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THE ROAD TO POWER IS A CHAINSAW: VILLAGES AND INNOVATION IN WESTERN SAMOA

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Analyses of Samoan village agriculture have concluded that the sector, organized as it is, cannot provide an effective base for significant increases in agricultural production and have identified elements of village social organization as major obstacle to growth. This paper argues that Samoan social organization, per se, is not an obstacle to economic growth and provides examples of entrepreneurial individuals who have adopted items of technology and strategies that have increased both productivity and profitability in village agriculture. In no case did village social organization constrain their activity and in each case the extended family recognized and rewarded the individuals' enterprise by giving them chiefly titles. This sector's failure to attain higher productivity lies not solely, or even primarily, in the social organization of the village, but in rational consideration of the costs and benefits of various economic alternatives.

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Continuous contact between Europeans and Samoans commenced when the Reverend John Williams of the London Missionary Society landed in the Samoas in 1830. The early colonial history of the Samoas was a turbulent one, marked by various colonial powers' attempts to assert their dominance over one another and over the Samoans. Events of the period were made more complex as the Samoans attempted to resolve long-standing internal political rivalries and to resist European attempts to assert dominance. The turbulent history of this period, well documented elsewhere (Gilson 1970), highlighted the need for a more permanent arrangement.

At the turn of the century the Samoas were partitioned in an arrangement designed to rationalize European nations' interests in the Pacific. The islands in the east of the group came under the formal protection of

the United States and became known as American Samoa, while those in the west came under the protection of Germany and became known as German-later Western-Samoa. From that time the nature of political and economic influences on the two groups diverged progressively.

This paper is concerned only with the western group, an independent state since 1962, consisting of four inhabited islands and numerous islets with a total land area of 1,093 square miles on which some 160,000 people reside in some 360 villages. Some 28 percent of the population resides in or around the port town and capital, Apia. The remaining 72 percent of the population resides mainly in coastal villages in rural areas and derives its living from a mixed cash crop and subsistence agricultural regime on some of the 82 percent of the land that remains in customary title (*fanua tau Samoa*) and under the control of family chiefs (*matai*). Remittances from emigrant Samoans in New Zealand, the United States, and Australia supplement the incomes of both rural and urban sectors (Shankman 1976; Macpherson 1981).

The 156 years of contact have been punctuated by numerous attempts to analyze the social and economic bases of Samoan primary production. Most of these attempts were born out of a desire to increase Samoan primary production, albeit for different reasons. The motives of those involved, and the quality of the analyses, varied considerably over the period. Earlier discussions were motivated variously by theological concerns,¹ self-interest,² and a need for Samoan plantation labor.³ These accounts tended to focus on the contribution that primary production might make to the advancement of European and part-European interests.

Later analyses, for the New Zealand administration, were born out of responsibility for overseeing the development of the League of Nations mandate and preparing the United Nations trusteeship for independence (Boyd 1969). These tended to focus on the prospect of economic self-sufficiency for Western Samoa and the contribution that primary production might make to the national economy.

The most recent analyses, for the Western Samoan government and aid agencies, have also focused on village agriculture and the need to stimulate primary production to achieve a higher standard of living for rural villagers, a more equitable distribution of national income, the development of a currently underused national resource, and a reduction of the nation's economic dependence.

The most recent and most comprehensive studies of Western Samoa's agricultural production have identified various agronomic, infrastructural, and social factors that have been thought to be responsible for the

relatively low productivity of village agriculture (Ward and Proctor 1980; Western Samoa 1982a, 1982b; Fisk 1986). While the relative emphasis on each factor varies, the studies identify the same groups of factors.

The analyses of agronomic factors point to various physical and environmental limitations on production. Analyses of infrastructural obstacles have identified the provision of credit, agricultural information and advisory services, marketing arrangements, transport, and commodity price fluctuations (Western Samoa 1982a:30-32). Analyses of social obstacles have identified traditional village land tenure systems, reward for effort, the orientations of producers (*ibid.*), growth in the domestic wage economy, emigration and remittances, provision of services, and the strength and conservatism of the social system (Ward and Proctor 398-400). This paper is concerned with the nature and importance assigned to social factors in these analyses.

These studies tend to portray village farmers as persons who might wish to increase production and to farm more productively but who are hemmed in by tradition and obligations derived from tradition that prevent them from doing so. Thus Hau'ofa and Ward argue that, while specifics of situations may vary,

the social context within which the greater proportion of Pacific Island farmers still operate was largely developed to meet the needs of an integral subsistence system. . . . As a result, present-day farmers in the Pacific are frequently unable to meet the requirements of successful commercial agriculture because of obligations whose origins lie in the older system. Conflicts arise in the allocation of time and capital, in the mobilization of labour, and in the disposal of produce or the distribution of financial returns. (Ward and Proctor 1980:52)

The same authors go on to suggest that

the subsistence based mixed subsistence-cash cropping mode of production, while achieving the initial commercialization of integral subsistence farmers, is an unsuitable vehicle for sustained growth in production and incomes. . . . Little progress is likely to be seen in the agricultural sector until fully commercial operations, generally on a somewhat larger scale, begin to replace the socio-commercial operations now conducted by the vast majority of smallholders. (*Ibid.*:402)

