to the success of their efforts' (Angel, Archer, Tanhiphat and Wegelin 1983:3–4). Indeed, the limited scope of much technical advice prevents it from addressing various determinants of the land question and reduces its value as a result. Land issues are at the very core of Polynesian culture and political systems; tackling the 'modernisation' of land tenure has thus far flown in the face of too many traditional institutions and values and has met with inevitable paralysis of the political will.

It is too simplistic to suggest that the solution lies in widening the scope of development project objectives to include political and institutional issues because this may easily raise new problems that can prejudice the success of even the best intentioned efforts. There is no lack of evidence, for example, to show that urban communities in the South Pacific are aware of local institutional shortcomings as is demonstrated on a regular basis in the national press and in the electronic media (Connell and Lea 1993). Criticism in the *ʻāmoa Observer* of foreshore development in Apia, for example, has not stopped controversial projects from proceeding nor stimulated more substantial popular opposition among urban residents. This was never likely in a context where a development

scheme—posing certain problems—was supported by key elements in the traditional power structures. Local communities are well aware of this situation, and of the primarily hierarchical nature of the contemporary political system, which discourages interest in change. A shortage in local financial resources has meant that almost all urban technical advice comes from outside Polynesia and is itself conditioned by various political agenda. In many instances expatriate advisers are explicitly told by their countries or agencies not to concern themselves with internal political affairs.

One consequence of the largely unregulated urban environment in Polynesia is the prevalence of a 'planning by sector' approach that places a peculiar burden on each new investigative report that is undertaken. The absence of statutory land-use plans and the means of implementing them has resulted in a situation where each sectoral report (for activities such as tourism, housing, water or sewerage) is under an obligation to make certain basic assumptions about the wider planning and land tenure systems and to recommend changes in basic processes. The extensive new tourism development plans for both Western Samoa and Tonga are of limited value in an executive sense because they are not based on the certainties of development control implicit in a statutory land use planning system (Western Samoa and Tourism Council of the South Pacific 1992; Nicholas Clark and Associates 1993a, 1993b, 1993c). Exhortations to conserve historic buildings and precincts, warnings about the negative effects on tourism of poor environmental management, and pleas to initiate investment in new public infrastructure will remain exhortations, warnings and pleas unless grounded in the ongoing responsibilities of relevant levels of government or institutions. At the same time these regulatory institutions are often absent, without significant powers or without the ability to engage in any form of integrated regulation, let alone planning. Planning by consultants' reports is obviously a poor substitute for local control over the development process and is one area where firmer regional initiatives in Polynesia, making use of the urban administrative experience already gained in other parts of the Pacific, are warranted.

The Polynesian agenda

In a review of urbanisation in Melanesia for the *Pacific 2010* project, Connell and Lea (1993:1–12) drew attention to the five key strategies for urban development in the 1990s identified by the UNDP (1991:45). These included the alleviation of urban poverty, the promotion of strategies to provide urban infrastructure and affordable housing, measures to protect the urban physical environment, improving urban management and tapping into human energy in the cities. These areas also demand attention in Polynesia, but the question of urban management is the major issue today and the one that will determine the level of progress towards reaching the other objectives. Urban institutions are in their infancy in Polynesia and local governments with responsibility for urban affairs are yet to come into existence. In these circumstances the regional priority is to develop appropriate ways of managing the growing urban populations in the three countries. The advantages, disadvantages and priorities of various courses of action in sectoral improvement are extremely difficult to debate when the means to generate that action is not present. The models that are eventually decided upon will not be the same in each country and will reflect important differences in national human and geographic circumstances. A checklist of issues directed towards enhancing urban institutional capabilities is included here as a means of facilitating the difficult and far-reaching decisions required.

Of great importance too is the creation of a dialogue in Western Samoa, Tonga and Tuvalu that leads to the presence of a new political will to effect change in the management of urban affairs. Policymakers in each country have become used to criticising, justifiably, the inappropriateness of many imported ways of doing things. If there is to be a Polynesian way of accommodating the special circumstances of these small towns it will arise out of hard

‘Urban institutions are in their infancy in Polynesia and local governments with responsibility for urban affairs are yet to come into existence’

decisions made locally. This process will be facilitated by a good appreciation of what may be involved. As Cheema (1987) has pointed out, this has been a painful process all over the developing world.

