

EMPLOYMENT AND HOUSEHOLD ECONOMY IN A MICRONESIAN VILLAGE

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Social scientists interested in the description and analysis of economic change in rural villages of the Third World frequently distinguish between two types of influences on their study areas. Endogenous (internal) factors include the local-level environmental, economic, social, political, and cultural conditions that already are “in place” in the area under investigation. Exogenous (external) influences originate from the political or economic system of the whole world or of a foreign nation, and therefore affect the local economy “from the outside.” Presumably the pace, form, and direction of change in local economies is determined largely by the interaction between these analytically separable sets of forces. In the short term, village people are unable to control either of these influences, and therefore they must adapt or adjust their economic strategies both to local conditions and to external inputs.

In the Pacific, one particular kind of social scientist, namely the economic anthropologist, has tended to specialize in field studies at the village level. Most of these studies emphasize that “what comes into” the Pacific from a more developed nation combines with “what’s already there” in specific villages to influence the choices that village people make about how best to use the resources at their disposal (Belshaw 1964; Epstein 1968; Finney 1973; Salisbury 1970). The preference of many anthropologists for the intensively conducted, small-scale study of a single case lends itself especially well to the analysis of the interaction

between exogenous and endogenous factors. In this paper, I present some of the results of another such case study, conducted in 1975-1976 in a village on Kosrae island, Micronesia. My aims are twofold. First, I wish to show how the household economies of villagers are affected by the interaction between an exogenous input (the opportunity to obtain wage employment) and specific endogenous factors (the conditions of the local agricultural economy). Second, I suggest that these findings have practical relevance for those Micronesians and policy-makers genuinely concerned to reduce the dependence of the islands on American funding.

Wage Labor and the Agricultural Economy of a Kosraen Village

The volcanic island of Kosrae (formerly Kusaie) is the easternmost of the Caroline Islands in the tropical Western Pacific. The resident population of almost five thousand lives largely along the coast in four major villages, in one of which I conducted economic anthropological fieldwork in 1975-1976. At the time of this research, Kosrae was a part of the Ponape district of the United States Trust Territory of the Pacific Islands (commonly known as Micronesia). In 1977, Kosrae separated from Ponape to form its own district; when the trusteeship agreement signed by the United States in 1947 is finally terminated, its people will form one of the states of the Federated States of Micronesia.

Like other Micronesian islands, since the mid-1960s Kosrae has experienced far-reaching economic and political changes. Prior to 1963, the American administration made little effort to develop Micronesia economically or to move its people toward a more independent political status. In the early 1960s a critical report issued by a United Nations Visiting Mission galvanized the American government into pursuing a more active policy. Whether this major policy shift was well intentioned or part of an American ploy to ensure permanent Micronesian political affiliation with the United States is the subject of some debate.¹ In any case, in 1963 funds appropriated by the U.S. Congress to be spent on Micronesia more than doubled, to \$15 million. These monies continued to increase to \$48 million in 1970 and to \$90 million in 1977.

In the Trust Territory (T.T.) budget of the 1960s and 1970s, most of these funds were spent on the improvement of social services (primarily education and health), on administration, on economic and political development, and on capital improvement projects such as electric systems, water supply lines, school buildings, roads, airports, and port facilities. At the level of islands and villages, the budget increase has

had both direct and indirect effects. Directly, the material living standards of most Micronesians have improved as islanders have found employment in the various departments of the expanded government bureaucracy. Between 1963 and 1976 the number of Micronesian employees of the T.T. government increased fourfold, and the amounts paid as wages to these workers rose elevenfold. Those individuals, and their families, able to acquire government jobs have enjoyed a marked rise in cash income, almost all of which is spent on goods imported from abroad. In 1977 the dollar value of imported goods was eight times their value in 1963. Food imports also increased greatly over the same period, from \$2 million to \$13 million. This sixfold growth is especially disturbing because many of the larger islands have the ecological capacity to produce more food than they actually do.