The Western Samoan government has apparently been persuaded to a similar view and noted: "The agricultural sector-the traditional and the most important source of foreign exchange earnings-has not been able to register an increase in productivity or to generate the income in foreign exchange necessary to support the country's development programmes or the people's consumption levels" (Western Samoa 1982b:2). In a series of proposals for the reorientation of agriculture, the government proposed, as a consequence, to "develop and implement projects that help reconcile the need for economic orientation in village agriculture with the traditions and customs of the Samoan people" (ibid.:7; Western Samoa 1982a:20-22).⁴

Such general evaluations of the limitations of village agriculture deserve careful examination, particularly if they are to become the basis of national resource allocation policies (Ward and Proctor: 400-401; Western Samoa 1982a, 1982b). There is a tendency to claim that village institutions and social organization have led to the stagnation of agriculture without outlining the models and the data on which these claims rest and without making explicit the connections between the two. Part, at least, of the pessimism about village agriculture may be due to the models employed to understand production and to locate causes of low productivity. Part is due also to the tendency to employ aggregate data to construct national patterns and the tendency to overlook local variations in the process. Both of these possibilities are considered briefly below.

Some of the models used to explain economic underdevelopment in the Third World have their roots in early modernization theories that sought, and located, the causes in the social organization of Third World societies. This led to criticisms of "tradition," "traditional values," and "traditional social structure." Underdevelopment could be traced, according to these theories, to traditional values and institutions that obstructed some supposedly rational tendency to maximize profit. Only when obstructive values and institutions were identified and transformed could development occur. These assumptions led to an emphasis, some would say an overemphasis, in the models on the limiting role that elements of "traditional" social organization played in production.

These same models tend to overlook the role that extraneous factors play in villages' response to innovations. Villages may react in different ways to the same opportunities for reasons connected with the ways in which innovations are introduced. The limited success of the government's innovative Rural Development Programme, which ran from

1977 to 1982, can be traced to the ways in which the scheme—rather than the village—was organized (Young and Gunasekera 1984:20-24). The availability of remittances from migrants and opportunities for wage work will vary from village to village and influence villages' responses to agricultural development initiatives. It may be that reluctance to become involved owes less to village organization than it does to rational consideration of the returns on various labor investment opportunities. Villages can hardly be held responsible for the labor demands of New Zealand's manufacturing industry!

There are also methodological issues that emerge from the ways in which data on village agricultural productivity become incorporated in statements about national patterns. One might question the validity of generalizations about all Samoan villages. There is a very considerable diversity in villages' responses to a range of phenomena and these are shaped by such things as the composition of leadership and available physical and economic resources. At any one time throughout Western Samoa, the agricultural productivity of individual villages can and does vary considerably, pointing to the limitations of generalizations at this level.

Villages can and do respond in quite different ways to the same opportunities. Responses to initiatives such as new technologies and strategies aimed at increasing agricultural productivity may differ from village to village. It might then be argued that the pessimistic assessments of village agriculture's potential, derived from aggregate data, tend to lead to generalizations that overlook variations within the sector.

Closer attention to village data may still obscure important variations within individual villages. Families respond in different ways to similar opportunities as the case studies below illustrate. Villages in turn respond differently to the activities of innovative families. Some observe and copy while others observe and then seek to limit.

It seems important to go beyond broad generalizations about the poor performance of village agriculture and the role that tradition and social organization play in that performance. The futility of such generalizations is illustrated by the fact that evidence can be gathered for any one of a number of generalizations about the role that villages play in defining agricultural productivity.

The suggestion that village social organization actively *discourages* the adoption of innovations that could increase productivity and transform the economics of village agriculture finds support in national agricultural production statistics, which show that, despite the availability

of improved agricultural technology and a relatively young, vigorous work force, production volumes for most agricultural commodities have declined and continue to do so.

The suggestion that village social organization actively *encourages* adoption of innovation finds support in the fact that Samoans have proved repeatedly, since contact, that they are able to appreciate and capitalize on the advantages of new crop species, technologies, and market opportunities. Some villages have adopted new crops and techniques and have achieved very high levels of agricultural production, which suggests that there is nothing inherent in their organization that leads to an inevitable resistance to innovation.

It is possible to construct yet a third position, which is that villages are essentially neutral to introductions designed to increase agricultural productivity. Evidence can also be assembled to show, as this paper will, that studies of innovators and innovations suggest that village social organization is essentially neutral. It neither necessarily encourages nor discourages those who introduce innovations that increase either profitability or productivity in village agriculture. In each of the three cases presented below, the villages involved allowed the innovators to introduce technologies and strategies without obstruction. In each case it was within the power of the villages involved to intervene, directly and indirectly, in the activities of the people involved.

Even when apparent that the innovations were generating new wealth that had the potential to change the existing distribution of power and influence, those in power in the villages made no attempt to limit or constrain the activities of the people involved. When-and only when-the innovations were demonstrably successful, those who had set them in place were rewarded in each case with positions of authority within either their extended kin groups, the village, or both. In no case could village social organization be depicted as the principal force for or obstacle to innovation.

Case Studies

Refrigeration

Before electricity became available in the villages, food preservation techniques were somewhat limited in Samoa, which meant that food production was necessarily a continuous process. At any given time village or family had to have in production sufficient food for its domestic consumption and a surplus to allow for unexpected, and often large, a

visiting parties (*malaga*) from other villages. Over and above this, further surpluses were generated to meet specific, planned requirements connected with village and family projects, such as house and canoe building. For such projects additional food had to be available to feed and provide gifts for specialists (*tufuga*) and their attendants.

