POPULATION, MIGRATION, AND PROBLEMS OF ATOLL DEVELOPMENT IN THE SOUTH PACIFIC

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> Our island world ceased to be. The world exploded and our island became a remote outpost . . . the last place in a country which has few centres and much remoteness.
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> C. Luana, "Buka: A Retrospect"

The revolution in rising expectations experienced in most parts of the Third World has not excluded some of the smallest and most remote islands in the world: the atolls of the South Pacific. In the past decade many of the states in the region have achieved independence; others have essentially had independence thrust upon them. These countries now face difficult development decisions in a world economy that has changed little to respond to the aspirations of the smallest states. The problems of development are considerable and this paper seeks to review some of the economic options available to such small states and, more specifically, to examine the changing relationships between population and resources and between expectations and reality.

It is necessary, first, to distinguish between those countries in the South Pacific where a small number of atolls are part of a much larger country (Papua New Guinea, Solomon Islands, Palau, Fiji, and New Caledonia), countries having a significant number of atolls but at least one high island (Federated States of Micronesia [FSM], French Polynesia, and Cook Islands), and what are here referred to as the atoll states, consisting entirely of atolls (Tuvalu, Kiribati, Marshall Islands, and

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Tokelau). Development problems and strategies in these countries are, and will continue to be, quite different, especially in relationship to what is possible on atolls. Second, atolls vary enormously in size, both of land and lagoon area and in rainfall, and hence so do their flora and fauna and their ability to support populations and enable some form of diversified development.

Aspirations of atoll dwellers are unlikely to be significantly different whether those atolls are parts of very large countries or, as in Tokelau, where three atolls comprise the whole territory. However, they will have some differences; for example, it is probable that the aspirations of atoll residents in the North Solomons Province of PNG will be directed toward a higher level of consumption of modern goods than atoll residents in most parts of FSM or Tuvalu. All atolls are now part of the international economy, and the aspirations of atoll people are generally those of people elsewhere, including improved services (health, education), remunerative employment opportunities, and consumer goods (imported food, clothes, outboard motors, motorbikes, etc.), although wants are somewhat less than those of occupants of larger islands where imported goods are more familiar. Everywhere, real and perceived differences between places in life-styles, economic opportunity, and the range of available services and facilities have increased, especially since the 1950s (Bedford 1980:47). Significantly, the quotation that opens this paper actually comes from the occupant of a large island (Buka) in Melanesia and not from an occupant of a small atoll. It is a truism that new aspirations can be less easily satisfied in atoll environments; it is equally a truism that, as these aspirations increase, the degree to which they can be satisfied on atolls falls.

Atoll Populations and Population Change

There is no doubt that populations on atolls may be extremely small: Sorol atoll in Yap State (FSM) has had one resident family for many years and there was also the exceptional case of Suwarrow in the Cook Islands with one resident for a period in the 1960s. These are artificial circumstances in which populations cannot grow or exist without outside support, and even basic self-reliance is impossible; in the long term they are not viable. It has been estimated on the basis of archaeological records, computer simulations, and anthropological studies that a minimum viable population for maintenance in total isolation is about fifty (Alkire 1978:28-30), and Osborne (1966:49) provides a vivid description of the dying phases of the small community on Merir atoll, Palau.

The smaller the population the more likely it is to depend on outside assistance of some kind: medical supplies, schools, relief food supplies, remittances, and so on. The possibility of achieving self-reliance is more likely to be met through achieving a balanced population that is neither declining nor growing rapidly. To arrest the decline of outer atolls demands investment in development (employment opportunities and infrastructure) to deter the outmigration of the more productive members of the atoll society. The example of Takapoto in French Polynesia (see below) demonstrates that this is possible, but this is both a rare and unusual example and one that was dependent on a high initial investment by the country as a whole. The alternative is to allow, or even encourage, outmigration to employment opportunities overseas (since the evidence from the atoll states demonstrates that none are able to generate significant employment opportunities in towns, in other than exceptional cases such as Kwajalein in the Marshall Islands). For the non-atoll states, migration is generally possible within the state (although there are certainly constraints within countries like FSM); in Tokelau, migration to New Zealand is a right, and migration from the Marshall Islands to the U.S. is possible (and acceptable) under the Compact of Free Association. For Tuvalu and Kiribati only migration to Nauru is possible at the moment, and this is currently constrained by fixed employment opportunities there and in about a decade by the eventual closure of the phosphate mine. Both countries have sought resettlement opportunities overseas and also new overseas employment by training seamen, and Tuvalu has formally located a handful of workers in New Zealand under existing short-term schemes. However, in the immediate future these two countries do not have long-term overseas migration (or resettlement) opportunities and it is in these countries above all that the need for atoll development is greatest.