Indirectly, the growth of the budget has resulted in the provision of more opportunities for Micronesian businesses. Increased incomes mean increased potential demand, which has been met by an expansion of the private sector. Most Micronesian businesses owe their viability to their capacity to transform the income earned by government workers into profits for themselves and wages for their employees (Peoples 1978). As a result of this indirect effect, many Micronesians and their families who, by choice or lack of skills or contacts, have not themselves obtained government jobs also have experienced a rise in income and in material levels of consumption.

Kosrae has shared this experience. In the village where I worked, two-fifths (98 out of approximately 240) of the adult men between the ages of twenty and sixty-five had fulltime jobs with the local branch of the T.T. government in 1975. They worked mainly in education, health, public works, public safety, land survey and registration, administration, and agricultural development. Together with the nine fulltime women employees and assorted other job holders with other U.S. government agencies, these individuals earned almost \$400,000 in wages and salaries. Altogether, about 62 percent of the total cash income of the village was earned through public sector jobs.

Besides the obvious increase in employment and income, the expansion of the T.T. budget has had other effects on the island's economy. The income earned from wage work has led to a growth in demand for goods and services, which has stimulated private business activity. As elsewhere, these enterprises have tended to concentrate in the service sector, especially in retail stores, wholesale and retail bakeries, and entertainment. Most new businesses engage in activities that convert the wages of government workers into imported foods, building materials

for new houses, motor vehicles, household goods, and recreation and other services (see Peoples 1978, 1985 for documentation and explanation). Like fiscal policy in the American economy, government spending pumps up demand and thus generates new investment and employment opportunities.

The introduction of the opportunity to earn additional income through employment in the T.T. administration is the most important exogenous input into the islands economy. In addition to the macroeconomic effects of this input summarized above, wage work has important consequences for the household economies of job holders. The remainder of my discussion is devoted to a description and analysis of these consequences. To keep the presentation manageable, I confine it to the effects of wage labor on the provision of foodstuffs for the everyday consumption of households. To explain these impacts, certain ecological and organizational facts about the island's agricultural economy must be understood.

Division of labor. Although not the case in all other Micronesian islands, in Kosrae only men and adolescent boys normally handle the cultivation of subsistence crops. This applies to all subsistence crops and to all agricultural tasks carried out in the gardens, such as clearing, slashing undergrowth, and harvesting. This is not to say that women do not participate in economic activities outside the household. They are primarily responsible for removing coconut meat from its shell in copra production, they engage in many kinds of reef fishing, and they often help in pig-raising. But their role in providing cultivated foods for everyday household consumption is confined to its preparation after it has been harvested by men and boys. This division of labor is culturally explicit and only rarely violated, so that it may be considered a norm.²

Labor requirements. The most important cultivated crops used for food are bananas, plantains, breadfruit, and taro. Of these, the first three provide most of that portion of the food supply that is grown locally. They usually are grown together on steep slopes with good drainage, making it possible to harvest all three with a single trip to a hillside garden. Breadfruit of some variety is available for about eight months of the year, when it is the major staple for most households. In its off-season, more bananas, plantains, and imported rice are consumed. Breadfruit, bananas, and plantains are perennials, so that once planted they will produce for decades with minimal slashing of undergrowth. To harvest bananas and plantains, a man or boy simply locates plants with sufficiently mature fruit, cuts the producing stalk with a machete, and ties the stalk to either end of a carrying pole. He repeats

the procedure until he has harvested several stalks, and carries the produce to his house, canoe, or, nowadays, truck or motorcycle. With breadfruit, a small twig is attached to a long pole to form a hook, which is used to twist mature fruit from the tree. The fallen breadfruit is tied to a carrying pole, after which the procedure is identical to that for bananas and plantains. A typical household with an employed male member usually acquires most of its local foods by a trip to the household's gardens on Saturday by the employed man, plus one or two adolescent boys if they are available. This trip consumes between three and six hours for each male, depending on how difficult the harvest-ready fruit is to find, the location of the gardens, and the industry of the gardeners. During the breadfruit seasons, another trip may be made in midweek, for the fruit will spoil about three days after it is harvested.

