THE ECONOMICS OF VILLAGE BALI: THREE PERSPECTIVES

by
Mark Poffenberger, Ph.D.
Mary S. Zurbuchen, Ph.D.

In thinking of "economies," one may call to mind large quantities of statistics and concepts such as gross national product (GNP), per capita income, import/export trade balance, and so forth. Yet, in many countries of the world, where the focus is on mass economic change through development planning, the very arena of proposed change, that is village, is difficult to characterize in terms of macroscopic, national level goals and strategies favored by "development" experts and governments alike. Once inside a village, it may be hard to describe what constitutes a "family income," say, as it is to get a grasp of some abstract religious concept. Neither is necessarily identifiable according to a fixed procedure based on firm scientific principles. The boundaries of the village "economic sphere" are continually emerging and then disappearing amid a haze of other socio-cultural phenomena, history, politics, demography, religion, social structure. To contextualize the economic aspects of a village family may be as worthwhile a goal for economic studies, however, as large-scale survey research.

For more than a century Bali, considering its size, has been one of the most intensively studies peasant societies in the world. Yet for all this inspired study, few scholars have attempted to analyze the workings of a village economy that has supported a culture renowned for elaborate ways of expressing itself. Over the past 20 years or so five authors[1] have written on aspects of Balinese economy. Raka's study represents the first attempt by Balinese to discuss the islands economy and contains a macroscopic view of broad agricultural patterns and import export trade based on government statistics. It provided "baseline" economic data that would be recycled in late articles on Balinese economy, yet it tells us exceedingly little regarding the inner workings of family and village economy. Eighteen years later Willard Hanna Partially bases an article on Raka's findings. He takes a broad perspective on the impact of "new rice" (high-yielding varieties), basing his findings on provincial level statistical data. Once again we learn regarding the impact of this agricultural innovation on village economy.

Ruth Daroesman wrote one of the most recent economic studies of Bali. Again we have a macroscopic, provincial level analysis of economic development. Such Studies focus on economic phenomena, which fit into western models and concepts of economic systems, such as industrial manufacturing, unemployment, and large scale, capital-intensive projects. The fact that only .2% of the population of Bali is involved in

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[1] GuGusti Gde Raka, *Monografi Pulau Bali* (Jakarta: Pusat Djawatan Pertanian Rakjat, 1955); Clifford Geetz, *Peddlers and Princes: Social change and Economic Modernization in Two Indonesian Towns* (Chicago: University of Chicago Press, 1963); Willard A. Hanna, "Population and Rice," *American Fieldstaff Repots,* Southeast Asia series 20, no. 4 (1972): 1-9; also, Bali Prolifile (New York: American University Fieldstaff, 1976); Ruth Daroesman, "An Economic Survey of Bali," *Bulletin of Indonesian Economic Studies* 9, no. 3 (1973): 28-61; I Ketut Sudhana Astika, "Pengaruh social ekonomi program intensifikasi padi di desa Abiansemal" [The socioeconomic effects of the intensification program in Abiansemal], Primsa 7, no.1

manufacturing, or that unemployment as defined in such studies has little meaning in the context of a peasant society, or that large capital-intensive projects (such as the Nusa Dua Tourist Development Plan) can be explicitly designed to have minimal impact on Balinese village culture and economy, has not reduced the dependence of such studies on western Models. We are not trying to say that provincial level economic analyses are never useful; indeed, in some instances they are important and informative. The point is that the economic systems in which the vast majority of Balinese live are virtually unstudied, and analysis with such theoretical tools does not make them more accessible or understood by students and planners.

There are, however a few studies that help to illuminate some localized economic patterns operating in Bali. Clifford Geertz has written about Balinese economy patterns operating in Bali. Clifford Geertz has written about Balinese economy based on data collected in the field, discussing how high-caste groups in a district town in western Bali have used their traditional social positions to move from political leadership to economic leadership. I Ketut Sudhana Astika's recent study of a small sample of farmers identified village-level economic changes resulting from the adoption of new rice technology. It is clear that if we are to understand the complex nature of traditional and changing village economic patterns we must look for our data and theories within the village itself.

The purpose of this study is twofold: first, to develop a strategy capable of revealing aspects of Balinese village and family economy, and second, to gain a greater understanding of specific patterns of change at work within that economy. The strategy selected is based on the close observation of economic activities in a few communities in southern and eastern Bali. While the patterns documented in the study may not be taken to be generalized for the whole of Bali, it is likely that similar modes of economic activity are ongoing in many communities throughout the island.

As Geertz[2] notes, such case studies can delve intensity into specific phenomena that are of larger trends as well as weave a realistic context in which the phenomena take place. This study will focus on three spheres of activity selected on the basis of their importance to village members as major elements in their economic perspective. The three spheres include:

1.The *sawah (*wet-rice agriculture) system, which has traditionally been and continues to be a focal point of the lowland peasant economy, and the changes within the system, both internally and in relation to the rest of economy, as a result of the introduction of new-rice technology.

2. Income patterns within the village are increasingly diversified due to the growth of marketing systems, monetization, population pressures on land, and a number of other factors.
3. Ritual (or ceremonial) activity, an aspect of Balinese culture that has long been discussed and written about, but never analyzed from an economic viewpoint. How do the Balinese manage to put on continuous ritual displays, and what social and economic factors support expenditures?

It is important to note that the categories devised to break down a complex, manufactured phenomena such as " economy" are conceptual, not entirely discrete divisions, but such frameworks are necessary to any analysis. Focusing on these spheres

[2] Geertz, *Peddlers and Princes: Social Change and Economic Modernization in two Indonesian Towns*, p. 142.

of economic activity and specific experiences of village families, an attempt will be made to create an understanding of patterns of tradition and change in Balinese village economy. The aim of this study is thus not only to help to remedy the paucity of localized data and ethnographic contextualization in the field of Indonesian or Balinese economic studies, but also to point out new directions which further studies may take in an effort to balance modernization goals and development planning with truer perception of the economic fabric into which the lives of all Indonesia's people are woven.

"Sawah": Tradition and Change

In the history of pre-mechanized agriculture few societies have ever achieved the high levels of productivity characterized by wet-rice farming in Bali. With traditional technology, the Balinese peasant could produce twice as much rice on his land as his neighbor the Javanese farmer[3], whose techniques are by no means unsophisticated. How have the Balinese done it? It appears that four factors are central to their traditional success as rice farmers. These include the fertility of the Volcanic soil, a highly complex technology and corresponding knowledge of wet-rice agriculture which allows the Balinese to make maximal use of environmental systems and resources, an organizational system (subak) capable of coordinating use of man power and resources, and genetic strains of rice selected over thousands of years for their disease resistance, productivity, and beauty.

However, by the mid-twentieth century, and as consequence of continuing population growth, Balinese farmers were having difficulties meeting an ever-growing demand for rice. The government's construction of large dams increased water supplies and the amount of *sawah* hectarage available; however, relentless population increase quickly compensated for these gains. In the early 1970's the government began to intensify its program to raise agricultural production-BIMAS (Bimbingan Massal [Mass guidance])/INMAS (*Intensifikasi Massal* [Mass intensification]). The program was based on peasant adoption of a whole system of wet-rice agriculture, including new hybrid seeds, petrochemical fertilizers, insecticides and pesticides, tractors, and rice mills. To make the new technology, which required considerable capital investments, available to farmers, the government extended credit to peasant farmers on a generous basis. The new-rice (*padi unggul*) system offered a number of advantages. The new strains matured in 90-100 days, s opposed to 160 days of more for traditional strains, and were said to give 50% greater yield than traditional rice. The new rice caught on quickly, particularly in the coastal plain of south-central Bali (e.g., the lower-elevation regions of Tabanan, Badung, and Gianyar districts). Many small farmers in these regions, particularly farmers, found that they could not afford to pass up the greater income made possible though the new-rice technology and easy credit extended by the government. By the mid-1970's perhaps 80%-90% of the farmers working in fields in Sukawati district, where we lived, had joined the BIMAS program.