Although the populations of many, perhaps most, atolls are growing at a slower rate than that of the state as a whole, few are actually losing population. Thus between 1973 and 1980 the population actually declined in only one Marshall Islands atoll (Lib), two Ponape atolls (Mokil and Pingelap), three Yap atolls (Fais, Sorol, and Eauripik), and one Truk atoll (Pulusuk); between 1973 and 1978 the population of six Kiribati atolls declined (Makin, Kuria, Beru, Nikunau, Tamana, and Arorae); and between 1973 and 1979 populations declined on two Tuvalu atolls (Nanumea and Niutao). Between 1976 and 1981 the population of one Tokelau atoll (Fakaofo) also fell. Comparing the populations of the six Kiribati atolls, between 1973 and 1978, with those of atolls generally, it is apparent that they have on average a significantly

TABLE 1. **Atoll State Populations**

	Marshall Islands	Kiribati[a]	Tokelau	Tuvalu
Occupied atolls	24	16	3	9
Total population	30,873 (1980)	51,642 (1978)	1,572 (1981)	7,349 (1979)
Mean atoll population	1,286	3,227	524	817
Mean atoll population (excluding central atoll)	565[b]	2,096	524	653
Population (km^2)	172	192	52	287

Note: Areas are land areas. Since lagoons provide maritime resources, variable lagoon areas are also important.

[a] These data refer to the Gilberts only, thus excluding Banaba and the Line Islands.

[b] This figure excludes the populations of both Majuro (including Laura) and Kwajalein (including Ebeye).

lower population than atolls as a whole (99 compared with 1,286 in the Marshall Islands, 134 compared with 268 in Yap State, 214 compared with 718 in Truk State, 657 compared with 341 in Ponape State, 1,523 compared with 3,227 in Kiribati, and 855 compared with 817 in Tuvalu). It is the smallest atolls that appear most likely to lose population. Unfortunately, for comparative purposes, much of the population data on the atolls of French Polynesia is aggregated by commune rather than differentiated by atolls; however, after excluding communes with a substantial military presence (Hao and Tureia), and carefully examining population change between 1971 and 1977, the evidence suggests that around twenty-eight out of fifty-two populated atolls actually lost population. The data are too crude to make other correlations. While the data from both Kiribati and Tuvalu are anomalous (and may indicate some "push" on migration from very densely populated atolls), the implication of population change on French Polynesian atolls (and, to a much lesser extent, in FSM) is that where there are clearly existing social and economic opportunities elsewhere, migration is likely to follow. However, it is not possible to compare directly the migration situation on atolls in different regions; there is no reason why all South Pacific countries should be simultaneously experiencing similar economic changes. It would be more useful to compare current patterns of migration on atolls of similar demographic structure and population density from place to place.

Modern health facilities and medicines have resulted in more rapid natural increase of population in most atoll situations; infants are more likely to survive, and diseases are less likely to be fatal while modern

family planning is largely absent in the atoll states. As atoll populations increase, the problem of satisfying basic needs (e.g. housing and food) also increases. Although there has been little research on the human carrying capacities of atolls (and it is invariably true that there are possibilities of agricultural intensification, varietal improvement, and fishing development), in a number of cases population densities have reached extremely high levels (see Table 1) and development prospects are limited. All atoll residents now demand some cash income (for clothes, fish hooks, kerosene, etc.); where population densities, as on Eauripik in FSM, have increased to the extent that all coconuts produced are eaten rather than marketed as copra (the only possible agricultural export), the constraints are particularly severe. In this case, locally generated income is earned almost entirely from handicraft production. Eauripik may be extreme (with a population density of 950 per km^2 in 1980), but its limited development options reflect the essential problems of atoll development.