The impacts of changes in political and administrative organisations are rarely neutral. They advance the interests of some groups in society over those of others, alter the patterns of resource allocation among regions and localities, change the distribution of income and wealth, expand or contract the scope of political influence, and increase or restrict citizens access to policymakers and to decision making processes. Thus no proposal for institutional reform escapes debate (Cheema 1987:171).

Models of urban local government In most developing countries, the question to be resolved is how to increase the role and effectiveness of existing urban local government to fulfil a recognised range of administrative functions. The stage this debate has reached varies in the three Polynesian countries. In Tonga there has been little or no discussion of whether to have a special government at the urban level. In Western Samoa protracted official consideration of the matter appears to have been pre-empted by popular rejection of the idea (World Bank 1995). In Tuvalu the geographic circumstances of a very small island state remove the necessity for introducing new tiers of government, though clearly there are particular issues influencing the role of government on Funafuti. Polynesian administrations require information about the operations of existing local governments in the island nations in other parts of the world with a similar development environment. It is not at all evident that existing local governments in Melanesia have sought to network cooperatively in their own region, despite eligibility for membership of the wider regional association of local governments in Australia and New Zealand. Progress towards finding the best model in Polynesia could be facilitated by efforts in the regional associations (Forum Secretariat, South Pacific Commission) to promote the sharing of experience and expertise in local government, and also in housing issues. While such efforts have long been important for rural issues there is now scope for shifting and broadening the focus.

Paying for urban local government

It is well recognised internationally that improving the resource base of local government is the best means of strengthening it (Cheema 1987). The under-resourcing of local government is already a problem in Melanesia and this is clearly a factor that will influence the kind of urban administrations that may eventually appear in Polynesia where towns are smaller and unemployment is increasing. There is a strong movement towards a user-pays approach in the provision of water supplies throughout the South Pacific (Connell and Lea 1993) and some of the negative implications of paying for such basic urban services have already been examined (Robert 1993). Whatever forms of urban local government eventuate in Western Samoa and Tonga, they will do so in a climate of steeply rising costs for those living in the towns. This is likely to pose problems, since those costs will be resisted by the large number of urban public servants.

Sorting out town boundaries

A higher-cost regime for urban living has been present in the South Pacific region for some time, especially in Melanesia, and the effects of this are seen in uncontrolled developments at the urban fringe, beyond the jurisdiction of local governments. Any move towards establishing even partly self-funding local government in Polynesian countries will place similar pressures on land beyond existing urban boundaries. Services will need to be provided for the new settlements and a means devised to pay for them. New migrants in particular will seek to minimise the cost of urban living by removing themselves from urban jurisdiction. The situation is actually more complex than this because most Pacific towns also incorporate urban villages on areas of customary land within existing town limits. Thus town boundaries are closely connected to land management processes and the financial capabilities of local government.

‘Urban institutions are in their infancy in Polynesia and local governments with responsibility for urban affairs are yet to come into existence’

Community participation Polynesian towns have been described as comprising a collection of urban villages. A strong sense of community and place is present but is directed towards small village groupings rather than the collective needs of the town as a whole. Some urban services, particularly waste disposal and the provision of certain infrastructure, can benefit greatly from collective resident action. The challenge in Polynesian towns appears to be how best to redirect existing community allegiances towards these wider goals. A wide range of religious and other non-government organisations are also present and capable of adopting an explicit urban agenda in their operations.

Environmental management It is increasingly apparent throughout Polynesia (as in Melanesia) that environmental issues are of considerable and growing significance in urban areas, as populations grow, sewage volumes increase and more non-biodegradable materials are used (and not recycled). These have posed some new problems for many governments and it would be appropriate for the South Pacific Regional Environment Programme, based in Western Samoa, to continue to shift its focus towards an examination of the urban environment.