Due to their ecological characteristics, the three crops of primary importance thus require very little labor to plant, maintain, and harvest. As a result, in 1975 the males of the village spent only about 8 percent of their time in all types of work in their gardens. Even unemployed men, whose households rely more on their own gardens for the everyday food supply, expended only about 10 percent of their time in garden work (Peoples 1985). In the days before wage labor was common, more of men's time was devoted to agriculture, for informants claimed that taro, yams, and tapioca, which are more labor-intensive, formerly were more important. I suspect, but cannot document, that yams and tapioca have declined in the diet due to a desire to save labor.

Land availability. In 1975-1976, to my knowledge, all households in the village had access to land on which subsistence gardens and coconut plantations for the copra trade could be established. This includes the households of government workers. Although I cannot document the statement quantitatively, I am confident that a lack or even shortage of garden land is not presently an important motive for seeking wage work. Indeed, my impression is that nearly all households have access to sufficient land to feed their members; wage-earning households could be self-sufficient in food even without the purchase of imports. This condition exists because of two facts: first, Kosrae was drastically depopulated in the nineteenth century and only recently has regained its former numbers (Ritter 1978); second, under Kosraen land-tenure ideals, all sons should inherit from their fathers some land of various types suitable for the cultivation of crops with different soil and drainage requirements, although circumstances often make this impossible. Of course, this is not to say that land ownership is equitably distributed among families. Differential fertility and survivorship among various

family lines alone tends to prevent an egalitarian distribution.³ It is to say that wage earners continue their access to the means of subsistence production. This fortunate situation will change as the island's population increases and further fragmentation of parcels occurs. Already some villagers complained of a shortage of land of certain types, particularly of that suitable for taro.⁴

Organization of subsistence production. On an everyday basis the household itself, or rather its head, organizes the acquisition of locally produced foods for its members. Elderly couples are the major exception to this generalization, for they are often partially or wholly dependent on the labor of one or more of their adult offspring who live in a different, but usually nearby, house. This organizing principle also is complicated by the existence of several multifamily living units whose constituent nuclear families are linked by ties of siblingship or descent. Sometimes such extended households will pool the produce harvested by one of their constituent families, and sometimes each family will manage its own gardens independently of the rest. Finally, Kosraen extended 'kin ties remain sufficiently strong that households with a serious shortage of labor of one sex may receive help of the appropriate kind from an individual of a related household. Despite these complications, obtaining subsistence foods using the land and labor available to the households itself remains statistically the most common pattern.

These four conditions of the village's agricultural economy are critical influences on how the households of wage earners have responded to employment with the government. As a result, there is no sharp contrast in subsistence activities between households with versus without job-holding men. When a man gets a job, he and other male members of his household usually continue to participate in subsistence production, albeit on a reduced scale (as documented below). This continuity is possible because even employed households have access to land and because the major crops do not require large amounts of labor. The employee himself usually continues to garden on Saturdays and sometimes after work if the gardens are favorably located. In addition, in many households teenaged boys take up part of the labor slack, in spite of the fact that today most of them are in school six hours on weekdays. Job-holding households thus are able to apply a portion of their male labor time to the land that they have available. They do not abandon subsistence activity, but continue it alongside wage work. In technical jargon, they have not yet become a fully proletarianized labor force.

However, compared to their jobless counterparts, wage-earning households have reduced their level of participation in subsistence activ-

ity and consequently rely more on store-bought (almost entirely imported) foods. This is hardly surprising, but the reason for this difference is not as straightforward as it might seem. In the next section, I document the finding that households with employed male members produce less of their own food and show why I believe the most obvious reason for their reduced participation in autosubsistence activities is insufficient.

Employment and Household Economic Allocations

To acquire their total supply of food, all households have access to labor, money, and (under 1975 conditions) land. Food may be acquired by some combination of these three resources. The household's male labor force may be applied directly to family land to produce subsistence; the cash earned by an employee may be expended to purchase food at a local store; or, as is actually the case for all households, some combination of household labor and cash are expended. Variation between job and jobless households in the availability of one or more of these resources is an important determinant of any differences in food-acquiring strategies that exist. I now compare quantitatively how households without any employed members ("jobless households") and households with one or more wage earners ("job households") use their labor, land, and money to acquire daily subsistence.⁵

Labor time. To determine how the allocation of time is affected by employment, I conducted a time budget survey. (The methodology used is described in Peoples 1985, Appendix A.) Table 1 shows the percentage of time spent in various activities by adult males. For cultural reasons, Sunday is devoted exclusively to "rest" and/or worship for all individuals, and therefore activities on this day were not included in the survey (obviously, this makes the categories "church" and "leisure" appear smaller in the time budgets than they actually are). Because only men and boys normally work in subsistence agriculture, I have not presented the results of the survey for females.