The combination of higher postwar rates of population increase, the increased desire for consumer goods, the location of higher education facilities and hospitals either on one central atoll or on a high island, and the concentration of formal sector employment there has, in many cases, resulted in considerable outmigration from many atolls. Although the data have not yet been analyzed in adequate detail, it appears that outmigration from atolls has been greatest where there is a central high island (as in French Polynesia) and where the economic and social differences between high island and atoll are greatest. In many cases--for example Sikaiana in the Solomon Islands, Namoluk in Truk, Raroia in French Polynesia, and Nukuoro in Ponape--migrants have established a relatively permanent community in the principal high island, and increasingly this has become a focus for the atoll population that is as important as the atoll itself. In many of these cases the proportion of former atoll residents on the high island is as high as that on the atoll, and children born there experience little or no contact with the home atoll. In such contexts, although remittances from migrants paradoxically enable those remaining on the island both to maintain a relatively traditional life-style and also to benefit from the imported consumer goods that these remittances purchase, traditional societal structures tend to break down as traditional obligations and authority are fragmented and ignored. Off-atoll marriages increase and problems of ethnic identity may follow. High levels of outmigration tend to emphasize trends that monetization and modernization have already initiated.

Development and Non-Development

When both population and wants have grown together in environments where local production possibilities are limited, the export of labor has become an important means of meeting some basic subsistence requirements, especially food. For example, in 1971

> The people of Butaritari and Makin [two atolls in northern Kiribati] are becoming increasingly dependent on remittances to pay their taxes and their children's school fees, to buy corned beef and rice for feasts, and to purchase even moderately expensive items at the store. Most of the durable goods on Makin--planks for canoe hulls, canvas for sails, bicycles, sewing machines, radios and even clothing--were brought by returning workers. The exports of labor has become the principle means of *maintaining* the local standard of living. (Lambert 1975:220-221; emphasis mine)

To withdraw from the obligations involved in paying taxes, school fees, and participating in feasts would demand considerable sacrifice. In most of the atolls of the South Pacific, movement toward the self-sufficiency that reduction of remittances implies would be difficult and painful; in many places aspirations are firmly directed toward the acquisition of modern goods and, as has been argued for the small island of Rotuma, "with the prestige given to 'foreign' goods, it is doubtful, therefore that Rotumans would *want* to be self-sufficient, even if that were a possibility" (Plant 1977:174). In other small islands the same kind of situation exists; in Tikopia "from such a level of dependence on imported goods it becomes difficult to retreat without unease and a sense of deprivation" (Firth 1971: 69), and in Ponape, too, villagers are not interested in adequate subsistence, nor even "the right to subsistence" but rather they desire "continued and increased access to the goods and prestige provided by employment" (Petersen 1979:37). While these statements refer specifically to small islands rather than atolls, such attitudes are becoming true of almost all areas within the Pacific and emphasize the reality of relative deprivation. Thus self-sufficiency is steadily being eroded and the alternative, a more adequate interdependence, seems as distant as ever.

On small atolls especially, there are very few prospects of formal sector employment; as education levels increase and demand for employ-

ment also increases, this fact is further emphasized. For example, on Namoluk atoll, nearly 90 percent of the estimated de jure population in the age group 15-29 have left the atoll (Marshall 1979:10). Elsewhere in FSM,

> there are only two high school graduates on Eauripik, and both of them are teaching in the school. There is one further government position as health aide on the atoll, but when that is filled, there will be no more government positions requiring education. High school graduates will have to make copra and catch fish. (Levin 1976:180)