The labor requirement in preparation, planting, tending, and harvesting was significant. Surpluses from one season's crop could not be preserved, so the labor requirement was a recurrent one. The work was heavy and monotonous but was critical to ensure that at any time a village, or a family, had sufficient to meet planned and unplanned requirements.

Continuous overproduction meant that surplus food that could not be stored had to be either consumed by its producer or given to other families, and a pattern of continuous redistribution of food was a part of village life. Those who gave their surplus to others were in due course the recipients of others' surpluses and thus overproduction did not necessarily lead to wastage. It set in place a pattern of reciprocation that permitted a smoothing of supply and demand irregularities while settling old social obligations and creating new ones among those involved in the exchanges.

While some crops could be left in the ground or on trees until needed and while some cooked plants could be kept for several days, meat had a short safe life and was at the center of reciprocation. Thus a family that caught or was given a pig had to dispose of it because they could not keep it long. Pigs were cooked, butchered, and distributed in a process known as the *fa'asoaga ole pua'a* in which specific cuts were distributed in more or less set ways (Te Rangi Hiroa 1930: 119-122). The same was true of fowls, turtles, and fish. Varying degrees of formality surrounded this distribution: in some cases where it was part of a major public ceremony the distribution was highly formalized. In other cases it was an informal and largely unheralded response to oversupply and the absence of a means of preservation.

Irrespective of the degree of formality, the pattern of more or less continuous exchange of food underpinned and sustained other forms of cohesion within extended families and the villages of which they were part. Individuals and families were more or less continuously in one another's debt and debts created in food could be discharged in various other ways. At the center of this dense pattern of rights and obligations was the necessity of distributing temporary surpluses that could not be stored.

Refrigeration transformed this pattern. Electric, gas, and kerosene

refrigerators and freezers made it possible to store surpluses of meat and removed the necessity of redistributing them more or less immediately. While custom and practice favored redistribution, refrigeration meant that it was no longer essential.

The high cost of refrigerator and freezer units, the limited availability of electricity, and the cost of other fuels meant that access was limited initially and the benefits were unevenly distributed. As the benefits of freezers became apparent, interest grew and some of the perceived benefits were outlined in letters to and conversations with migrant children in New Zealand, selected excerpts of which are translated below.

L . . . 's family bought him a fridge with two doors. The top one is not so cold and the bottom one is very much more cold. It is very good for keeping shellfish and now L . . . 's wife doesn't have to go to the lagoon all the time which is good because she is very old like me.

We were given a nice cooked pig at a funeral at F . . . last week. We gave a piece to . . . and a piece to . . . , That was a waste because those families are so lazy. It's a pity we couldn't keep the meat in a freezer at the store.

If you buy a small amount of butter from the store, say a quarter pound, it's almost as expensive as buying a whole pound from Morris Hedstrom wholesale. With a fridge you can store the whole pound instead of just buying the small pieces and paying the high village store prices.

Your father went fishing on his own last week. His fishing friend . . . did not go for several days because he had some fish in the fridge which his children bought him. He is getting lazy now and doesn't go if it gets rough and he has some fish in the fridge. But your father still goes every day even when it's rough. We could put some of our fish in that family's fridge but I don't trust them all the time.

The fridge is very useful. Your sister took the food to the market but there was a lot there and the prices were low in the afternoon when she got there. She brought the food home and put it in the fridge, then she took it back to the market two days later and sold it. It got a better price.

These comments reveal a clear appreciation of the benefits of the technology involved. First, food that is not immediately required can be stored and recycled and can save families from killing stock that they would otherwise have had to kill. Refrigeration may also save families from having to buy stock for *fa'alavelave* (celebrations of life crises such as weddings, funerals, successions to titles, and so on) at prices that reflect sellers' awareness of the buyers' circumstances. Second, the ability to refrigerate food allows people to take advantage of price fluctuations and to exert some control over the circumstances in which they market food crops and fish. The return on certain activities can therefore be increased. Third, it offers people a degree of flexibility. It allows them to vary their activities in ways that were not formerly possible and increases the amount of discretionary time. This is clearly convenient and raises the possibility of using the time to increase productivity.

The technology then has considerable potential that could be exploited by those with an entrepreneurial flair, an appreciation of long-term possibilities, and a relatively small amount of capital, which need not even be generated locally.

These changes however, have a social cost resulting from the fact that food that would have been redistributed in other circumstances is saved. Food that would have been the basis of a continuous reciprocity pattern is withdrawn from circulation. The density of obligations that underpins continuous cooperation is diminished as a consequence. People acknowledge a decline in the amount of exchange but also point to the practical advantages. There is no sense in which a tradition such as the *fa'asoaga ole pua'a* hinders appreciation of the practical and immediate benefits of refrigeration.

Nor does the potential social disruption, outlined below, that refrigeration can cause in established power relations prove to be an obstacle to its introduction. The benefits that come from ownership are unevenly distributed within a village, but the distribution does not necessarily reflect established patterns of power. Migrant children of even poor families can provide refrigerators for their parents and ensure that they derive the benefits that come with ownership. This raises the possibility of social mobility and of disturbing traditional rank-wealth correlations, which might be expected to lead to attempts by those with power to control innovation and its associated benefits. And yet, as the following case illustrates, this is not necessarily so.