Several relevant differences in the time allocations of job and jobless adult men are revealed in Table 1. First, job men spent only 10 percent of their time in garden work and fishing for subsistence purposes, whereas jobless men devoted 21 percent of their time to the same two activities. Including carpentry work and copra production, the only other activities that produce local resources for use or sale, the contrast in time devoted to producing goods is even more pronounced (14 percent versus 54 percent). Second, over three-fourths of the potential working time of wage earners was spent on the job. Third, jobless men

TABLE 1. Allocation of Time by Adult Men^a (percent)

Activity	Men with Jobs ^b	Men without Jobs ^c
Job ^d	77	6
Gardening	5	10
Fishing	5	11
Carpentry ^e	4	16
Copra ^f	0	17
Church ^g	0	1
"Helping" ^h	0	5
Leisure ⁱ	6	20
Miscellaneous ^j	3	14

^aThe survey included seventeen randomly selected households. Each household was studied for one week. Forty-three women and girls and forty-four men and boys participated. Further details appear in Peoples (1985).

^bN = 13

^cN = 12

^dThe 6 percent figure for jobless men reflects the fact that three normally unemployed men worked part-time during the survey, as a stevedore, road repairman, and day laborer for a storeowner. Such short-term wage labor is frequently available to jobless men, especially young men.

^eIncludes hauling sand, mixing and pouring cement, and other work connected to house-building.

^fCollecting and husking coconuts for the sale of copra. Women ordinarily handle the cutting of the meat from the shell and drying.

^gIncludes maintenance of building and grounds, preparation of studies, and so forth. This figure would be much higher for both categories of men if Sunday were included in the survey.

^hKosraen *kuhlaconsap*, meaning in this context aiding one's relatives and neighbors in small ways, such as visiting the sick, giving rides, and helping in household tasks.

ⁱTime spent "resting" (*mongle*) and time devoted to various recreation and entertainment, such as billiards, movies, and card games.

^jRefers to various minor tasks, such as cutting firewood, making the earth oven, and repairs of house and vehicles.

had over three times more leisure than men with jobs. The significance of the last two points will become apparent below.

However, these data do not necessarily give an accurate portrayal of the contrast in time allocation between job and jobless *households*. As mentioned, in Kosrae much garden labor is assigned by the head of the household to younger male relatives, particularly to adolescent sons. To use the comparative time budget data on adult men only might be misleading, for the labor of unemployed young males potentially could meliorate the differences between job and jobless households. However, including the labor of these boys in fact gives the same result: 9 percent

TABLE 2. **Comparison of Agricultural Production^a**

	Job Households ^b		Jobless Households ^c	
	per worker	per consumer	per worker	per consumer
Hours ^d	17	6	31	9
Harvest ^e	201	75	323	109

^aFor a four-week period, 1975.

^bN=9

^cN=6

^dRefers to number of hours spent in agricultural labor for subsistence purposes per worker and per consumer. Both workers and consumers are weighted by age; consumers are weighted by sex as well (Peoples 1985: Appendix B).

^eRefers to the total pounds of produce harvested during the four-week period.

of the total male "labor pool" of job households is devoted to gardens and fishing, versus 19 percent for jobless households.⁶

Land. Due to my limited time in the field, I cannot quantify differences in acreages under cultivation between job and jobless households. However, given one assumption, an indirect measure of the degree of land use is available. During the breadfruit season, I conducted a production-consumption survey for four weeks. These data, aggregated in Table 2, reveal the inter-household variability in labor hours devoted to subsistence and in pounds of produce harvested. (Methodology and a detailed breakdown are given in Peoples 1985, Appendix B.) In nine sample job households, fewer hours were devoted to agriculture and smaller quantities of produce harvested than in the six jobless households. I am fairly certain--but due to the incompleteness of the work of the Land Commission (see note 4) at the time of my research cannot document--that there are no consistent differences between the two sets of households in the amounts of land available. If this impression is correct, then jobless households utilize the land available to them more fully than job households.