Eauripik had a population of about 130. On Namu in the Marshall Islands, with a population of about 630, there were fifteen people with cash incomes in 1968: 10 teachers, 3 health aides, and 2 pastors (Pollock 1970). In these kinds of situations the number of paid jobs that can be supported even on large atolls is quite small, especially since on these two atolls, only two jobs (the pastors) were in the private sector. Overseas migration for wage employment is therefore not only unsurprising but inevitable. However, this is not just a movement of workers--and the most fertile group of the population (who then reproduce overseas) --but also a brain drain of the skilled and talented (Marshall 1979:10). Thus the demand for cash and goods and hence employment has stimulated outmigration; migration from atolls, as elsewhere, is predominantly of young men. Indeed Marshall has titled one unpublished paper on Namoluk atoll, FSM, “Where have all the young men gone? Gone to Truk everyone,” and in the Cook Islands it is asked, “Where have all the *mapu* [young people] gone” (Graves and Graves 1976). The absence of high proportions of young men, for education, work, or other reasons, has increased the dependency ratio on atolls and has resulted in a labor shortage for some activities. In all countries there are further pressures on atoll life. Since atolls are small and often remote from capitals, the costs of transportation (either of commodities or medical services) have rapidly increased as oil prices have increased, and transport services have declined substantially in some areas. Migration becomes a cheaper alternative than remaining.

The small size of atolls and their remoteness has severely limited the diversity of ecological environments, and hence plant and animal species. This lack of diversity has been dramatically emphasized since the nineteenth century by the “coconut overlay” (Bedford 1980:48) that has transformed the economy of atolls by enabling participation, however

limited, in the international economy through copra production. In the Tuamotus of French Polynesia the coconut overlay was directly responsible for the complete disappearance of the former agricultural economy (Ravault 1982). Generally, the subsistence sector of atoll economies, both agriculture and fishing, has declined, especially following outmigration, as has cooperative work. Necessary activities such as coconut replanting are often postponed indefinitely. At the same time as labor is withdrawn from subsistence activities, cash flows from migrants enable declining production to be replaced by imported commodities. Moreover, increasingly, atoll dwellers have discovered that they have a one-crop economy and that that single crop has a falling price on the world market. Growing dependency on a single cash crop and remittances from migrants have resulted in a dangerous movement away from what little diversity hitherto existed.

In some places the de facto populations of small atolls will continue to decline, gradually becoming more like those south of Palau where the social machinery is kept going with a "skeleton crew" (McKnight 1977) and the atolls increasingly become a place of "vacation homes" (Marshall 1979: 10). Overall, however, it is as much the growing dependency of atoll populations as the working-age groups leave that is the principal cause for concern rather than depopulation itself.

> Net emigration, once considered a safety valve relieving pressure on limited land resources, is now perceived to be radically altering the structures of island populations. The accelerating exodus of young potentially productive (and reproductive) men and women is seen to be the cause of an increasing economic burden for those left behind to care for the children and elderly. (Bedford 1980:55)

Yet it is unlikely that atolls, other than the smallest and most isolated, will become depopulated; there appear to be no examples of this in the present century, although a number of islets of atolls have been abandoned. The contemporary resilience of small island communities, such as those of Pitcairn and Palmerston in the Cook Islands, suggests that populations will remain long after their demise has been confidently predicted from outside. For example, in part of the Outer Reef Islands of Solomon Islands it has been suggested that total fertility among remaining females rose as the total number of females decreased through migration (Davenport 1975:112), which poses interesting questions on causality. Nevertheless the longterm future of many small atolls

remains doubtful as population margins in the South Pacific continue to contract.

It is clear, however, on a number of atolls that if all the de jure population were to return (which is certainly unlikely) there would be very severe problems of maintaining even basic subsistence organization. For example, Levin notes, "Since there are almost as many persons living off Eauripik as living on the atoll, if these persons were to return, there would be difficulties providing fish and housing for all of them" (1976: 192). The same is essentially true of Namoluk, Sikaiana, and many atolls where migration has been a "safety-valve" for overpopulation to the extent that Levin refers to it as "institutionalised migration" (1976: 259). Moreover, return migrants invariably have higher expectations than can be met on atolls; they are often discontented and that discontent affects others. Self-sufficiency, even if possible in these contexts, is unlikely to remove that discontent. Migration creates greater consumer wants while simultaneously diminishing the chance of satisfying them at home. For most migrants from atolls, there has been no necessity for them ever to return to their own atoll; however, in some circumstances, as jobs decline elsewhere, and possibly as social tensions increase (as in some urban areas of the South Pacific), migrants may choose to return. Moreover, it is possible that pressures on return migration may be increased by legislation over access to employment, such as that in Kiribati (see below). The necessity to implement development strategies for atolls is correspondingly increased.