In the following pages the impact of this important transition will be analyzed. What have been the consequences of adopting new rice for the Balinese family or village economy? What are the long-term implications of new rice for cultural ecology of lowland agriculture in Bali? While the information and understanding capable of providing clear answers to these questions have not yet appeared, from discussions with

[3] *Hanna, Bali Profile, P.96.*

farmers in east and central Bali certain patterns emerge which begin to illuminate these other issues. These data, as well as island government statistics related to the spread of new rice, will be analyzed to suggest patterns of change and their implications for the Balinese *sawah* system. But in order to understand the impact of new-rice technology, we need first to examine the traditional *sawah* system more carefully.

Wet-rice agriculture is the nexus of Balinese lowland economy. This is hardly a new development. Wet rice (*huma*) is mentioned in the earliest known Old Balinese inscription (*prasasti*) dated A.D. 882.[4] It seems quite likely that the origin of *sawah* cultivation on Bali dates back to the beginning of the first millennium or earlier. The development of wet-rice agriculture was fostered by abundance of water and fertile soil, and this fertility of the land has long been evoked as an explanation for Bali's prodigious yields. Still, even the most fertile fields would have been exhausted after hundreds of years of use had it not been for Balinese farmers' ability to prepare and replenish the nutrients of the soil. Traditional fertilizers rely primarily on ash, decaying organic matter, and cow manure. Peasant families have traditionally owned one or more cows for fertilizer production and plowing. The farmer also follows a cropping system where dry and wet crops are rotated and the land is given sufficient fallow time. Through such a system the bacterial balance of the soil can be maintained at an optimal level, replenishing nutrients and at the same time minimizing crop losses resulting from fungal plants disease and a variety of insect pests.

The preparation of the soil is crucial in traditional methods of wet-rice agriculture.[5] After each harvest the stubble and unusable stalks are burnt along with leaves and other organic matter in the fields to provide nutritious ash. Next the fields are hoed. This exposes the soil to air and light, mixes the ash into soil, and makes it easier for the fields to be plowed. The fields are then flooded. Cow manure is then spread over the flooded fields, after which they are plowed several times until the soil is reduced to small clods. All undecomposed organic matter, which can facilitate plant disease, is removed at this time. The soil is then worked into a fine, smooth mud level surface created by dragging a heavy wooden bar pulled by a cow or buffalo across the field.

Once the sol is ready, bundles of since shoots are brought from adjacent nurseries where the seed has been sprouted. Without the aid of strings or measuring devices each seedling is precisely placed next to its neighbor, neither too close nor too distant. Thus, the farmer makes maximal use of every square inch of his plot, at the same time not crowding his plants, insuring maximum levels of production.

In the first few weeks after transplanting, the fields are carefully weeded with long rakes. This insures that only rice plants take advantage of the fine growing conditions. Throughout the growth of the crop the rice's water supply is carefully regulated according to the plant's needs. During the first month or so of growth, the fields are frequently flooded and a standing water level of several inches is maintained. As the crop begins to mature the fields are flooded less frequently and the soil is allowed to dry out periodically. Throughout the growing period of the crop, farmers frequently inspect

[4] Roelof Goris, *Prasasti Bali* (Banding: Universitet Indonesia, 1954), 001: Sukawana Al, pp.53-54.
[5] For reasons of brevity, we are not able to go into one fascinating and important aspect of rice farming in Bali, namely, the cycle of ritual and offerings accompanying each stage of agriculture work process, a cycle whose focus is the fertility goddess Dewi (or Bhatari) Sri.

the plants for insects and other pests, which if detected, are quickly dealt with in a variety of ways.

As the rice begins to develop heads of grain, the farmers construct elaborate systems toward off birds. Scarecrows, bamboo poles, wind driven noisemakers, flags, and streamers are used to this end. As the crop ripens and the heads of grain begin to lodge, the farmers guard their fields around the clock to protect them from birds during the day and field mice at night. When the crop has ripened, the first cutting is made. During this process the farmer carefully selects the healthiest rice with the largest heads to be used as seed in the following planting season. Thereafter the crop is harvested with the help of friends, relatives, or the harvesting association known as *seka manyi*.[6]

During the rice harvest a line of harvesters will work their way across the field cutting each rice stalk individually, with a tiny, hand-held blade, approximately 12 inches below the head of grain. This careful cutting insures a minimal amount of loss during harvest. Once all the rice is cut it is gathered into bundles known in the Sukawati area as *seping*. The seping are then carried to the farmer's rice barn where the rice can be kept in bundles for years without spoilage. *Seping* can then be removed, threshed, and hulled as needed for family consumption or sold in the *pasar* (market) when cash or other good are required. Thus, the wealth from the harvest was traditionally stored in the barn and only traded for other items as nee arose.

Wet-rice agriculture, especially as practiced in Bali, is far too complex and requires too much regulation, particularly in coordinating use of irrigating systems, for one farmer to practice alone or even in conjunction with a few others. Consequently, a highly specialized form of agriculture association has evolved over the centuries to coordinate the maximal usage of the environment for the growing of wet rice.[7] These irrigation cooperatives, known as *subak*, are responsible for the allocation of water resources and maintenance of irrigation networks, for coordinating planting, and for insuring that all religious rituals to insure good harvests are performed. *Subak* organizations are usually comprised of all individuals owning land irrigated by a single dam.[8] The water from a single *subak* dam may be divided into dozens and even hundreds of channels to irrigate the terraced *sawah.* In determining the many issues involved in wet-rice cultivation (when to plant, who is responsible for cleaning and guarding canals, regulating water flow, etc.) group votes are taken. Each subak member has one vote regardless of the size of his holdings. Generally, all *subak* leaders are elected by group decision. Thus, for all the peasant farmer's expertise in using his environment for wet-

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[6] Seka *manyi* are frequently run by the neighborhood organization, the *banjar.* Under this system, *banjar* members must help community farmers harvest. In return, the farmers give *seka* workers one-tenth of the harvest, which is used by the banjar organization for financing neighborhood projects and festivals (some seka manyi divide their wages-in-kind individually, and some use both systems). Other wet-rice cooperative work organizations include the *seka pajak (plowing), seka mula (transplanting), seka numbeg (hoeing), and seka majukut (weeding). However, these groups, unlike the seka manyi, are always independent of the banjar. Member work on other members' lands in return for tobacco and drinks or earn wages working as a group for nonmembers.*

[7] "Irrigation cooperatives are discussed in Balinese edicts written in 1022 A.D., 44 years before the Normans invaded England" (Terence H. Hull, "Where Credit Is Due," photocopied [available from the author at Australian National University, Canberra, 1978]).

[8] Clifford Geertz, "Tihingan: A Balinese Village, " *Bijdragen tot de Taal-, Land en Volkenkunde* 120 (1964): 1-33.

rice, without the *subak* to coordinate activities it is unlikely that the *sawah* system could ever have reached its current level of pervasiveness, efficiency, and productivity.[9]

Now that we have created a picture of the traditional *sawah* system of Bali, let us examine the rise and impact of new-rice technology. As was noted in the beginning of this section, many small farmers in south Bali rapidly adopted new rice during the early 1970s. Local farmers seem to have been motivated by a combination of negative and positive forces. Over the past 100 years population growth has greatly diminished the size of landholdings. While the average farm family owns only approximately a third of a hectare of *sawah*, many families do not even have this much. In a recent study of new rice in one area of south Bali, it was found that. In a recent study of new rice it was found that, while the average land-owning family possessed .3 hectare of sawah, the average tenant farmer held less than .2 hectare.[10] Further, most tenant farmers must give two-thirds of their harvest to the owner of the land. Consequently, considering the minute size of their holdings, many farmers particularly the poorest ones, had much to gain from the benefits the BIMAS program had to offer. Three key enticements included: (a) the possibility of larger harvests from new hybrid seed, (b) more harvest per year (often two to three new rice crops per year as opposed to one traditional crop) made possible through the short period of malnutrition required by the new strains, and (c) easily available credit to finance the new-rice technology. Within a few years many of the farmers in the southern, lower-elevation areas of Bali had shifted their hectarage from the traditional *sawah* system to the new-rice technology. In Table 1 we can see the dramatic shift to new rice that continued to occur between 1974 and 1977 in the south-central region of Bali (consisting of the five regencies of Tabanan, Badung, Gianyar, Klungkung, and Bangli). It is also interesting to note the lack of expansion of new rice and comparatively small area distribution in the east Bali regency of Karangasem.