A family in a small village in Savai'i bought a refrigerator with money sent from the U.S. by their daughter. The husband and his son were very keen, able fishermen and set out to catch surplus fish, which

they stored in their refrigerator and sold to other families. They kept a few highly prized bonito, which are sought after for important events, because they attract high unit prices.

As others became aware of the benefits of refrigeration, the family offered them the opportunity to "hire" freezer space for a percentage of the goods that were stored in the freezer. As the person involved noted, the hire was made available to discourage others from buying refrigerators and was attractive to users because of the apparently low cost when compared with that of a refrigerator.

The proceeds of "hireage" were resold either within the village or on periodic trips to the Apia market when prices were high and where goods could be sold at a higher price than he felt he could have asked in the village from those who had caught or produced the items. The family did very well financially, invested profits from sale of produce in a range of goods that they sold in a small store, and diversified progressively until, in recognition of their acumen, the older man was offered the family title. a

He acknowledged that the prospect of his accession to the title would have been far less likely in other circumstances. The sons of the previous title holder did not succeed their father, and to this day it is a source of annoyance to them.

He accepted the title and now spends a considerable amount of time working on affairs of the family, church, and village. While he maintains an interest in his business, now run by his wife, he noted that *matai* is often too busy to give a business full attention and must take factors other than profit into consideration in running it. He has complete faith in his wife's management because, as he noted, she is a Samoan and "understands these sorts of things." The business is still profitable but must now carry higher "service costs," which come with his responsibility for the extended family and which he recognizes are necessary to win the support and continued cooperation of those originally antagonistic to his appointment to the title. This "generosity" includes carrying sundry debts, extending credit, providing services free to kinsmen for which he formerly charged, and so on. But, as he noted wryly, it is the cost to secure support of the family, and an essential ingredient in the family's united front and the respect that this has earned them within the village. a

The initial surplus, which might have excited economists and modernization theorists, seemed largely peripheral to the Samoans who recount such stories. The surplus and its exploitation was a vehicle to power within the village; it was used for enhancing the power of the

‘āiga (subgrouping or branch) within an *‘āiga potopoto* (descent corporation), a demonstration of the talents of an individual, and an explanation of the basis of tension between branches of a family—all of which are unrelated to any national or sectoral goals.

Furthermore the beneficiaries made no attempt to establish a monopoly over their “vehicle” to preserve their advantage and acknowledged the impossibility of doing so. They had no interest in doing so because the vehicle had already served their ends. The man noted that since he had been elevated to the *fono* (village council) he had been instrumental in persuading the *fono* to install a village-owned generator and a power reticulation system so that everybody could have power. Similar trends emerge from the study of the use of another innovation, herbicides, by another entrepreneur.

Herbicide

One of the most significant obstacles to large-scale agricultural production in Western Samoa is groundweed control. The weeds grow very quickly and compete with planted crops for moisture and micronutrients in the soil. Their rate of growth is such that they are also capable of shading crop plants, limiting their growth, and even smothering them.

The clearing of groundweed is a difficult task and typically involved considerable amounts of labor. When the labor came from one’s family, it was “paid” for by reciprocation at some later time, often in kind, and by feeding the work force. Where help from outside the family was involved, the work force was fed and usually given a payment of some kind. The larger one’s family, the larger the area that could be brought into production. The ability to increase the area in production to create a surplus insured continuing prestige for the family involved.

But groundweed regenerates very quickly and requires continued control to protect a young crop through to harvest. Thus a continuing supply of labor was required by those who wished to plant crops, labor that had to be paid for in the ways outlined above. A family’s ability to bring a crop to harvest depended on its size and its ability to prevent dissension that might lead sections of a family to withhold labor. Smaller families had either to limit production or secure labor from outside the family, which would have to be repaid in kind. There were marked limits on production that were directly related to the amount of labor available to a group; this fact tended to produce a degree of stability in patterns of social stratification within villages.

Furthermore, large families able to produce large surpluses could manage these surpluses to create significant sociopolitical capital, which ensured their continuing power and prestige within village and district affairs. Samoans have a number of kin groups with whom they may choose to reside and to whom they may give their primary allegiance. Because individuals' prestige is related to that of their kin group, many people tended to align themselves with larger, more powerful groups rather than smaller, less powerful ones. This exercise of options tended to favor larger groups, which tended to grow in size, and to work against groups that were smaller. Furthermore, as groups grew larger, they could bring more land into production and win the sort of prestige that attracted still more members. The stability of village "orders of precedence" (*fa'alupega*) over time reflected this trend.

Transformation of social stratification patterns required significant increases in production, which generated a surplus that could be managed to produce increased sociopolitical capital for a family. Where this occurred other people might be persuaded to align themselves with the group and set the path for still further increases in production. The main obstacle to the transformation of social stratification lay in the economics of production, specifically the labor-intensive nature of agricultural production.

The availability of effective and inexpensive herbicide transformed this relationship between family size and productive potential. It became available through the Department of Agriculture, which sought to increase national agricultural production. Since agricultural production is concentrated in the "traditional" village sector, incentives and subsidies were made available to make herbicide and spraying equipment affordable and attractive to the small producer. The campaigns were a success and herbicide use among small growers became very popular.