Money. For present purposes, the discussion of monetary allocations is confined to expenditures on food. (Additional data appear in Peoples 1978, 1985.) Two surveys in the village yield quantitative data on food purchases. In a two-week survey in October 1975 five households with jobs spent a mean of \$61 on foods, whereas four jobless households spent a mean of \$32. In a month-long survey in November and December conducted among ten households, those with jobs expended a mean of \$124 on food, as opposed to \$56 by jobless households. Almost all food purchases were of imported goods, with rice and tinned meats and fish

quantitatively the most important in everyday consumption. These data indicate that those households with employed male members spent approximately twice as much money on food as their jobless counterparts.

In sum, the following differences between the two household categories emerges. Jobless adult men and other male members of their households devote about twice the amount of time to gardening and fishing, activities that satisfy everyday subsistence wants through applying the household's male labor pool to local land and sea resources. It may be inferred tentatively that jobless households utilize their land more fully, because they spend a greater number of hours in agriculture and produce more. Finally, jobless households spend only about half the amount of money on purchases of food from local stores. In fact, these data may be aggregated into a single conclusion: job households allocate more money to purchase imported foods for daily consumption, rather than allocating the labor of their male members to produce indigenous foods on their own land.

As mentioned, this conclusion is intuitive. The quantitative magnitude of the effect of employment on the subsistence activities of job households may be of interest, as such data are heretofore unreported for any Micronesian island. A variety of factors might account for this difference. Two of the obvious influences are food preferences and the relative availability of time.

The most obvious reason that job households rely more on store-bought foods is that Kosraens simply prefer imported to local foodstuffs. If so, the explanation is straightforward: all households would rather eat imports such as rice and tinned meats and fish, but only those with wage-earning members have the income needed to consume these foods. Employment allows greater consumption of durable imports such as construction materials for finer houses, motor vehicles, household goods, and other goods that could not be produced economically on the island itself. Besides this consumption, it also saves wage-earning men and other males in their households from some of the drudgery of subsistence labor and allows their families to realize their preference for imported foods. This "taste" for imported foods accounts for why almost one-third of the cash income of the village was spent on store-bought foods in 1975, while many gardens were in various stages of abandonment. Wage labor made possible by the American subsidy then is a total windfall to job households, because it allows them to consume the foods (and other imported goods) that they would have liked to consume all along had they the income to do so. As for jobless households,

TABLE 3. Preferences for Fifteen Most Common Staple Foods^a

Ranking ^b	Food ^c	Criteria for Ranking ^d
Highly preferred	yams breadfruit <i>Colocasia taro</i>	most rank in top 4, several rank 5-10, few or none rank 11-15
Preferred	RICE tapioca <i>Cyrtosperma taro</i>	many rank in top 4, most rank 5-10, few rank 11-15
Moderately preferred	<i>aenpat pahsruhk</i> <i>kihriyacf</i> <i>aenpat mos</i> <i>aenpat usr</i> <i>pahsruhk usr</i>	few rank in top 5. most rank 6-10, few rank 11-15
Unpreferred	<i>furoh</i> <i>ap</i> <i>tihpihr</i> bananas, plantains	few rank in top 5, some rank 6-10, most rank 11-15

Note: Imported foods are capitalized, as RICE.

^aI use “staple” to refer to starchy foods that are eaten at most meals. Except at the morning meal, they ordinarily are accompanied by some kind of meat or fish, although the quantity of the latter may be small and it often is omitted at the midday meal.

^bThe four categories of ranking were determined using the criteria listed in the third column. Of course, the labels are my own.

^cThe unfamiliar terms in this column are Kosraen names for dishes made from a combination of locally produced ingredients, except *furoh*, “preserved breadfruit.” For example, *kihriyacf* is pounded ripe banana, plantains, and coconut milk wrapped in banana leaves baked in the earth oven; *pahsruhk usr* is *Cyrtosperma* pounded with bananas and baked; and so forth.