TABLE 1: PROPORTION OF SAWAH LAND PLANTED IN NEW RICE BY REGION AND REGENCY (1974 & 1977)

Region and Regency	1974 (%)	1977 (%)
Eastern Region:	(31)	(31)
• Karangasem	31	31
South-central Region:	(48)	(71)
• Tabanan	47	70
• Badung	56	77
• Gianyar	37	49
• Bangli	57	69
• Klungkung	67	90
Northern and Western Region:	(37)	(46)
• Buleleng	42	36
• Jembrana	25	65

Source: *Laporan statistik pertanian* (1974), Dinas Pertanian Daerah TK 1, Bali; *Laporan statistic pertanian tanaman pangan* (1977), Dinas Pertanian Propinsi Daerah TK 1, Bali.

[9] For a more complete discussion of the workings of the subak organizations, see F.A. Liefrinck, "rice Cultivation in Northern Bali," in *Bali: Further Studies in Life, Thought and Ritual*, ed. J. L. Swellengredbel et al. (The Hague: W. van Hoeve Publishers, 1969), pp.3-73; see also Geertz, "Tihingan: A Balinese Village, " and "the Wet and the Dry: Traditional Irrigation in Bali and Morocco," *Human Ecology* 1, no. 1 (1972)

[10] Astika.

Note: percentages for regions are in parentheses.

While initial production levels under the new-rice system rose considerably, farmers also began facing a wider range of problems. The new rice, which could yield harvests 50% higher than those possible under the traditional system, could do so only under optimum, production could drop off dramatically. Let us briefly examine how the same three factors listed above, which initially attracted farmers to the new rice system, have begun causing problems.

Farmers quickly found that the new-rice strains could suffer greatly from any irregularity in water supply or unusual coolness in the weather. Because new rice matures so quickly, any undesirable weather will have a much greater impact on the plants than it would on the slower-maturing traditional strains. Also, since the new rice is less than half the height of traditional plants, it is more prone to have problems with variations in field water levels.

Low yields reported for the 1977 new-rice crop have been explained as the result of the extended dry season.[11] Further, some farmers in the hilly, northern areas of Tabanan, Gianyar, and Karangasem who have received may be related to the higher, cooler elevations at which their fields are situated.

While the new rice is proving considerably more susceptible to water and climatic variation than traditional strains, the new agricultural system seems to have resulted in an increasing incidence of certain disease- and insect-related problems. Since new rice was introduced and – some farmers believe- as a consequence of its introduction, an insect, *wereng* (*Nila-parvata lugens*, brown plant hopper), has been causing serious damage to both new and traditional rice crops. It has been suggested that the continuous and rapid cropping of new rice has fostered the growth of the *wereng* pest by giving the worms a fixed place to breed and live (in the stalk of the rice plants). Traditionally, insect pests such as *wereng* were controlled by a staggered planting system, which would keep the insects from getting out of control through continuous reproduction. Under the new-rice system attempts have been made to control the *wereng* pest through the intensive use of pesticides and the introduction of new wereng-resistant rice strains (IR 36,38, etc.). Unfortunately, the wereng have acquired to resistance to some insecticides (though many have been exterminated).[12] Further initial planting of the new wereng-resistant strains indicates that they are also susceptible to the bug. The worm first began to take heavier toll in far western Bali (Jembrana) in the mid-1970s and, more recently, spread to Sukawati district. In the next four harvests local Sukawati farmers suffered heavy crop losses. Farmers reported that in the past they considered a 30% crop loss for the *subak* as a whole extraordinary large but are now finding that if their new-rice fields become badly infected with wereng the harvest may be very small indeed.

Farmers using the new rice also found that it was essential to use sufficient quantities of fertilizer at precise intervals if they were to obtain large harvests. If the fertilizer was late in being shipped into the local depot, or if the local BIMAS office was unable to extend credit at the proper time, fertilizing schedules could be thrown off and harvest could suffer.

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[11] "Kemunduran Bimas dan Inmas di Bali banyak dipengaruhi musim kemarau panjang," article in the *Bali post* (May 6, 1978).

[12] "Wereng, dan kontradiksi penemanuan baru," *Bali Post* (May 11, 1978).

As a result of these problems some farmers have found that, while the new rice indeed give 50% greater harvest than traditional rice, frequently the optimum environmental conditions prerequisite for such harvests are unobtainable, and, when this occurs, harvests can be far below those usual with traditional rice strains. Yet aside from the increased incidence of wereng, other problems are arising as a result of the continuous-cropping system. Some farmers are finding that the accelerated cropping pace of new rice is causing an increased frequency of fungus diseases. Further, farmers who desire to crop new rice continuously have to raise the amount of petrochemical fertilizer with each successive planting. Because of the continuous drain on the fertility of the soil, the first time a hectare of sawah is planted with new rice a farmer must apply 200 kilograms of fertilizer, while the second planting requires 300 kilograms, and the third must have 400 kilograms if the yield is to be maintained.

We have noted that, in shifting from traditional rice strains to the new high-yielding varieties (HYVs), Balinese farmers have become dependant on BIMAS for the supply of hybrid seeds, fertilizer, insecticides, and the credit to purchase these essentials. We have also indicated some of the problems that have arisen as a consequence of the transition from the traditional sawah system to the new-rice system. A range of other changes have occurred in the manpower and technology used to produce new rice. Rototillers have been introduced and are replacing (or displacing) traditional plowing and hoeing groups. These small tractors dig deeper than the plows, mixing the poorer, deeper soil with rich topsoil.[13] This forces the farmer to add additional fertilizer to bring the fertility up to its formal level. Many farmers have sold their cows, since they are no longer required for plowing or producing fertilizer. Mechanized rice mills have caused displacement of groups of women who used to thresh and husk the rice with traditional metal-tipped bamboo pole and woven tray. According to a recent study, " the introduction of Japanese small rice millers (hullers) in rural java has caused 1 million rural women to lose 4 months' opportunities in a year (125 million working hours)."[14] Neighborhood work groups that once harvested rice with the precise use of tiny ani-ani (cutting knife) to support communal banjar activities and supplement family income have in new-rice areas been eclipsed by independent, cash-paid, sickle-wielding teams. Other agricultural seka that traditionally shared their labor among members' fields are being replaced with individual, cash-paid laborers.[15]

As we have demonstrated here, traditional wet-rice agriculture as practiced in Bali is a quite different *sawah s*ystem when compared with new-rice agriculture. Table 2 gives an indication of some of the variance in materials, technology, and organization that exist between these two systems. However, new rice also introduces totally different economic patterns into the life of the village farmer. As was noted earlier, padi Bali (traditional rice strain) is stored by farmers in his rice barn after harvest and is used or traded only as need demands. Consequently, income accruing from the harvest takes the form of a gradual inflow originating from the source of one's wealth and security- the rice barn: New rice,

[13] "Wereng, dan kontradiksi penemuan baru."
[14] Sayogyo, "Rural Development Programmes in Indonesia: Villages Solidarity and Other Goals"(paper presented to the Study Group on Approaches to rural Development in Asia Centre for Development Administration, Kuala Lumpur, 1975).
[15] Collier reports similar occurrences in Java (William L. Collier, "Food Problems, Unemployment and the Green Revolution in Rural Java," *Prisma*, no. 9 [March 1978, pp. 38-52).

however, because of its thinner, looser husk and softer kernel, can not be stored for long periods. Consequently, it is most often threshed in the field and sold immediately after harvesting (though frequently rice traders buy the crop before harvesting, hiring outside sickle teams to harvest it). By growing new rice a farmer's income shifts from one based on rice to one based on cash. Further, by selling his rice during the harvest season, when prices are depressed, then buying rice during consumption during the rest of the year, when prices rise, the farmer may suffer from market fluctuations.[16]

New rice, as opposed to traditional rice, is a cash crop dependant on petroleum-based products. This inevitably ties the new rice, as well as the peasant who grows it, closer to a world economic system. The BIMAS program itself was designed primarily to raise national rice production. While a farmer involved in BIMAS has certainly gained ties to the growth-orientated, modern economic world, the same farmer with his fraction of s hectare of sawah is still rooted in a peasant economy traditionally characterized by its fixed resources and limited growth potential. This schizophrenic economic existence can cause problems for a farmer. It also presents difficulties for the government that attempts to plan modern economic " development" programs for people living in traditional cultural and economic context. The following examples of the kinds of problems arising from this situation should help to illuminate the conflicts faced by peasant farmers and government planners.