The case outlined below shows how an untitled man (*taule'ale'a*) used herbicide to increase his production. The case also shows that the village and kin group, or more specifically those with power within them, made no attempt to obstruct the introduction of a herbicide-based small crop regime or to intervene either directly or indirectly in its operation even when apparent that new wealth represented a potential challenge to them.

A middle-aged small farmer in an Upolu village borrowed a knapsack sprayer from his brother and bought a small container of herbicide from the Department of Agriculture. He cleared a small plot of customary land well beyond the limits of the village with the herbicide and

bushknife. He extended the plot without assistance and planted two lines of vegetables obtained as seedlings from the agriculture department. He used the herbicide regularly to control regeneration of weeds and a pesticide to control damage to the crop. He persuaded the owner of a small truck to take his first crop to market for a percentage of the sales and spent some time talking to other sellers and market officials about prices.

With the proceeds of the sale he bought more pesticide, more herbicide, and more seedlings. He harvested the second crop, salad vegetables, and took it to the market on a Saturday, the day he had been told that many Europeans and salaried Samoans did their shopping. His daughter, who spoke good English, went with him and made conversation with European customers, who were apparently impressed with the woman and the vegetables and asked whether he would be selling the same line again and when. He left the market with requests to hold certain amounts of given lines for particular customers and some produce presold.

Part of the early profit went to buy a small motorized cultivator, knapsack sprayer, hand tools and a second-hand refrigerator. He bought larger containers of fertilizer, pesticide, and herbicide and resold some to other farmers. When theft became a problem he built a small, permanent shelter near his garden and slept there. When wild pigs became a problem he built a pen near the garden, caught them, and with advice began to breed his own for sale. a

He and his wife and children developed an increasingly specialized operation, selling top quality fruit and salad vegetables to a small, relatively wealthy clientele who were happy to pay top prices that were still lower than the price of imports. The business was built on the use of herbicides to increase and then to maintain the amount of land in production, pesticides to control pests to insure top quality products, and fertilizers to insure that crops grew to maturity in terms of volume and timing as closely as possible to meet market demand. Surpluses were kept chilled in the old refrigerator rather than sold at a reduced price and second-grade products were sold in the village. Eventually he bought crops from other producers in the village, who were by now copying his example, but took care to buy to order and bought only the best available. He was thus able to increase the range of crops without carrying the production cost or risks.

The family contributed conscientiously to village and family projects, and as their reputation for dealing profitably with Europeans became established the family won respect from other members of the extended

family and within the village. The daughter was sent to New Zealand and became a conscientious remitter. The man's contributions to the church led to a deacon's seat in the session; his sons' success and several gifts to the school led to a position on the school committee. Of these he valued the deaconship more and marveled at the fact that a person who had only recently learned to read the Bible had been elevated to such positions.

His family split the title and he was offered a title, which he accepted. His oldest son followed his daughter to New Zealand and became a generous supporter. The elder man continued to work in his garden but found that more and more of his time was consumed by village affairs. He has less need of the money now and today maintains the garden primarily to feed his family. He wants his two younger sons to go to college and work in town eventually and encourages them to spend their time studying.

Reflecting on his experience, he noted that he was lucky and that herbicide was a critical ingredient in his success.

At that time, one of my wife's relatives was working in the Department of Agriculture and showed me the trial gardens at Alafua [the agriculture campus of the University of the South Pacific located behind Apia]. I knew I couldn't pay the village to come to help me but I saw where the boys had been using the paraquat with the spray pump. I borrowed the pump from my wife's relative and used the paraquat. I laughed when I saw some of the families weeding their gardens because they don't like doing that work because they get sore backs and get sunburned and so they don't do it often enough. The *matai* is very proud to see the people working and the big garden but he forgets the people get fed up doing that work and that by the time he fed them his profit is all eaten up. They do a better job in their own gardens than in his garden. That's why those things don't work so well. . . . I know my family doesn't mind because our work is easier and quicker. We got better prices for our produce and the European is a good customer because they are all cash and no humbug. We used the plans and the products from the department because we did not have anything to lose. Some people are too proud to take advice, especially once *they* are *matais* and can get the people to work for them.

Here again is a case of a small producer who successfully seizes an opportunity to increase productivity by adopting an innovation. Nor is

there evidence that his motive in doing so was to challenge traditional leadership or social organization. Though he realizes that certain aspects of traditional organization are relatively inefficient, he made no attempt to challenge them directly. Furthermore, throughout the period, he and his household contributed labor to projects as required both by the family *matai* and the village *fono*. The leaders of the village made no attempt to constrain his activities even when his method of capital-intensive agriculture was in more or less direct competition with their own more labor-intensive method and was exposing some of its limitations. In fact, his adoption of innovation led eventually to his co-optation, which again reflects on village attitudes to the use of innovation. Furthermore, the fact that other households sought to emulate his method suggests that he was not the only person disposed to adopt proven innovation in agriculture.

The irony is, of course, that innovation-having provided the vehicle -is no longer needed. Here a person has proven willing and able to embrace modern techniques within a clearly thought-out marketing strategy to generate a profitable surplus and, later, to capitalize on his marketing “network” and sell contacts rather than produce.