^dRank ordering of foods in order of preference was determined as follows. For each food, the number of individuals ranking it first, second, and so on to fifteenth was recorded. This yielded four categories that I labeled as indicated in the column Ranking. The four levels of ranking, then, are more or less “natural” categories, in that the ordering fell inductively into the labeled classes, the divisions between which were relatively sharp.

they subsist more on local foods because their relatively lower income forces them to do so. Notice that this hypothesis is equivalent to saying that the greater cash income of job households alone is sufficient to account for their greater spending on imported foods.

Kosraens do make a cultural distinction between “Kosraen foods” (*mongo Kosrae*) and “foreign foods” (*mongo paclahng*), but at this general level most people express no systematic preference for one over the other.⁷ To decide whether villagers preferred imports to native foods, it was necessary to inquire about individual foods and dishes. A food preference survey was conducted among ten households, with thirty-four

TABLE 4. Preferences for Fourteen Most Common Protein Sources^a

Ranking ^b	Food	Criteria for Ranking ^c
Highly preferred	CHICKEN wild pigeon TURKEY TAILS	most rank in top 3, several rank 4-8, few or none rank 9-14
Preferred	BEEF eggs pork fish	many rank in top 3, most rank 4-9, few rank 10-14
Moderately preferred	CORNED BEEF lobster SPAM mangrove crab BREAD	few rank in top 5, most rank 6-11, few rank 12-14
Unpreferred	SARDINE MACKEREL	none rank in top 3, very few rank 4-9, most rank 10-14

Note: Imported foods are capitalized, as SPAM.

^a“Protein source” is a gloss for the Kosraen term *achnuht*, eaten as a complement (at many meals) to the staples of Table 3. One exception is bread, which may or may not be considered *achnuht*.

^bSee note b of Table 3.

^cThe relative ranks were determined using the same methodology as for staple foods (see note d of Table 3). Again, the categories in the first column are relatively unambiguous, that is, foods could be assigned with little difficulty to one or the other category. One exception is beef, which fell inductively between the highly preferred and preferred ranks, but somewhat closer to preferred.

adults and young adults ranking the most common foods according to how well they “liked” them. The results appear in Tables 3 and 4. In the staple category (Table 3), locally produced yams, breadfruit, and *Colocasia* taro were preferred over rice, although the latter is eaten two or three times daily by most employed households. In the protein category (Table 4), the highly preferred foods were imported chickens and salted turkey tails, and locally hunted wild pigeons. However, only a few very well off households consumed these on an everyday basis, due to the high price of chickens and turkey tails and the difficulty of shooting wild pigeons. Almost all consumption of chicken and turkey tails was in ceremonial contexts. The relevant comparison for the present discussion is between the remaining three categories of preference, for most of these foods were consumed in the everyday diet. Canned mackerel and sardines, although consumed more often than any other source of pro-

tein, were unpreferred foods. Fresh fish, mangrove crabs, and lobster were preferred over the two imports that substitute for them in the everyday diet. This survey indicates that there is no preference for common imported foods over native foods, with the exception of bananas and plantains, regarded as rather monotonous. At the least, it seems justified to conclude that higher cash incomes combined with a widespread preference for imported foods is not sufficient to account for why job households are less active in subsistence pursuits. What else might contribute?

Time Scarcity and the Cost of Jobs

A major cause of the reduced subsistence activities of job households is the fact that wage labor takes up most of the total male time available for cultivation and fishing. This influence also is intuitive: if employed men spend most of their time on the job, then their households have less total male time available for other uses. However, the point is obvious only in the context of the local-level conditions of the agricultural economy summarized earlier. If these endogenous conditions were different, the exogenously provided opportunity to engage in wage labor would not affect the household economies of job holders in the same way or to the same degree. In addition, because the time spent on the job subtracts man hours from subsistence work, employment has a significant material opportunity cost in foregone subsistence production, not to mention its nonmaterial adverse effects on the retention of local cultural norms and practices. For this reason, even considering only material welfare, government employment is not a total windfall to the economy, and this fact may have practical implications. Before pursuing these points, I give supporting evidence for the opportunity cost argument.