Table 2: A Comparison of Characteristics of Traditional and Modern Sawah system In Bali (1978)

CHARACTERISTICS	TRADITIONAL *SAWAH* SYSTEM	MODERN *SAWAH* SYSTEM
Administrative Organization		Subak and local BIMAS organization
Material components:		
• Seed	Traditional Balinese strains	New hybrid (e.g., IR series; also some older Javanese non-hybrid. (C4)
	High disease resistance	Moderate disease resistance, but fungicides and pesticides advised
	Optimum productivity, 2,000-3,000 kg rice/ha Time to maturity, 160+ days Taste of rice, nutty, dry Seed saved from previous harvest Harvest stored	Optimum productivity, 3,000-4,000 kg rice/ha Time to maturity, 90-100 days Taste of rice, bland, sticky seed bought from government Outlet Harvest sold for cash
• Fertilizer	Cow manure, ash, leaves, straw, and other organic matter	Petrochemical (Orea)
• Materials for protecting crop from insects and disease	Devices to frighten away pests made from locally available material; insects reduced by careful examination and removal, natural predators, etc.;	Chemical fungicides, pesticides, and insecticides

[16] Collier found Javanese peasants also subject to this problem. Agricultural planners are concerned that small farmers (particularly tenant farmers) who have adopted new-rice technology may be obtaining less income from their efforts that they had from traditional methods (see Collier).

	disease reduced through special cropping patterns	
• Manpower Components:		
-Harvesting	*Seka Manyi* or local relationship (payment in kind or mutual aid agreement)	*Seka Nigtig* (payment on cash basis)
- Threshing	Local women or family members (payment in kind)	*Seka Nigtig* or threshing machine
- Hulling	Local women or family members	Rice mill (little labor requirement)
Technological components:		
• Plowing	Hoe, Plow, and bullock (*cangkul, tenggala*, and *sampi*)	Rototilller, gasoline, etc.
• Weeding	Long-handled rake	Chemical or rotary weeder
• Guarding against pests	Scarecrows, noise makers, flags, etc. (*lelakut*)	Chemical pesticides
• Harvesting	Small cutting knife (*ani-ani*)	Sickle
• Threshing	Metal-tipped bamboo pole	Mat, cloth sheets
• Hulling	Woven tray	Rice mill, gasoline, etc.
• Storage	Traditional rice barn *(lumbung*)	Concrete rice warehouse

West Bali. In 1978,several years after the *wereng* plague first appeared in the area, a severe outbreak occurred in west Bali (Tabanan) infecting 831 hectare of *sawah*.[17] The department of agriculture ordered, on the basis of modern agricultural principles, that all infected hectarage be destroyed so that the pest could be controlled. This order presented a problem to the peasants farming the area. Under traditional farming conditions a peasant might lose 10%-30% of his crop in a bad year, but total failure on such a wide scale is virtually unknown. Consequently, a procedure that would be totally acceptable for a multimillion-dollar agricultural corporation can create great difficulties for a small-scale peasant farmer.

East Bali. The Villages and Suhaks of Karanggasem regency in east Bali could be characterized as more traditional and less influenced by the recent socioeconomic changes sweeping south-central Bali. In east Balinese villages, cash appears to be scarce. In many parts of Karangasem, monetary terminology is still that of the colonial period, when the ringgit was a basic unit of currency. According to one source, women, responsible for household budget, are sometimes influential in the decision to plant local rather than new-rice varieties. This is in response to the fact that men, unused to handling the lump sums resulting from sale of the new-rice harvest, have been known to divest themselves of their earnings with alarming rapidity through the traditional male outlets for surplus resources- cock fighting and palm wine. For many peasant women of Karangasem, wisdom lies in keeping the family's capital in the rice barn, where they can regulate and dispense it, rather that in the form of risky, hard-to-manage limp sums.

There are other reasons for the slower spread of new rice in Karangasem regency. In the mid-1970's conflicts arose over methods which were to be employed in persuading farmers to use new strains. Second, there have been indications that padi unggul varieties

[17] "Wereng kembali serang kabupaten Tabanan," *Bali Post* (April 8, 1978).

may not be appropriate for the more upland ecosystem typical of many areas in eastern Bali. In 1975, when a number of farmers in east Karangasem were experimenting with new rice, the wereng worm attacked the crop on an unusually wide scale. A plant disease specialist from the Bogor Agricultural Institute came to assess the extent and reasons for the crop loss. After walking miles through the sawah from coast into the mountains he wrote a report stating that while the coastal *sawahs* were well suited for new rice, the upland areas should continue to plant traditional rice, as new rice, due to the cooler, wetter climate, was particularity susceptible to wereng infection.

As was shown in table 1, since the mid-1970's there has been virtually no expansion of hectarage planted in new rice in the Karangasem area.[18] While agricultural extension workers tell farmers that yield of 3,300 kilograms of *beras* (hulled rice) are used from hectare of new rice and that 4,000 kilograms can be achieved, farmers realized that serious or total losses have occurred in some areas that have shifted over to new rice. Moreover, once they agree to shift to the new strains some farmers fear dependence on "outsiders" for seed, fertilizer, and insecticides. If, however, they stick to their self-sufficient padi Bali they can be quite confident of harvesting at least 1,000-2,000 kilograms of beras per hectare. Further, if one uses lavish amounts of traditional fertilizers and meticulously for low traditional methods it is not unheard of in traditional rice-growing areas of south Bali to obtain 3,000 kilograms of beras Bali from a hectare of class 1 *sawah*.

Aesthetically the new rice is less than satisfactory. It is found to be bland and pasty compared with the rich flavor of beras Bali. The Balinese, who often cook rice only once a day, in midday, found new rice is not tasty by evening; by early morning, when leftover traditional rice can be made into porridge, new rice from the day before spoiled. New rice, because of its different consistency, cannot be formed and molded into the rice components of the penak and tumpeng offerings essential to Balinese ritual. Many families complain that because of its bland taste new rice must be mixed with vegetable or meat, which are frequently unavailable or expensive; it is easier to eat beras Bali with out such side dishes.

To the western mind (and palate) such problems may seem minor ones, but rice is not the nexus of our culture or diet. We might better understand the magnitude of this change by imagining a Russian peasant of the nineteenth century being forced to shift his primary food source from black rye bred to a highly processed, aerated white "wonder" variety.

What are the long-term prospects for and implications of new rice in Bali? It is difficult to make accurate predictions regarding a process of change possessing as many socioeconomic and ecological ramifications as we find in the switchover to new-rice technology. Clearly, those farmers who adopt new rice have made themselves dependant on the suppliers of hybrid seed, petrochemical fertilizers, and complex chemical insecticides, pesticides and fungicides. None of these substances are currently produced in Bali, let alone in local farming communities. The inability of new rice to be stored by

[18] A recent article in the local newspaper ("Pembibitan penghijauan gagal," *Bali Post* [May 9, 1978]) noted that most of the districts in Karangasem fell far short of their BIMAS planting targets. The following is a listing of the districts with the number of hectares planted in new rice list first, with the target number following in parentheses: rending, 64.1 (257); Selat, 178 (550); Sidemen, 143 (525); Bebandem, 46 (375); Manggis, 46 (150), 710 (950).

farmers increasingly thrusts peasant families into a larger cash economy, which, while meeting rising needs of cash consumerism, does not provide that same security that a full rice barn once gave. However, perhaps the most disquieting change of all is the rapid disappearance of the cultural ecology of the traditional *sawah* system. This system was totally self-sufficient inside the boundaries of a single watercourse, yet capable of providing extremely bountiful harvests by world standards.