This illustrates the difficulty facing those who seek to sustain high levels of agricultural production in the village sector. The same utilitarian rationale that leads people to adopt innovations is used to decide whether or not to retain them. The economic and social advantages of new technologies are recognized and their role in success acknowledged, but after serving as the means to an end their value declines. In this case, even the need for a maintenance regime has declined because the man’s children are now remitting. Nor is the successful strategy passed on, because he has aspirations for his children outside of agriculture, although it might be said to have been passed on to those who continue to emulate him. No part of this case study, however, could be construed as a case of a village actively discouraging the introduction or use of innovation. The same sorts of lessons emerge again in a third case study.

The Chainsaw

Extended kin groups derive their identity from association with a particular piece of land in a given village and a title in which control of the land is vested. In fact, a family is said to be all those connected to the land and the title (*o e uma e tau ile fanua ma le suaʻfa*). Title holders (*matai*) allocated land to kin on which to build houses and for subsistence production. The house sites were generally within villages and the agricultural lands behind the villages.

Matai could afford to be generous in the allocation of land use rights to untitled members of their extended kin group because they were secure in the knowledge that there were real limits to the amount of land that could be cleared by any household unit. This limit was imposed by the available technology, which consisted principally of bushknives and axes, and by the problems involved in maintaining cleared land through the production cycle.

Internal challenges were limited by the difficulty of generating the surpluses necessary to challenge the existing leadership of the extended kin group. This might have been possible if smaller households could have "hired" the labor to generate surpluses, which could have been the basis of a challenge. But since such arrangements would have depended on their ability to feed and pay labor, and since they had insufficient resources to do this, the necessary capital creation never occurred.

Furthermore, *matai* could mobilize the resources of their extended kin group at any time when members could be persuaded that it was in their collective interest to contribute. These resources were ostensibly mobilized on the group's behalf and to enhance its sociopolitical prestige. Skillful, public disposition of these resources in ceremonial contexts could also enhance a *matai's* personal prestige. Regular calls on a kin group's production for such events limited capital accumulation by members, insured that *matais* had the resources to consolidate personal prestige, and in the process limited the prospect of internal and external challenges to their dominance.

The chainsaw was another contribution to the drive to increase productivity in village agriculture. Its potential is considerable, permitting more rapid clearance of forest and more effective utilization of the land thus cleared. The chainsaw transformed the relationship between the size of the domestic unit, its production potential, and indeed the return on its labor. Virgin forest could be cleared and brought into production more quickly. Fallen trees could be cut into small sections with a chainsaw and removed, where before they would have been left because of the difficulty of cutting them up for removal. Thus smaller areas of land could yield the same "effective areas" much more quickly and profitably than had been possible previously.

Furthermore, smaller groups could clear and manage larger areas more quickly and efficiently than had been possible previously. With this arose the possibilities of creation of surpluses that they could not have attained previously. The following case illustrates this process.

An untitled man of some fifty years of age used a gift from his son in the United States to buy a chainsaw. To the amusement of friends and

family he sought and obtained permission to clear about fifty acres of land. He reasoned that

I have a small immediate family [domestic unit]. I knew I couldn't make a big plantation. I couldn't have paid the people to come and weed a big plantation all the time because I would have had to feed them each time. If I wanted to do that I would have had to run up a debt at M . . . 's store. I've seen some people in our village run up such a big debt that they used most of the profit to pay the debt.

I know the people respect the family that can pay the women's committee [*Komiti o le Tumama*] or the youth club [*'au talavou*] to do the weeding and can feed them. But I thought that if I only used the chainsaw, I would only have to feed my family and the chainsaw. When we finished our job we wouldn't be saddled with a big debt. . . .

I didn't care when people thought I was crazy to start on a big job like that. I didn't care if people knew I couldn't feed them . . . and in any case some people might have thought that I was trying to act big if I started out like that.

He felled the first large trees near an access road and, instead of burning them, cut them into heavy, rough-sawn planks that he sold to people for house building and to a milling company for further milling. He used some of the timber to stake his crops and to build a stockyard and pigpen in the cleared area near the access road, where they were visible to those passing on the way to plantations.

Interest shown in his projects led him to "mill" timber for others wanting to build these relatively cheap pens. After he had planted his first crop in the cleared area, he continued felling and selling timber for construction and firewood. He invested in a larger, special purpose chainsaw to mill planks and some chainblocks and a winch to move heavier timber about, and continued to fell timber further away from the access road as planting and maintenance allowed. Timber that could not be sold was exchanged for cattle and pigs.

The enterprise was very successfully financially and his ability and willingness to contribute both cash and goods to various family, village, and church *fa'alavelave* were recognized and acknowledged. His immediate family's standard of living rose, but their modest material aspirations and sense of responsibility meant that they continued to recognize obligations to others.

Before long he was offered and accepted a *matai* title in the family that he had served for so long. Now his recognized talents have been harnessed in the administration of the affairs of his family and of his village, on whose council he now holds a place. As he said on reflection, "There is a saying in Samoan, that the road to power is service [*ole ala ile pule ale tautua*]. Well, I suppose it's true but in my case I suppose you could say that my path to power was the chainsaw [*ole ala i la'u pule ole ili afi*]. Without the saw I might still be serving."