Human resource development It is well recognised that the provision of shelter, services and urban infrastructure requires the training of at least three groups of urban managers: government leaders and public servants; non-government organisation personnel; and formal and informal community leaders who, in the case of Polynesia, fulfil traditional roles in village society. Little attempt has been made as yet to extend training and familiarisation with urban issues beyond public servants in Polynesia, with the result that important sections of the urban constituency are inadequately prepared for full participation in urban affairs. The success of local government and other institutional mechanisms adopted from colonial society rests on the acceptance of various social values that may not now be as significant in Polynesia as they are elsewhere. Once again this is a South Pacific regional issue and requires examination and action on the basis of evaluating experience gained to date.

The future of urban Polynesia

Effective forms of planning have been introduced in Tonga and provide an indication of how adaptations of development practices established elsewhere can be adapted to suit local conditions in Polynesia. In the mid-1980s pressure from aid donor countries led to the preparation of regional plans in two parts of the Kingdom (Vava'u and Ha'apai) and the setting up of regional development committees (Tonga Central Planning Department 1988; W.S. Atkins International 1989). The donor countries exerted some leverage in the first instance to persuade the Tongan government to introduce adequate physical and economic planning before considerable aid funds were directed towards these two regions. Similarly, the very considerable costs of urban infrastructure demand a proper investigation of all possible alternatives before approvals are given. The difference at the urban scale is that approved plans require the backing of statutory provisions to ensure compliance in the long term. Guidelines are not good enough and do not provide security for long term investment, particularly by the private sector.

Such realities are not unrecognised but there has been insufficient political will to act on existing recommendations to ameliorate the urban land question, to introduce statutory planning, and to create suitable urban institutions to carry out the consideration, planning and management of urban affairs. In these circumstances the leverage for change provided by aid donors and the main regional political organisations could tip the balance in favour of government action before continuing urban growth compounds the range of problems that are already evident.

Since Third World cities are so varied and are subject to so many different kinds of change, it is impossible to make predictions about the future. One can only trust that things will not be the same as in the 1980s and early 1990s—for the worrying thing about most Third World cities since 1980 is that life has clearly not improved for the majority. Since in all too many cases, life was already nasty, brutish and far too short, the thought of further deterioration is a thoroughly depressing prospect (Gilbert 1994:627).

Urban life in Polynesia cannot yet be described in these pejorative terms but there are already indications that opportunities to live a 'rural' existence in a Polynesian town are no longer available. It is easy to criticise governments in the region for neglecting urban problems but the reality is that manageable rates of growth and change have kept such issues out of the political agenda until recently. In the 1990s, this situation has altered permanently and demands redirection to ensure conditions do not deteriorate further.

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Glossary

<i>'aiga</i> (Western Samoa)	extended family
<i>afakasi</i> (Western Samoa)	half caste
<i>'api kolo</i> (Tonga)	town site
<i>'api uta</i> (Tonga)	bush allotment
<i>fa'a Samoa</i> (Western Samoa)	Samoan tradition
<i>fale</i> (Tonga)	thatch house
<i>fales</i> (Western Samoa)	traditional homes
<i>faipule</i> (Western Samoa)	district
<i>fono</i> (Western Samoa)	chiefly assembly, any formal meeting
<i>matai</i> (Western Samoa)	head of family (chief) who holds the title bestowed by that family