One serious implication of recent agricultural changes is that many traditional seed trains which have been developed over thousands of years for their disease resistance, beauty, productivity and general ability to meet the specialized needs of specific ecosystems are being lost through nonuse in areas where little traditional rice is still grown. Cows, which once provided tons of organic fertilizers, are being sold since they are no longer required under the new sawah system. Suhak organizations once in complete control of their cropping systems are gradually losing authority to government ministries who make " higher level" decisions on the implementation of new cropping technology and large capital intensive projects, such as dams, large canals, and so on. Traditional agricultural work groups and occupations are starting to be replaced by more economically "efficient" machines and methods: village women who supplement their family's income by threshing and hulling rice for a tenth of their product are being replaced by rice mills, and cooperative sharing of plows and cows is beginning to be replaced by cash payment to a man and his rototiller. The Rural Dynamics Project in Bogor has determined that enough tractors have been sold and leased in Bali to provide the capacity to cultivate considerably more than all the arable land on the island.[19]

The government now realizes that tractors have been oversupplied and has slowed its official *Traktorisasi* program.[20] The fact that new rice is frequently sold to rice traders before harvesting will likely lead to the displacement and demise of traditional harvesting seka in new-rice areas, to be replaced by wage-laboring sickle teams (as increasingly the case in java). While the sickle method of harvesting is economically advantageous to the rice trader, it results in displacement of agricultural labor and in higher loss of grain during the harvesting process. From all this, a paradox emerges: efficiency in the cash-and-profit-oriented modern economic world may be inefficient in labor-surplus, limited-resource peasant economy.

Still, it is easy to understand the needs confronting government planners. Population continues to grow in Bali in spite of an initially successful family planning program. The population of 2.5 million inhabitants could well reach 4 million or more by the year 2000. Food production will have to be increased to meet these needs. The question is, how?

Padi (unhusked rice) production for the island of Bali rose from 499,000 metric tons in 1969 to 753,000 metric tons in 1974 as a result of the widespread adoption of the new-rice system. However, increases in *padi* production have started to level out, with the 1977 harvest yielding 793,000 metric tons.[21] Recent comments blame this lack of

[19] Hull, p. 4, n.23.
[20] "Untuk sementara pendropannya dihentikan," *Bali Post* (January 24, 1978)
[21] *Laporan statistic pertanian* (1974), Dinas Pertanain Daerah TK 1, Bali, p. 4; *Laporan ststistik pertanin tanaman pangan* (1977), Dinas pertanian Propinsi Daerah TK 1, Bali, p. 2.

progress on the wereng plague, the extended dry season, late deliveries of fertilizer, and a lack of communication between government organizations and farmers.[22]

Early studies showed that average harvests of 47.99 quintals (1 quintal = 100 kilograms) of *padi* under traditional *sawah* system could be raised to 66.58 quintals per hectare under the new *sawah* system.[23] In 1977, agricultural reports showed that some districts had already achieved 60 quintals per hectare (*Jembrana*), while the island average had surpassed 54 quintals of *padi* per hectare. Considering the inevitability of natural variation (weather, water, disease, and pests) to which the new rice is highly susceptible, it is likely that only moderate production increases may be expected in the future. Consequently, the slowing of increases in rice production my reflect system-wide stabilization of benefits accruing form the adoption of the new-rice system now that the rice is being grown under "real" conditions rather than optimized, experimental conditions.

Thus, while many landowners and tenant farmers increased their income through the adoption of new rice, they invoked a number of costs. Some of these they are already paying in the form of the loss of certain work-sharing organizations and jobs, a decline in the quality of their staple food, a loss of the security inherent in a fall rice barn, and the satisfaction of working the more beautiful traditional rice in a self sufficient system.

The question has been raised concerning what will happen to small farmers when the price of oil increases. As peasants spend increasing amounts of their harvest income to buy crucial petroleum-based ingredients, the advantage of higher productivity will rapidly diminish. In fact it is logical to speculate that as the limited supply of oil inevitably forces prices higher, peasants may find it more profitable to grow traditional rice with its locally producible requirements. For this reason it is essential that traditional seed strains and technology be kept available. Further, since the strength of the *sawah* system is its ability to mimic nature, and since diversity is the basis of natural ecosystems, it would further enhance the stability of rice farming to maintain a mixed *sawah* system.

The government has moved with speed and initiative in introducing new rice in Bali, and undoubtedly new rice and its technology will continue to have a dominant role in wet-rice agriculture. Serious study is now essential regarding the impact of new rice. Strategies considering ways of better integrating new and old technologies could be developed and acted upon. Genetic rice seed banks must be initiated for traditional seeds. Subaks might be encouraged to alternate the growth of both new rice and traditional rice. Programs could be developed to devise ways of obtaining maximal production under traditional wet-rice technology. Certainly more thought and study combined with action is essential before the legacy of the traditional Balinese *sawah* system is lost.

Microniches: Village Economic Adaptations

In attempting to understand how and why Balinese village economy[24] has changed over the past 100 years it is useful to examine the impact of population growth and the influence of cash and consumer goods. In brief, population growth has gradually caused

[22] "BIMAS dan INMAS di Bali," *Bali Post* (May 8, 1978).
[23] Hanna, " Population and Rice" (n. 1 above), p. 5.
[24] In this section we use the term "village economy" to refer to livelihood-related activity by persons who live in the village, a part from their work on owned or sharecropped land.

family farmland holdings to shrink, forcing family members to seek income from other sources. The growing availability of and demand for consumer goods and services as well as cash has created jobs for village families through the rapid expansion of marketing, construction, and other spheres at the same time this tendency is making village families increasingly dependant on cash to acquire newly available goods and new range of consumer services. The historical context of these changes will be briefly discussed here, followed by an analysis of case studies reflecting new livelihood patterns emerging as a result of larger economic forces.

The earliest historical records from Bali (ninth- and tenth-century inscriptions)[25] suggest that the inhabited parts of the island were divided into several small kingdoms. It is clear that by the tenth century trade was conducted between north and south Bali through the Kintamani area. This commerce appears to have been largely in the hands of the courts and specialized traders. Trade between Bali and others islands seems to have gone on continually though the nineteenth century. Centered in small ports near the modern, locations of Ketewel, Bugbug, Gilimanuk, Singaraja, etc., the Chinese, Bugis, and other outside groups began trading with local courts. However, these conditions were peripheral to the basic economy of Bali's farming villages. Trade and labor exchanges between villagers seem to have been confined to localized areas and to be almost exclusively based on transactions in kind. While the use of copper Chinese coins (*pips bolong, kepeng*) gradually increased during seventeenth centuries, this was largely a result of spin-offs from growing trade between the foreign and Chinese merchants and the courts. Further, because by the end of the nineteenth century there were at least eight types of kepeng in circulation strung on loops containing varying numbers of coins. There seems to have been reluctance to use kepeng for any but small transactions.

By the mid-nineteenth century demographic pressures were beginning to affect Balinese village economy. A British commentator writing during this period notes that, in the 1840's and 1850's even a low estimate of Bali's population size (e.g., 700,000), "…makes the relative population half again as much as java, or near 480 to the square lime, being the greatest density of population throughout the whole Malayan and Philippine islands."[26] Still in spite of the relatively high density of population, records indicate that the beginning of the twentieth century the average peasant family owned approximately 1 hectare of "good land", irrigated or dry."[27] Therefore, it appears that the "traditional" Balinese village family focusing for its income on farming would have been able to produce food in excess of its needs. Even so, as the rate of population growth accelerated during the first half of the twentieth century, the landholdings of Balinese farm families dwindled. In the mid-nineteenth century there were perhaps 700,000-900,000 people in Bali; by 1930 inhabitants. This has resulted in the average Balinese family's farmland holding of 1 hectare in 1990 shrinking to perhaps .3 hectares today.

What picture does the proceeding discussion give us traditional Balinese village economy? We can speculate that most village families were almost totally dependant on agriculture and were fairly well-off by comparison with most peasant societies. There appears to have been little trade outside of a radius of a few square kilometers, and what

[25] Goris, *Prasasti Bali.*
[26] John Crawfurd, *A Descriptive dictionary of the Indian Islands and Adjacent Countries* (London: Bradury & Evans, 1856), p. 197.
[27] Hanna, *Bali Profile* (n. 1 above), p.97.

trade there was appears to have been based largely on bartering and copper coins. Traditionally, land was ultimately controlled by the communities and the courts, though most village families probably had rights to as much land as they could farm, which frequently resulted in surplus harvests. Still, traditional Balinese society does not appear to have encouraged village families to acquire great wealth. While it was considered fitting that the courts exist in splendor, the banjar (neighborhood community organization) seems to have stressed economic equilibrium among its members. Even today, families relatively "better-off" are watched carefully in their behavior and openness towards poorer community members and are under greater pressure to grant requests for goods and services to other clan and banjar members if asked. Further, a village family that pulls ahead of other families may feel expected to perform relatively larger ceremonies and, in doing so, to feed more "guests" (clan and community members) during the ceremony, in effect a form of redistribution of largess. (The importance of the ritual sphere in Balinese economy will be discussed more fully later in this paper.) In the past, before heavy monetization of the economy, people with extra resources may have had less opportunity to use their capital. Since trade existed on only a small scale and for locally produced items, gold and land seem to have been the only major outlets for surplus resources. The Balinese villagers appeared to have worked their highly productive fields and used their surplus to supply themselves with the resources and leisure time necessary to develop an incredible tradition of plastic and performing arts and religious ritual. How has this picture of traditional village economy been affected by changes and pressures originating both inside and outside the village economic system throughout the twentieth century?