As wage jobs become more difficult to find locally, aspirations are either likely to be abandoned--Hezel notes how "several hundred Trukese graduates, displaying powers of re-adjustment greater than many of us would have imagined possible, have settled back to their island communities with apparent good grace" (1979:184)--or to be satisfied at a greater distance from "home." Since there are few atolls in the English-speaking areas of Polynesia, most migration from atolls (with the exception of significant but temporary streams from Kiribati and Tuvalu) has been within the country. Marshall has suggested that in the case of Micronesia (and perhaps especially Palau), this may well change (as now seems more probable following agreement over the Compact of Free Association), to the extent that Micronesian residents of the United States may outnumber "the folks back home" (1979:10-11). This situation already exists in Niue, Tokelau, and the Cook Islands and presents a future for the atoll states that has nothing to do with self-reliance and which is viewed with concern and dismay by many in those countries. For example, to retain skilled Micronesians in Micronesia may necessi-

tate providing salaries at United States levels, for a small number, and hence would result in enormous disparities between their incomes and those of other Micronesians (cf. Schwalbenberg 1982:31). The alternative is to enable returning migrants, like the Trukese graduates, to find an environment in their home islands where a satisfactory balanced economic and social development is possible.

While outmigration may solve the immediate population problems of some small, densely populated atolls, it also may increase the problems of destination areas, especially in the atoll states. Some of the most difficult and intractable development problems in the South Pacific are experienced in the atoll states (and, to a lesser extent, in those where atolls predominate). Since aspirations to migration are much the same in these countries, and infrastructure (principally for health and education:) is often highly centralized, migration has been concentrated in a very limited number of areas. The most extreme examples of this are the Marshall Islands and Kiribati. In the Marshall Islands, the 1980 census recorded a total population of 30,873, of whom 11,791 were on Majuro (at a density of 1,312 persons per km^2); less than 40 percent of the population were on "rural" atolls. In Kiribati the 1978 census recorded a total. population of 58,512, of whom 17,921 (32%) were on South Tarawa at an average density of 1,137 persons per km^2. The only other atoll state approaching these kinds of urban concentrations and densities is Tuvalu where the 1979 census recorded a total population of 8,730 (of whom 7,349 were in Tuvalu); Funafuti had a population of 2,120 (28.9%) at a density of 770 persons per km^2. In each of these cases urbanization has been both recent and rapid. The reasons for these urban concentrations are many and, perhaps until quite recently, have followed growing economic and social differentials between one central atoll and the remaining atolls. A centralized administration has spawned the centralization of the service sector and hence most formal sector employment is concentrated in the center. In Tuvalu, 72 percent of all. those employed in the cash economy were in Funafuti; in Kiribati 57 percent were in South Tarawa. The figure for the Marshall Islands (for the two centers) is likely to be higher than that for Tuvalu. This centralization of wage employment suggests that even where urban unemployment, however recorded, is growing, the chances of obtaining wage employment appear to be greater at the center. Since social services, the "bright lights," and a significant proportion of relatives are also at the center, there are powerful attractions to rural-urban migration. This centralization may be compounded by "urban bias," where financial and technical resources are overwhelmingly concentrated in the urban area.

Inevitably this urban concentration has created problems. Many of these problems are no different from those of much larger urban centers elsewhere in the Third World: overcrowding in poor housing conditions with attendant health risks, pollution (to the extent in South Tarawa that the lagoon is a potential health risk and was one cause of a cholera outbreak in 1977), unemployment (even if disguised by sharing in extended families), worsened nutrition (as cash incomes are often inadequate to purchase diets based on imported foods), and sometimes higher crime rates and social disorganization. Since migrants are not always successful in towns they may be unable, or unwilling, to contribute significantly to the needs of their rural kin. Remittances are invariably bidirectional, but where migration is international, the balance favors the migrants' home area. Where migration is internal this is not always certain; when urban jobs are hard to find, those who earn wages in town may be more likely to redistribute money there than remit to the home atoll. In Lae, in the Marshall Islands, the flow from Ebeye scarcely exceeded the rural-urban flow (Alexander 1977); for Nukuoro migrants in Ponape, the rural-urban flow appears to exceed the urban-rural flow (Chalkley 1972). However, more generally, throughout the Micronesian atolls, both "good" and "bad" times can usually be distinguished and in the bad times both money and foodstuffs flow to the towns (Alkire 1978:145). If bad times in urban areas increase in the future, rural dependence on remittances may inadvertently prompt a reversion toward self-reliance. These urban problems are not unique to atolls, but the small size of the land and lagoon areas, and the problems of achieving economic growth accentuate the basic difficulties.