First, the hours spent on the job consume about three-fourths of the time of employed men (Table 1), based on a six-day week due to the cultural prohibition against work on Sunday. Further, work hours in 1975 were from eight to five, Monday through Friday, a schedule that interferes with the maintenance of garden work at previous levels. To be sure, about two hours of daylight remain after work, but in general only those fortunate job holders who have access to gardens located near their houses use this time for agriculture. Travel time to most gardens and back is between one-half and one hour, and in most people's judgment this leaves insufficient time to locate and harvest mature bananas, plantains, breadfruit, and taro. As a result, most job holders choose to

engage in subsistence pursuits only on Saturdays. In sum, the hours and unfortunate scheduling of government employment objectively consumes labor time and conflicts with subsistence activities.

Second, subjectively many employed villagers perceive that a major cost of their job is a reduction in the time they can devote to cultivation, fishing, copra production, church work, and other productive and cultural activities.⁸ As mentioned, the labor of adolescent boys to which most households have access can, and for many households does, meliorate the effect of employment on household subsistence work. However, few job-holding family heads are willing to work these boys, most of whom themselves are in school and have homework, long enough to maintain as high a level of production as jobless households.

An elementary economic argument shows why employment results in reduced participation in autosubsistence activities. As shown in Table 1, jobless men had over three times more leisure than job holders. Each unit of time given to leisure is more valuable to employed than to unemployed men. Consequently, each unit of time that a job holder allocates to subsistence work has a relatively higher opportunity cost in foregone leisure. There may be enough hours in a week to make it *possible* for employees to participate in subsistence work at the same level as jobless men, but to do so would require a high level of "self-exploitation"; on average, job holders are unlikely to tolerate this for long periods.

Similar reasoning applies to the relative mix of availability of cash and time between the two categories of households. Because job households, in general, have more cash income than jobless ones, while they have less male time, job households are more likely to substitute imported foods bought with cash for local foods "bought" with their labor time.⁹ Further, the imported rice and tinned meats and fish consumed every day by most job households are easier to prepare as well as to acquire than their locally produced counterparts; the labor time of female as well as male members thereby is conserved. (See Linder 1970 for an analysis that shows why there is a generalized increase in the scarcity of time as incomes rise, leading to a greater emphasis on time-saving activities.)

It is worth noting that I do not claim that employment makes it impossible for a household to maintain a high level of subsistence self-sufficiency; rather, it alters the constraints on job households such that their choices are more likely to be patterned in the direction of reduced time spent in subsistence. Nor do I claim that the relative scarcity of men's time is the only causal factor; for example, job households may have acquired more of a taste for imported foods, although I would be surprised if this is the case. My claims are two: first, that simple avail-

ability of more cash alone is insufficient to account for the difference; second, that the loss of men's time due to employment reduces a household resource (male labor), and that therefore wage work carries an opportunity cost in foregone subsistence production.

Wider Implications

Two conclusions may be drawn from the preceding description and analysis. The first relates to the significance of conditions of the island's agricultural economy in understanding the response of households to employment. 'If these local-level conditions were different, job households would pursue different economic strategies. For example, if indigenous cultigens required large labor inputs, or if employees lacked or were to lose their access to land, then wage laborers would be more of a proletariat than they were at the time of my study, and the differences between job and jobless households correspondingly more marked. Or if women as well as men normally worked in subsistence agriculture (as is the case in many other Micronesian high islands and atolls), households with male job holders potentially would be able to maintain a higher level of self-sufficiency by intensifying the labor of women. Thus, the argument of this paper should not be applied indiscriminately to other Micronesian islands with different local conditions of crop types, division of labor, land tenure, and production organization. Especially, it should not be applied to the towns with migrants who have found employment with the administration.

The second conclusion may have practical implications. As shown, government jobs carry an opportunity cost in the subsistence pursuits that job households give up. Therefore, although externally funded, the increased cash income that employment brings is not entirely an economic windfall; it has been bought with the time that wage labor detracts from agriculture, fishing, copra production, and from "non-economic" activities that many Kosraens value culturally, such as church and social life. Accordingly, aggregate statistics on the growth of cash income are misleading to the extent that they give the impression that material living standards have increased at the same rate as monetary income. To determine the village's net increase in welfare, the value of foregone subsistence production (indeed, the value of all it foregoes as a consequence of employment) must be subtracted from its gain in cash income. Because cash values cannot be assigned to much of what it gives up, such a calculation is impossible to perform, but clearly welfare growth has not kept pace with income growth.