Since the Dutch colonial government took control of south Bali in the beginning of the century through Indonesia's independence in 1945 until the present time, there has been a continued effort to develop the transportation-communications infrastructure of the island. It is now possible for villagers in the remote areas of east Bali to reach the capital of Denpasar in half a day. This has consequently led, particularly in the past 15 years, to be remarkable growth in trade. Through infrastructural developments village markets, which have expanded to meet current needs. The availability of manufactured cigarettes, flashlights, plastic buckets, umbrellas, and thermos bottles, to name a few, ahs grown with an ever-increasing demand for such goods. The process of monetization, which has continued with growth of the marketing system, has also been spurred by cash needs for education, utilities, transportation, government fees, and so on. At the same time, while Balinese families find themselves increasingly dependant on cash, vast sums of capital have entered the island economy, especially in the past 10 years. There have been three primary sources for this capital: (a) billions of rupiah from Jakarta allocated to the development of Bali's provincial, regency, and district level bureaucracy; (b) millions of dollars from international agencies in the form of grants and loans to be used for capital intensive infrastructural development projects; (c) moneys invested in the rapidly growing tourist industry (originating from foreign and Jakarta-based Indonesian corporations, as well as government development grants).

Thus, during the twentieth century we see Balinese village economy moving from an inward-looking, rice surplus agricultural system towards a more outward-looking, cash-centered system with many more national and international ties. Still, the Balinese peasant family has little immediate access to this newly arisen macroeconomic, capital-

intensive world. Village families in the Sukawati area are most affected by the modern economy through their use of new-rice technology. Yet even with the increasing use of cash that this change has brought, peasant families remain strongly tied to traditional economic patterns. Because of continuously shrinking farmland holdings, many village families have begun striving after any small income available through trade, service or labor, which might spin off from the modern macroeconomic system. These jobs occur in a wide variety of forms and are taken by men, women, or children. The occupations tend to be characterized by their individual entrepreneurship and irregularity and flexibility of working hours. The only prerequisite for the extensive of such jobs is that they be marginally productive. As long as the work provides some incomes, either calorie or cash it is successful. However if a job requires capital to be exploited (as do most all "marketing" jobs) it cannot operate at a loss for more than a very short period. In attempting to better understand this developing world of small, often part-time jobs and their connections to larger economic systems, it is useful to look at them as macroeconomic niches[28] that villagers develop and attempt to exploit. As we see, these niches cannot be considered a part of the modern economy though their existence is in part a consequence of it but, rather exist at the interface of the traditional village economy and the larger Indonesian economic system.

Let us look at south Bali village family to see how it has used micro-economic niches to gain access to cash unavailable through more traditional occupational channels.

> Wayan Raka is 38 years old. He is marries and has six children aged 1-13 years. His family owns .3 hectare of sawah, but he does not farm the land himself. A friend with whom he spits the harvest farms the land. Wayan has three shadow puppets (*wayang kulit*) that he sells to professional puppeteers (*dalang*) or tourist shops. Over the course of a year he averages approximately Rp. 200 per day from this activity. In the evenings he usually plays (about 20 nights per month) the gender accompaniment for popular local *dalang*, for which he receives about Rp. 1,000 (in cash, food, and coconut oil). However, Wayan occasionally performs as a puppeteer himself (perhaps two to three per month), and receives about Rp. 3,000-4,000 for such performances.
>
> Wayan's family's income is also supplemented by money his wife earns marketing tobacco and betel nut in the local *pasar.* With approximately Rp. 20,000 in initial capital investment, Wayan's wife is able to earn Rp. 200-300 a few mornings each week from her marketing activities. The family also earns money from sales of fruit from the 50 mixed fruit trees in their yard as well as from the pigs Wayan's wife periodically raises. The children also earn money, which they use to help pay for their school uniforms and fees. Wayan's oldest daughter (age 12) periodically makes Rp. 100-150 per day preparing and selling cassava cookies at the *banjar* meeting hall, while her brother (age 9) makes Rp. 60 from every thermos pf popsicles he sells to other children in the banjar.

Wayan Raka's family's economic pattern is not unusual. In his *banjar,* most families are involved in a similar multifaceted economic support system. It is quite common for all family members over the age of 10 or so to be earning some form of income. Consequently, most families are dependant on a half-dozen sources or more for their livelihood. As with Wayan's family, these sources of income tend to be almost

[28] We believe the concept of economic michroniches was first presented by Aram Yengoyan in "Sugar and Poverty" (paper presented at the annual meeting of the American Anthropological Association, san Francisco, December 5, 1974).

exclusively from the microniche system just discussed. Even agriculture, which was once the nexus of village family economy, is becoming a microniche as it becomes only one more source of income among many. Wayan does not farm his small plot because he feels it is more profitable to pursue his part-time jobs, and he can help a friend by sharecropping. Families with small land holdings are increasingly finding sharecroppers in order to free members for working microniches. Further, many farmers and tenant farmers with small holdings have other jobs as well.[29]

To better understand the importance of microeconomic niches in village economy, we will now examine a sample of jobs held by families in Wayan's banjar (these and additional examples of microeconomic niches are shown in table 3). Banjar jegeg is a neighborhood of 150 families located within a township of 5,000 people just 20 minutes from Denpasar. Within the banjar, aside from agriculture, five main categories of microniche occupations are being exploited. These include marketing activities, food service, tourist-trade related jobs, construction work, and jobs specifically for children. It should be noted that members of the banjar jegeg have access to a range of new microniches created by capital from the growing Indonesian economy, spurred by a larger civil service, foreign investment, tourism, and import-export trade. Inhabitants of other areas of Bali, off main roads and way from administrative centers, relay on more traditional microniches and have less opportunity to boost income with these emerging jobs.

Marketing

By examining the growth of the township pasar (market) in which Banjar jegeg participates we can better note the significance of growth in the marketing sector. In the late 1940's the pasar consisted of 30-40 women who sold vegetables, fruit, fish, baskets and locally produced cloth. During the 1950's the pasar was enlarged to meet a growing demand for space and again in the 1970s to accommodate still further growth. By 1978 the pasar consisted of over 200 women who sell both traditional goods as well as a wide range of newer consumer items.

Table 3: Examples of Microeconomic Niches: Occupations and Incomes in South Bali (1978)

TYPE AND CONTEXT	INCOME
Marketing:	
• Buy fruit in season from neighborhood women and sell in the each and sell in the *pasar* (buy *jeruk Bali* [pomelo] from households at Rp. 25-50 each and resell in the *pasar* at Rp. 60-100)	Rp. 200-300/day
• Home food preparation (buy and prepare rice in special palm leaf packet [*tipat*]; to make and sell 45 tipat requires 4-5 hr; can be sold directly to a *warung*)	Rp. 400
• Buy "piggy banks" in Denpasar for Rp. 10-30 each; sell at local *pasar* for slight mark-up	Rp. 50-150/day

[29] An article in a major Indonesian newspaper (*Kompas* [November 20, 1976]) noted that more than 55% of the farmers of java and Bali could not support themselves on their farm income alone.