In the atoll states of the Marshall Islands, Kiribati, and Tuvalu there are therefore two related problems: the depopulation and economic decline of the smaller, remoter atolls and overurbanization on the principal atoll. In the absence of overseas migration from atoll states, development prospects would be even more difficult; thus, apart from overseas seamen (representing 3 percent and 1 percent respectively of the de facto population of Tuvalu and Kiribati), there were almost 722 (8.2%) Tuvaluans and 1,460 (2.5%) I-Kiribati employed on Nauru at the time of the last censuses. An unknown number of Marshallese and more than half the Tokelau population are overseas. Movement overseas both reduces the pressure on local resources and provides a substantial cash flow from remittances. When phosphate mining on Nauru ends, in the absence of alternative overseas opportunities, the development problems of Kiribati and Tuvalu will be considerably worsened. In the other South Pacific countries where there are atolls, movements of population can be more easily accommodated on one or more large islands, while

the losses of production (copra and fish) that follow outmigration from atolls, although hindrances to self-reliance, can be more easily compensated for. In these contexts the achievement of self-reliance on atolls is not such an immediate concern as that in the atoll states.

Development Options and Alternatives

There are alternatives to the trends of population decline, nondevelopment, dependency, and overurbanization in the atolls of the South Pacific. Marshall suggests one possibility, that "outer-island communities may undergo a demographic revitalisation as educated migrants, longing to re-establish their cultural and ethnic roots, forego the urban centres and work towards building a new economic future in their home communities" (1979:11). While there have always been minority movements to reestablish cultural identity, these are usually born out of idealism, which, compared with the reality of economic change, has not proved to be alone an adequate basis for development. Where solutions exist they are likely to exist in the area of economic development and job provision on atolls.

In Kiribati, a series of policy solutions have evolved in an attempt to achieve a more balanced development and share out work "in a more equitable manner, and at the same time, persuading people to either go home to their own islands or stay there in the first place" (Kiribati 1981:2). These policies include, in the longterm, improved rural education (including traditional and practical skills), increased copra prices (by subsidy), the development and expansion of district centers (involving decentralization of government), and perhaps the resettlement of the distant and uninhabited or sparsely settled Line Islands. In the short-term, policies designed to allocate existing employment more equitably include making all unskilled jobs within government and statutory bodies on South Tarawa three-year contract jobs only; recruitment would be from the outer islands (or from "true Tarawa" people) on a quota basis, and at the end of the contract the worker would be required to return home. Related to this are policies that restrict both copra plantation work and unskilled work on Nauru to periods of three years. Thus, attempts are being made to strictly regulate employment, to minimize urbanization in the attempt to both decentralize opportunities to other atolls and insure a more equitable distribution of opportunities between atolls.

Given the general consensus that education produces outmigration (both as children go to high school elsewhere and educated individuals

seek related employment overseas), it is often argued that a more appropriate education would produce a social context in which people were more likely to accept rural life and/or to gain skills that would be relevant there. The manpower needs of atoll states (and larger South Pacific economies) cannot cope with large numbers of school leavers with a strictly academic education; the content of a more appropriate curriculum that is not obviously "second-best" remains a source of debate. It is also possible that the location of schools may influence migration; invariably high schools are located in urban areas. One exception is the Outer Island High School on Ulithi atoll in Yap State, FSM; there is some indication that graduates from this school are more likely to return to their own atolls than go on to Yap or Guam (although this may also be related to other social and economic factors). School location may reduce outmigration, if only perhaps by slowing it for the individual or for the society as a whole. This may be an adequate achievement in itself.