Neither the family nor the village actively offered obstacles to his employing new technology, indeed a technology with the potential to challenge the existing distribution of power and wealth within the village. In fact, they patronized his venture and contributed indirectly to its success. When it was successful, they formally recognized his industry and entrepreneurial talents and sought to incorporate those skills in the management of family and village activities.

There is a further irony in this case. Here someone with a migrant child on whom he might have come to depend for remittances chose to set up a venture and continue to expand production even when it was, strictly speaking, unnecessary.

Discussion

These case studies provide evidence of an appreciation of the economic advantages of specific innovations, a flexibility within village social organization that permits their adoption, and a willingness on the part of individuals to employ them effectively and productively. To argue as some analysts have that Samoan village social systems are inimical to innovation is, as Pitt (1970) has noted, to misunderstand their potential. E. K. Fisk, in a recent summary of trends in Pacific agriculture, noted that villages' contribution to failure has resulted because the "operation, and thus the potential of the mixed subsistence/cash sector, has not been properly understood and taken into consideration in planning agricultural development" (1986:2).

The "problem" may in fact reside in the limitations of some models used by planners to understand economic underdevelopment, which sought the causes in elements of the social organization of Third World societies. This approach to the problem of underdevelopment led to preoccupation with the limiting role played by "tradition," "traditional values," and "traditional social organization" because the identification and transformation of obstructive values and institutions were consid-

ered prerequisites to “economic development.” These assumptions led to an emphasis, some would say an overemphasis, on the role that social organization played in shaping production and a corresponding under-emphasis or neglect of the role of extraneous variables.

This is not to suggest that social factors do not influence patterns and levels of agricultural production. But low levels of agricultural production have been attributed to village social structure when in fact farmers’ decisions about production recognized and took into account a number of other factors. How then *does* the social organization of a village influence the agricultural production?

There is evidence that interest in, and enthusiasm for, innovation is influenced by individuals’ aspirations within the village and by whether or not, in their view, it can serve to attain those aspirations. The difficulty for those who seek to increase production in this sector on a permanent basis to attain national economic and political goals may not be in finding entrepreneurial villagers to adopt innovations that improve productivity, but in persuading the same people to maintain productivity after the innovations have served their aspirations. Inasmuch as this is true, the village may have an indirect impact on decisions about agricultural production. But this stops a long way short of some deliberate and active attempt on the part of elements of social organization to constrain the efforts of those who seek to increase production.

A distinction must be made between limitations on production that result where individuals choose to vary production levels as a consequence of rational evaluation of various alternatives or as they redefine their personal goals, and those that are determined or constrained by the elements of social organization, specifically village or family.

In fact neither the village nor the family has reason to constrain production, since village institutions typically benefit when those who create new wealth “invest” within the village. By bestowing *matai* titles on such people, they lock them and the resources they control into patterns of rights and obligations. The greater the resource that can be thus locked in, the more power is potentially available to the village. This was certainly the case in each of the case studies.

But even if one allows that the social organization of the village defines, or at least influences, aspirations and the amount of production required to attain them, it is certainly not the only factor that determines farmers’ decisions about agricultural production. If the village is essentially neutral to innovation, a more productive approach to explain productivity in the sector may be to identify the factors that

shape the production decisions of individual farmers. This involves a somewhat different unit of analysis and will lead to consideration of factors both within the village and outside it. a

One factor that has shaped production decisions of Western Samoan farmers has been the availability of opportunities for nonagricultural employment outside of the village. The disappointing performance of the sector in the last twenty-five years stems as much from the relatively high levels of outmigration from villages to the capital, Apia, and from Western Samoa as it does from village social organization. In this respect it simply reflects the fate of many peripheral states in the world system in similar circumstances. As Shankman (1974) noted, the demand for low-cost labor in industrializing nations led to high levels of emigration from Western Samoa. Most emigrated to New Zealand, but smaller numbers moved through New Zealand to Australia and through Pago Pago to the United States. This migration impacted on Samoan primary production in three ways.

First, those who began to receive remittances from migrant kin overseas could and did reduce production. Shankman's work graphically illustrates the relationship between remittance levels and agricultural production volumes. Because New Zealand immigration regulations favored younger, able-bodied people, many of those who migrated were the people who could have been expected to make a significant contribution to agricultural production. The impact of this phenomenon differed from village to village. Those with more remitters abroad could afford to reduce production more easily than those with fewer.

Furthermore, many people who remained but who expected to migrate were reluctant to make long-term commitments to agricultural development from which they would not ultimately benefit. The choice between an investment in agriculture and an airline ticket was not a difficult one for many people. This led to a tendency to defer production by significant parts of the village work force and undoubtedly contributed to a decline in agricultural production. It was, however, an entirely rational decision on the part of those involved as the following statement suggests: "When my brother said he would get me a job in New Zealand, my father told me not to worry about extending the plantation. It was sensible because I knew I could make much more money in one week in a factory than I could make in one year in the plantation. I got a job driving my family's taxi in Apia to save some money for the family and for my fare."