Food Service:	
• Portable *warung*: preparation and sale of rice-and-vegetable breakfasts and dinners; prepare food 3 A.M.-6 A.M., carry food, table, benches to banjar meeting hall, sell food 6 A.M.- 9 A.M. and 4 P.M.-7 P.M..	Rp. 500-1,000/day + food for family members
• Fried *tahu (tahu goeng*) stand; pushed around Banjar Jegeg area 6 A.M. – 10 P.m. and 4 P.M. –7 P.M.	Rp. 200-400/day
Tourist Trade:	
Scale of soft drinks to tourist on Kuta beach: average 10 bottles per day, 8 A.M.- 6 P.M. at profit of Rp. 25 bottle minus cost of ice (Rp 25)	Rp.100-300/day
Carving and painting shadow puppets (wayang kulit): irregular hours, but average 8 A.M.- 11 P.M.: average income over a month, Rp 6,000	Rp.200/morning
Musician playing gamelan back-up music for tourist-oriented dance troupe: 9 A.M. – 11 A.M.	RP. 200/morning
Construction:	
Women laborers on road-building crew. 6 A.M.-6 P.M. in south Bali area	Rp. 300/day
Sand digger: women dig sand from river bed and carry to construction site .5-1 km away	Rp. 250/day
Coral gathering for lime-making industry: one adult woman can collect a truck load in 1 mo. Working from 3 to 5 hr a day during low tide (Bualu region)	Rp. 200/day
Carpenters building rice barn for local farmer; 6 A.M. –4 P.M. (Gianyar area)	Rp.550/day + lunch
Limestone quarry: cut limestone blocks out of a hill: can cut 15-20 blocks/day; pay is Rp 35/24 inch x inch x 4 inch block (Bukit area)	Rp.525-700/day
Children's occupations:	
Popsicle vendor (sell one thermos, receive Rp 60 commission); before and after school (Sukawati, Gianyar area)	Rp. 60-120/day
Thread tying for dyeing process: Rp 125 frame of threads; 2-3 hr to tie one frame (Gianyar area)	Rp. 125-375/day
Candy and cookie making in local home industry: morning till evening (Sukawati area)	Rp. 100-200/day = 2 meals
Other niches:*	
Weaving palm-leaf hats; can weave 1 hat in 2-3 hr; hats are sold to an agent for Rp. 150/each (Blahbatuh area, Gianyar)	Rp. 450-600/day
Comb making; one person averages 5 wood combs/day; combs are sold by family members in the *pasar* at Rp 50-60/ each (Payangan area, Gianyar)	Rp. 250-300/day
Javanese broom and brush seller; can sell 16-25 pieces full day at Rp. 250/each: profit averages Rp. 40-50 piece; 79-year-old man came with friends from Surabaya; sells in the Denpasar area	Rp. 800-1,000/day

Javanese woman selling *jamu* (traditional herbal tonics) can make Rp 1,000/full day; after saving Rp. 40,000 or so in 4 mo., returns to her home in solo, central Java	Rp. 1,000/day
Water carrier: carries 4 cans (*blek*) at a time for which he is paid Rp. 10-15 blek; in a 12-hr day he can make from Rp 600 to Rp 750 (Penebel area, Tabanan)	Rp. 600-750/day
Rice Harvesters (*seka nigtig*): new organization for cutting "new rice" with sickles and for threshing; men and women, full day work (Sukawati, Gianyar)	Rp. 300-400/day
Traditional groups for threshing and winnowing rice: paid 10% of all rice processed; can do 20 kg/day (Sukawati area)	Rp. 300-360/day = kind wage converted at current market value

* The first niches in this section were reported in the Bali post in the following articles: "pan pacung 'sumur pompa' do pasar penebel" (January 26, 1978); "Sisir adalah tongkat hidupnya" (March 16, 1978); "Dari Surabaya mengadu nasib ke Bali" (April 6, 1978); "jamu gendong putrid solo" (May 2, 1978); "Hanya mengandalkan kobek" (may 9, 1978).

People from Banjar jegeg remark how many more local women are involved in the pasar that used to be the case. Bu Goyo is a banjar woman who in recent years, because of a desire to increase her cash income, has entered into the pasar trade on a regular basis. Now 60 years old, she discovered a few years ago that she could make a few hundred rupiah on pasar days by selling terracotta pots and piggy banks (*celelengan*). Her niche has become possible by the increased transportation service lining her village with Denpasar, where the wares can be purchased (for Rp. 10-30 each). Her mark-up cover the wholesale Denpasar price allows her to cover transportation costs and make a small profit.

Besides allowing women to bring goods into the local pasar from outside, the advent of regular microbus services also allows Banjar jegeg women to visit outside communities for trading purposes. Here is one case:

> Two unmarried girls from the banjar go to the community of Sanur, a 30-minute minibus (*bemo*) ride away, a few time a month to peddle textiles. They buy these textiles at the *banjar jegeg pasar* for Rp. 2,000 per piece and sell them in Sanur for Rp. 2,100-2,200. The women in Sanur are willing to buy them at higher-than-pasar prices because the girls come to their home and because they are willing to sell the textiles on an "installment" basis (*bon*). While the girls stay at a relative's house for free, they usually spend over Rp. 1,000 on food and another Rp. 400 on transportation. This leaves them with perhaps Rp. 500-1,500 profit from 3 days labor.

In Western economic terms the viability of an enterprise of such marginal profitability as this would be highly questionable: however, in the emerging Balinese trading system where every available microeconomic niche is exploited, such an operation is reasonably successful. The girls, who if not working would otherwise be involved in some non-income-producing activity in the home, not only earn some cash which can be saved to buy such essential as cloth for themselves, but are also able to feed

themselves at no cost to their families while they are also able to feed themselves at no cost to their families while they are in Sanur. It is interesting to note that what makes the girls' microniche possible at all the ability of both themselves and their supplier to deal on a no-interest credit basis. Without the credit, the girls would have no capital to get started, and the women they sell to would have no reason to buy from them. However, for most marketing entrepreneurs a limited amount of capital is crucial. A woman inside or outside the pasar who for some reason losses her operating capital may have a difficult time getting started again.[30]

Food Service

Perhaps as dramatic as the growth in the marketing system of *Banjar jegeg* is the rapid expansion of food services in the *banjar.* By examining table 4 we can better understand the extent of this growth. What has caused this considerable growth of food services in a small neighborhood of families? One important explanation can be found in the continuing shift of family income from kind to cash. This process has resulted in more and more families buying their meals (particularly "breakfast") rather than preparing them in their homes.[31] The opening of primary and middle schools (SD and SMP) on the edge of *banjar* has also enlarged the demand for food services. A number of the food-service entrepreneurs cater strictly to student needs by offering student-size *nasi campu*r (rice vegetable, and nuts) for Rp. 15, 25, and 50.

Table 4: AVAILABLE FOOD SERVICES IN BANJAR JEGEG (1948 AND 1978)

TYPE OF SERVICE	NUMBER OPERATING ON A DAILY BASIS		ORIGIN OF OWNER
	1948	1978	
Permanent coffee shops (*warung*: open 14-18 hr/day, selling coffee, cakes, cigarettes. etc.)	3	8	Local
Portable warung (selling rice and vegetables, open mornings and evenings only)	1	6	Local
Permanent iced-fruit shops (selling *es campur*, open all day)	0	3	Local
Portable peanut and fruit stands (*dagang ganti,* morning and evening)	2	5	Local
Portable noodle soup stall (*hakwan*)	0	1	Java
Portable fried bean-curd stall (*tahu goreng*)	0	1	Lombok
Portable iced syrup (*strup)*	0	2	Java
Portable cigarette stand	0	1	Java
Total	6	27	

[30] Nancy Lee Peluso, in an interesting study which could be used as a model for economic research on women's activity in Bali, documents similar factors affecting marketing pattern in Java (" The Roles of rural Women in the Family Economy: A Micro-study of women working outside of the Agricultural Sector is rural Yogyakarta," mimeographed (Yogyakarta: Gadjah Mada University, population Institute, 1977).

[31] Farmers, who once received their income in the shape of rice their harvests, because they are growing new rice now receive much of their income in cash. Further, many families who supported themselves with income in kind received from tenant farming have left the agricultural sphere altogether and gain a cash income within the microniche economy. Consequently, instead of boiling up the leftover rice from last night's dinner for the morning porridge (*bubuh*), family members are now walking down to the local *warung* for a breakfast of rice and vegetables.