Where atolls are only part of a country it may be possible to divert resources from larger islands, where economic growth is more evident, to provide special funds and strategies for the atolls. This is the case in French Polynesia where migration from the atolls of the Tuamotu archipelago had resulted in large population concentrations in Papeete and a decline in the social and economic life of the atolls. General assistance for economic activities such as tourism and cattle breeding had always been available and improvements in the infrastructure (airstrips, primary schools, and aid posts) had been made during the 1970s, but in 1979 these activities were integrated into a special development scheme, the "Fonds d'Aménagement et de Développement des Îles de la Polynésie Française" (FADIP). FADIP has a four-fold strategy: support for copra production; fare assistance for those wishing to resettle in the outer islands; aid for economic, social, and cultural development; and special financial assistance. Between April 1977 and January 1980 there was a net movement of 2,500 people toward the atolls and in 1979 and 1980 FADIP directly assisted some 910 people to return. The evidence suggests, therefore, that where a concerted, integrated rural development policy can be developed and implemented, atoll development is possible and longterm migration trends can be redirected.

That there is a clear relationship between rural development and return migration can be illustrated for the case of Takapoto, one of the Tuamotu atolls in French Polynesia. There the population had fallen steadily from 1956 to the early 1970s, but from 1974 it began to rise again, as return migration exceeded outmigration. A number of factors

were responsible for this change: first, the deterioration of the economic situation in Papeete, the capital (and hence rising unemployment); second., a rise in the price of copra; third, the establishment of air transport (enabling the possibility of tourism, food transport, and more rapid communication with Papeete); and, fourth, the establishment of a pearl shell industry (Pollock 1978). The integrated nature of development (infrastructure and incomes), however inadvertent, is apparent as is the incidental "urban restraint" of unemployment. However, the evidence does indicate that where opportunities are redistributed (and equalized) return migration does follow. In 1976 when Pollock observed these trends, her conclusion was that "this may be only a temporary or 'boom' period of increase in the atoll population for the economic advantages may be shortlived" (1978:135); but five years later there was no evidence that this was so and representatives of the Cook Islands government had traveled to Takapoto to study the potential of the situation.

Conclusion

Atoll development options are naturally constrained by limited land (and sometimes lagoon) areas, and the simplicity of atoll environments (so that natural ecosystems may easily be disrupted). These options are broadened by the increased availability of new plant varieties, fertilizers, technology, and so on, from outside, but limited by the fact that these may be expensive (and increasingly so) and far from simple to organize and maintain. Options are diminished by changes in aspirations that have resulted in changes in attitudes to traditional agriculture (resulting in a general decline of pit taro cultivation) and some loss of skills and knowledge (principally as modem "school" knowledge replaces inherited traditional skills) that enable survival and success in environments often threatened by natural hazards.

In historic times atoll dwellers were extremely mobile and far from insular; men and women moved readily between islands in search of new land, disease-free sites, wives, trade goods, and so on. In this way some islands were populated, depopulated, and later repopulated. Mobility itself was responsible for demographic survival; without mobility, adaptation and change were impossible. It is a phenomenon of contemporary times that South Pacific populations are growing, and political boundaries and policies minimize long-distance migration. Without the flexibility that this kind of resettlement migration provides, the uncertainties and limitations of atoll environments are emphasized and either more permanent migration (usually to urban areas

elsewhere) or an uncertain dependence replaces it. The era of great voyages and ancient navigation skills is over, yet the most successful atoll communities are those where there has been considerable interdependence between atolls (Alkire 1978: 146).

Some fifteen years ago Ward commented in the context of small Polynesian islands, "such a prospect seems sad, but it certainly seems that many of the smaller islands will cease to be viable socio-economic units as present trends in culture change continue" (Ward 1967:96, cited by Bedford 1980:57). Small islands are increasingly being thought of as "beautiful, but not places to live" (Bedford 1980:57). Before the last war, decisions about atoll and small island development were being made by "communities of stalwart natives . . . who are meeting and solving difficult problems in ingenious ways" (Thompson 1940, cited by Bedford 1980:57). At that time migration had scarcely begun to remove the young men, the potential future leaders. Increasingly, decisions about small island development are being made at a distance. Self-reliance is slipping away from atoll communities as residents demand more imported goods, welfare support, commodity price subsidies, and so on; that is, they demand comparability with more distant places. Even in much larger countries attempts to achieve self-reliance often appear no more than reflections of the aspirations that must suffice if growth cannot easily be achieved; as Joseph puts it, in the Nigerian context, self-reliance is "little more than a ritual for exorcising the devil of dependence" (1978:223). The problems involved in changing the whole trajectory of development are more than apparent.