It follows also that statistics on declining cash income would overesti-

mate the loss in material welfare *if* the fall in income is brought about by decreased participation in the wage-earning sector and *if* local people retain control over their land and sea resources. For example, in Kosrae, assume that a 50 percent reduction in the government payroll is implemented by shortening everyone's work week, rather than by selective lay-offs. Assume further that the reduction in hours and wages is implemented gradually, to give employees time to replant gardens that many of them abandoned partially when they obtained a job. Then, as job hours are reduced, a major constraint on participation in subsistence activities, namely the scarcity of men's time, is removed. The preceding analysis predicts that most of this time will be reallocated into the subsistence sector and much of the loss in cash income will be made up for by increased production of local foods, increased sales of copra, and increased participation in other activities that job holders now forego. If a calculation were possible, it would probably show that material welfare had declined, but (and this is the point) not by as much as the decline in cash income.

The applicability of this forecast to other islands in the Federated States of Micronesia is problematic, due to differences in their local conditions. On other islands, populations may have grown so much that production increases sufficient to feed the residents could not be sustained, in spite of the freeing of labor from wage work. However, for those islands on which Kosraen conditions are replicated or are similar, reducing dependence on American monies need not entail as drastic a fall in living standards as usually assumed by both Micronesians and expatriates.

NOTES

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1. The best account of the history of American involvement in the islands is McHenry (1975). Other sources on the impact of U.S. policy on Micronesia are Colletta (1979), Gale (1979), Goodman and Moos (1981), Heine (1974), and Nevin (1977).

2. There are two partial exceptions to the norm. One is when a well-off man pays the women of a Christian ceremonial group for slashing weeds from his land. This is done to

provide financial help for the group's activities as much as to accomplish the weeding. The other is the unusual circumstance in which no suitable males are available to a household. An example is the household of a municipal government official. The man himself was at his office most days, and had no male dependents of suitable age in his household to garden. This led his teenaged daughters sometimes to harvest produce, an activity about which he and his family often joked.

3. Childless couples, or those with fewer than three children, usually adopt an infant from a relative (Ritter 1981). The adoption relation often is not permanent, the adoptee returning to his or her biological parents during adolescence. But in cases in which the adopting couple have no natural sons, male adoptees tend to stay with their adopted parents to improve their chances of inheriting land (Ritter 1981:54). This practice probably has the unintended system-wide effect of more equally distributing land between families.

4. Availability of land and its tenure are complicated by the fact that much of the island officially is owned by no Kosraen, but is classified as public land. To Kosraens, this means (United States) "government land." At the time of my work village claimants to part of this land were disputing vigorously surveys that denied their rights to parcels they believed were taken by force by the Japanese, then carried over into the American administration under the classification "public lands."

5. I emphasize that the present discussion deals only with the provision of food for *every-day* use. Kosraens also consume large quantities of food at various ceremonies and feasts. The principles by which labor and money are organized to provide for such events differ from those for daily consumption, so this "ceremonial demand" is discussed elsewhere (Peoples 1985).

6. If we define "productive activity" as time expenditures that transform some local resource into goods that are consumed or sold, the male "labor pool" of job households spent 17 percent of its time in gardening, fishing, copra, and carpentry; men and boys of jobless households spent 32 percent of their time in the same four productive activities.

7. However, some adults claimed that their young children "wanted to eat rice all the time," and that they sometimes bought rice just for their children.

8. Two middle-aged men told me that they intended to quit their government jobs once they had earned enough to retire their debts to the credit union for the imported building materials used in constructing their new houses. In both cases, one reason was that they had so little time available for subsistence.

9. Of course, imported foods ultimately are bought with labor time as well. An important topic is whether job household males spend more or less time (in wage work) to acquire subsistence than do jobless household males (in cultivation and fishing). I lack the data to resolve this question.

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