Second, the growth of opportunities for waged and salaried nonagri-

cultural work outside the village, and the prestige these enjoy in Samoan society, attracted many talented young people who might otherwise have been expected to make a significant contribution in village agriculture. Thus it is not uncommon to hear young people in Apia say: “When I first came to Apia to get a job in the office I was embarrassed because I thought everyone could tell I was from ‘the back’ [a colloquialism for rural villages]. I liked our village but I did quite well at school and my parents told me that it was a waste for me to stay and work in the plantation because I had a good head. I was sent to Apia to get a job and my parents hoped that I would go to New Zealand.”

The collective effect of numerous such decisions made in villages throughout Samoa would have been to displace the sort of talent that might have increased village agricultural production. It is certainly not the action of a conservative group seeking to bolster tradition.

Third, in some villages that established migration “chains” early, the levels of outmigration were such that after a relatively short period they had high dependency ratios, which would have limited their capacity to sustain production at premigration levels—much less generate surpluses—even if they had considered it worthwhile to do so.

Whatever the “real” reason for poor sector productivity, migration, aid, remittances, and the temporary reduction in population growth rates in the 1960s and 1970s relieved some of the pressure for increased productivity. But a combination of factors has meant that pressure for improved performance in the sector is again growing. Slow growth in the domestic economy has limited opportunities for nonagricultural wage employment. Economic restructuring in the nations to which Samoans migrated may have spelled the end of the labor demands that generated opportunities for large-scale emigration from Western Samoa. Also, economic recession in the states to which Samoans migrated, high rates of inflation in Western Samoa (Western Samoa 1982b:3; Cole and Parry 1986:13), and the devaluation of the Western Samoan *tala* have led to significant declines in the real value of wages and of remittances sent to Western Samoa.

Declining prospects of outmigration, slow growth in the small domestic wage sector, and the lower levels and reduced purchasing power of remittances may force villagers to reconsider the possibilities of agriculture as a means of sustaining a standard of living to which they had become accustomed, or attaining one to which they aspired. The coincidence of these factors might seem to provide the preconditions for stabilization of the rural population and for increased primary production.

It also necessarily refocuses attention on the role village production plays in the national economy and raises the old question of whether it can, as presently organized, attain the levels of production which are sought. It may well be that the village farmer's evaluation of the value of increasing agricultural production under these conditions will reflect a rational awareness of changes in the opportunity structure.

Pessimism about the sector may be less productive a response than the provision of information that will allow farmers to appreciate the nature of structural changes occurring outside the village and their significance. If past decisions about production have rationally incorporated data on the significance of the growth of external labor markets, there seems to be no good reason why data on the contraction of these markets should not be equally rationally incorporated. Such an approach may be more constructive than lamenting the constraining role of tradition.

The Western Samoan government clearly believes that this is so and anticipates tapping potential production in this sector by harnessing, rather than eliminating, tradition. In a report it proposes to "increase production, particularly in the case of village agriculture, by working through existing leadership and social organisations" (Western Samoa 1982a: 18). There are good grounds for confidence in existing organization and leadership: these regularly mobilize considerable amounts of capital and labor to create major assets. Nor is there good reason to suppose that village organization per se offers an obstacle to increased production, as the above cases suggest.

But the task is a formidable one because the same village structure that is capable of mobilizing considerable amounts of labor, capital, and leadership to build churches, schools, access roads, and various other community amenities is also capable of determining the range and duration of projects for which a community may be mobilized.

The challenge for planners may be to provide information that persuades people in the sector that increasing agricultural production is the most rational use of effort at this time. Leaders have first to be identified and persuaded; because of the variability in leadership within villages, a single approach to this problem is unlikely to succeed. This task should become easier as people become aware of the consequences of changes taking place outside of Samoa. The transformation of labor markets outside of Western Samoa is already being felt in fewer opportunities for migration and reduced value of remittances from migrants. Once leaders persuade individuals in families and villages that increased agricultural production represents the most constructive re-

sponse to the situation, there is no reason to believe that the village or family per se will act as a constraint. In short, there is more ground for optimism than is typically supposed.

NOTES

The cases on which this paper is based were studied in the course of research into Samoan indigenous medicine in Western Samoa in 1980. Cases were encountered, rather than sought out, amongst the author's relatives and friends in three villages. Information was also subsequently collected from relatives living in Auckland, New Zealand. I am indebted to La'avasa Macpherson for perceptive comments on an earlier draft. The research was supported by the University of Auckland under its sabbatical leave provisions.

1. Missionaries sought to instill the habit of productive labor in their converts in the hope that it would lead to the decline of the most "objectionable" aspects of tradition (Pitt 1970: 19).

2. Traders' interests in increased primary production were born primarily out of self-interest, because they depended on Samoans growing and selling commodities to obtain cash to buy European trade goods (Gilson 1970:182-183). Their profits, from the resale of primary produce and trade goods, were related to the volumes of production they could acquire from the Samoans.

3. Plantation owners sought to engage Samoan wage labor, which yielded small but regular incomes. They presumed that this would prove more attractive than subsistence but were unable to attract sufficient numbers of Samoans into this work at rates that they considered economic (Gilson 1970:182-183) and had eventually to employ indentured Chinese and Melanesian labor to work the plantations (C. H. Grattan 1963:356,357).

4. This statement seems to confuse economic and commercial orientation. It is incorrect to suggest that village agriculture is "an-economic" simply because attained productivity falls short of attainable productivity. There can be no suggestion that village farmers lack an economic orientation. The orientation of village farmers is most accurately described as "sociocommercial."

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