It is improbable that atoll states can ever achieve a significant degree of self-reliance (unless, like Nauru, they discover new sources of mineral wealth), yet they are all capable of moving away from the present massive dependence on aid and trade. The elements of such a policy redirection are clear: agricultural development policies that stress diversification and vegetable production (while simultaneously encouraging the extension of new coconut varieties and replanting schemes to ensure some necessary cash income); land tenure reform and the taxation of unused agricultural land; increasing concentration on the exploitation and development of the marine resources that are the only obvious base of both export growth and improved nutrition; transport and energy policies that move away from the use of nonrenewable resources; job decentralization and allocation (along Kiribati lines); improved infrastructures (wharfs, aid posts, etc.); increased emphasis on family planning, and so on. Self-reliance then entails reducing dependence on imported "necessities" including foods, oil products, capital equipment,

and also expertise. This involves changing consumption patterns as well as increasing local productive capacity. Policies would be needed to change living styles at given income levels--using taxes, price policies, advertising, and perhaps rationing. This might also involve increasing national ownership of assets and improving national capacity for negotiating with transnational corporations and metropolitan countries, especially, in this context, those with fishing fleets (cf. Seers 1977a). In short, self-reliance entails a more selective approach to external influences of all kinds. In keeping with this orientation is the idea that factors that were previously regarded as "obstacles" to development, such as nationalism, separate languages, traditional customs, and so on, appear now rather as shields against the expense and inappropriateness of modern consumption styles and technologies (Seers 1977b). Despite the problems of achieving self-reliance there seems little real alternative to the future of economic and cultural dependence that would result from fluctuating strategies alternating between different ideologies and different internal and external sources of support--which are a function of the democratic process. The paradox is that many of these changes must be associated, at least initially, with foreign aid inputs. As the president of one small Micronesian state (Palau) with a number of atolls has argued, "we will have to use dependency to achieve self-sufficiency" (*New Pacific,* July 1981, p. 67). Simultaneously, development strategies may often fail to meet the aspirations of the young, especially as they run counter to perceived trends in metropolitan countries, and are (like land tenure reform) inherently difficult to implement. However, development requires not only government policy initiatives but also self-help and community involvement. Prescriptions that focus entirely on self-reliance, and not on interdependence, are unlikely to be taken in full for several reasons: the constraints of more than lingering demands for the prestige associated with modernization, westernization, and urban-industrial development; the difficulties attached to establishing rural projects (which are rarely prestigious); and the fact that concerted comprehensive policy formation in loosely structured, democratic states is already difficult to achieve (and development plans are sometimes nonexistent).

Development strategy for atolls is a priority in the Pacific. What is important is that there be a will to develop outlying areas and provide the infrastructure and income-earning opportunities that are almost an accepted part of urban life. Since development strategies that respond to this necessity are often complex (although projects themselves are rarely so), there is often a particular need for politicians, administra-

tors, and planners with the ability and commitment to institute and above all insure the continuity of both strategies and projects. At this stage in development planning in the South Pacific, population issues do not play a significant part despite the concern that governments express over related issues such as urbanization and the imbalance between employment opportunities, skills, and population distribution. This is perhaps particularly true of more fundamental and socially complex issues such as family planning (cf. Lucas and Ware 1981), which is conspicuous by its absence or low acceptability in most states of the South Pacific region. Consequently, policies that are oriented toward influencing population distribution by means of integrated development strategies, especially for the rural sectors, also tend to be conspicuous by their absence. However, there is growing evidence from recent trends in both French Polynesia and Kiribati that concern over the negative impact of "overurbanization" is beginning to result in the formulation of more comprehensive development strategies. It is perhaps from these countries, where innovative policies have been directed to atoll and national development, that analysis of this experience will indicate important lessons for other parts of the South Pacific.

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