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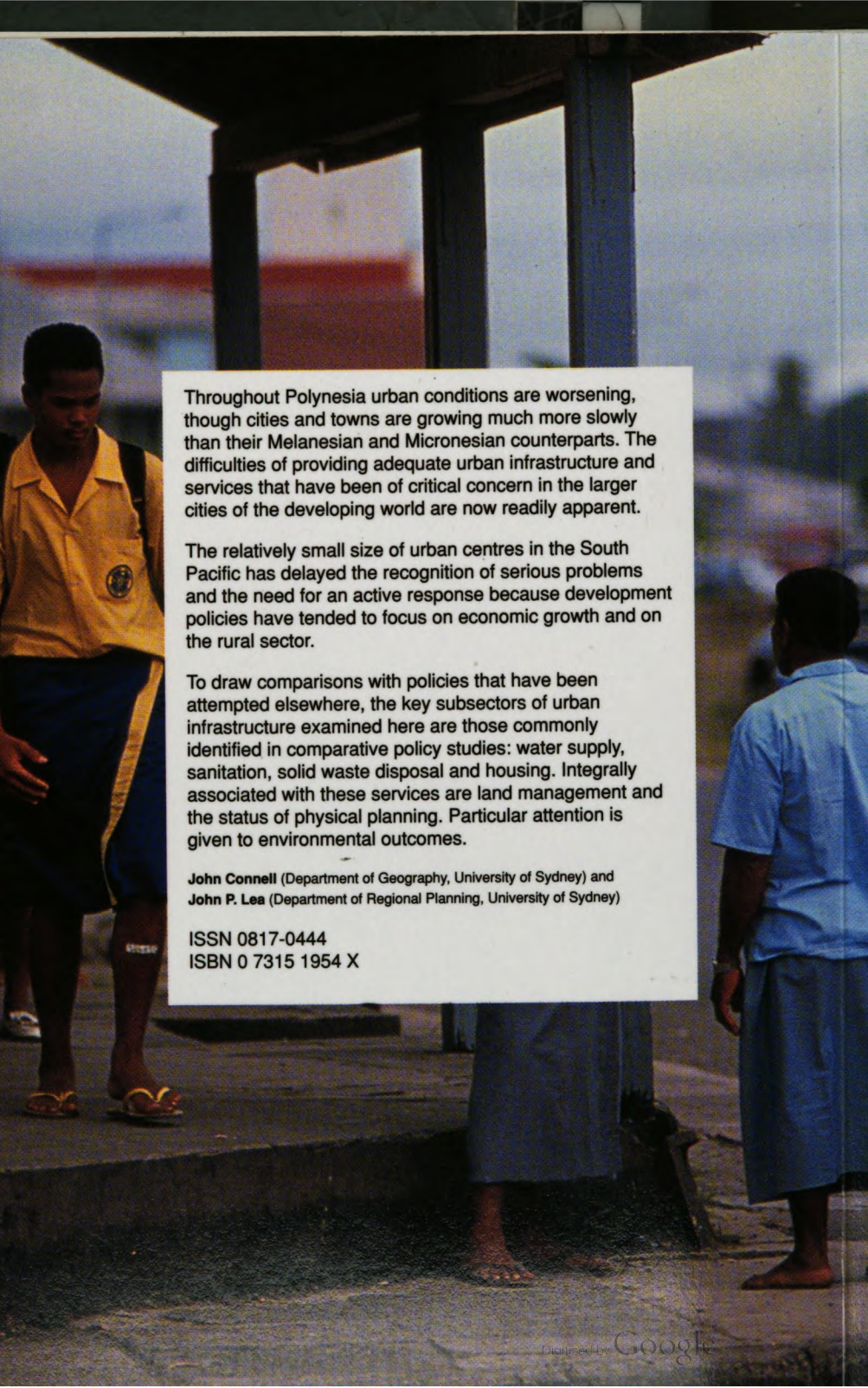
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Throughout Polynesia urban conditions are worsening, though cities and towns are growing much more slowly than their Melanesian and Micronesian counterparts. The difficulties of providing adequate urban infrastructure and services that have been of critical concern in the larger cities of the developing world are now readily apparent.

The relatively small size of urban centres in the South Pacific has delayed the recognition of serious problems and the need for an active response because development policies have tended to focus on economic growth and on the rural sector.

To draw comparisons with policies that have been attempted elsewhere, the key subsectors of urban infrastructure examined here are those commonly identified in comparative policy studies: water supply, sanitation, solid waste disposal and housing. Integrally associated with these services are land management and the status of physical planning. Particular attention is given to environmental outcomes.

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