Again, as we found in the marketing sector, the willingness of *warung* owners frequently to extend credit to *banjar* members also furthered the expansion of local food services. Of course, giving too much credit threatens the enterprise with failure. While village families owning the larger, permanent warung have done very will and are largely supported by the resulting incomes, most women operating the portable stands are able to acquire only a partial income of a few hundred rupiah a day from their efforts. Further, its should be remembered that most women food vendors must also spend long hours in shopping and preparation, and, as a consequence, income, when calculated by the hour, is considerably reduced.

Tourist Trade

Over the past 15 years the number of tourists visiting Bali has grown from a few thousands a year to hundreds of thousands. While much of the cash spent by tourists is absorbed by hotel chains, travel agencies, tour guides ands so on, village families have found that some income can be obtained through the production of handicrafts, dramatic arts performances, and the hawking of wood carvings, jewelry, soft drinks, fruit, etc. The growing number of shops that serve as outlets for much of the art and handicrafts produced in village homes is an indicator of the growing dependence on such activities as a source of family income. According to one interviewee, in Gianyar Regency (one of the areas most involved in the tourist business) there were three art shops in 1948. In 1978 there are 100 or more shops marketing locally produced paintings, carvings, masks, puppets, shops, hats, mats, and new "antiques." While a few of the very best carvers and painters regularly make several hundred dollars in a month for their work, many of the people involved in lacking handicrafts at it part—time for a few hundred rupiah a day. Members of *banjar jegeg* exploiting the marketing end of the tourist trade have to take a bemo to the major tourist areas along the south coast to sell their wares. An example:

> Some of the women from the *banjar* are involved in making bikinis. From one standard-size piece of batik (21/4 meters long) they usually cut out and sew approximately five such bathing suits. While labor involved in making and selling the suits to tourist shops is intensive, a Rp. 1,200 piece of batik san gross Rp. 2,000 or more. After subtracting costs for transportation, a group of women might Rp. 1,000 apiece for a few days' labor.

While none of the performing-arts groups from *Banjar Jegeg* are actively involved in performing for tourists, other dance clubs in the area have regular performance schedules. Village members involved in such groups make several hundred rupiah for each performance. Thus, while very few families can support themselves off the tourist trade alone, the growth of this industry has provided village families with opportunities to exploit a range of microniches that contribute to their income.

Construction

The gradual stabilizing of the economy during the post-Sukarno period and the considerable influx of capital into the Balinese economy (much of this cash being centered in the south Bali area) over the past 10 years have combined to stimulate construction projects of all kinds. These building activities range from such public works

as dams and roads to private enterprises- including luxury hotels, shops and restaurants- to individual family homes and community temples. While many of the larger projects are contracted by large Indonesian construction firms that frequently rely on machines and skilled construction workers brought from java or urban Denpasar, many microniche jobs have been created by the growth of this industry.

Two categories of work comprise the construction microniches: workers activity involved in building and workers involved in procuring and transporting building material. Those people involved in building are paid on a daily wage basis, receiving anywhere from several hundred rupiah a day to Rp. 800 or more, depending upon their skill and the nature of the job. Most construction projects last form a few days to several months, though a large hotel project can employ a laborer for a year or more. When a project terminates a worker must search by him/herself or with friends for another project, though it is usual to spend the "extra" time in exploiting another niches or working at more traditional occupations. Thus, even construction work, because of its irregular nature and requirement of a certain entrepreneurial zeal in searching out jobs, can be seen as another microniche in the emerging economy.

Individuals involved in procuring and transporting construction material must show even greater characteristics of entrepreneurism. In order to profit from such activities men and women frequently must identify natural resources that they can exploit. Such resources include sand, rivers, bamboo from forests, coral from lagoons, rocks from beaches, and limestone from hillsides, to name just a few. Next, after making an arrangement with the owner, if the land is privately held, the materials are quarried or otherwise extracted, after which they are either processed and peddled at construction sites, or sold to a larger dealer for processing and /or transport. Members of Banjar Jegeg are involved in both types of construction related microniches. Below we give a few such cases:

> A number of *banjar* women have several for years been involved in sand digging. Initially, they must find a local construction project (usually a house being built in one of the 12 neighboring banjar within the township). Once the demand has been located, the women go to the river just to the south of the town and begin digging sand from the river bottom. The sand is loaded into a large tin drum (blek) which when full weighs approximately 50 kilograms. The blek is then carried by the women to the construction site (generally no more than ½-1 kilometer away) where she is paid Rp. 50. In an average day a woman can carry perhaps 5 blek, thus making Rp. 250.
>
> Perhaps several dozen men from the *banja*r are involved in construction jobs. Most work part-time, usually during the slack periods of the agricultural cycle. While a few find jobs on larger construction projects, most work on houses being built within the township. While there is no standard wage, a semiskilled caRp.enter, roofer, or bricklayer usually makes Rp. 600-800 per day, depending on whether or not he is fed on the job site. However, workers frequently end up working for a friend, an extended-family member, or a family with whom the worker's family has a long-standing mutual aid relationship. In such cases the worker may receive partial payment or be credited with mental IOU to be collected later in cash, kind, or service. In one such case a group of carpenters worked for several weeks on local *dalang's* new house in return few thousand

> rupiah and numerous *wayang* (shadow theater) performances, both past and future.

Aside from the two casual factors mentioned earlier (a more stable economy and a greater capital flow) affecting the rise in construction activity in Bali over the past 10 years or so, a second set of related changes has greatly enlarged the range of microniches in the construction trade. One key change has been the rising popularity of "modern" (*kantor* or "office") style building materials. Hence, there has been a rapid increase in the demand for coral, sand, and gravel for making the key ingredient, cement. New building designs and material also require new types of knowledge regarding construction techniques. Consequently, families that could once build traditional style houses with the help of immediate family and friends (or possibly a local house-building *seka*) now must frequently hire outsider with knowledge of, say, concrete pouring, on a cash basis.

Children's Occupations

In Banjar Jegeg there is a growing involvement of children in the production of food and textiles for cash payment. Children's earnings are used for school expenses (if they are in school) as well as for clothes and meals. While they usually do not contribute much or any of their relatively small earnings directly to the family budget, the fact that they are helping to cover some of their own costs is important in reducing family expenses. Children who aspire to study further than elementary school level frequently cannot expect their families to be able to pay all or even some of the increasingly expensive school fees. The following case is not unusual in Banjar Jegeg:

> When Ketut was 11 years old she graduated from class 6 at the local elementary school. She wanted to enter middle school (SMP), but she was not selected from the 2,00 applicants for one of the 500 "seats". Fortunately, the local teachers decided to run an afternoon session, but the entrance fee was Rp. 5,000. Also necessary were RP. 1,000 for uniforms, Rp. 2,000 for books, plus an additional monthly tuition of Rp. 500. Ketut's family, while no worse off than most families in Banjar Jegeg, could not find more than a small part of the required sum. Ketut learned that a number of other girls at the SMP were paying their way through school tying threads for dyeing at a local (ndek or ikat = "tie-dye") weaving center. For each frame of threads that were tied, a job that takes several hours, the weaving center would pay Rp. 125. By working a few hours each day Ketut is now able to make Rp. 100-200 per day, enough to cover her school costs and occasionally lunch at a local *warung*. Other friends of Ketut who have dropped out of school are supporting themselves by tying threads full time, making up to Rp. 375 per day. Through this activity they are able to pay for their food and clothing and, consequently, can live with their families at not cost until they are married.

As children become young adults it is frequently hoped that they will enter the rapidly growing urban economy of Denpasar. Young adults from *Banjar Jegeg* who succeed in entering this new economy can break away from hustling the microeconomic niche. The secret is to acquire a full-time job as a civil servant (pegawai) or in the tourist industry via educational attainment and/ or personal contacts. Such jobs in the south Bali area seem to start out at Rp. 20,00 per month (frequently with some additional fringe

benefits). The range of jobs is wide and can vary from teacher or bureaucrat to hotel desk clerk, accountant, or tourist guide to hairdresser at a modern beauty shop or motorcycle mechanic at Honda outlet. Such full-time jobs, most particularly the civil service, require only part-time work, and consequently many energetic young people have time to acquire a second job, or at least search for a higher-paying one. Still, the primary advantage of such jobs over microniches is that they pay a good, regular monthly salary that can be depended on for years at a time. Once a village family has managed to place a son or daughter in such a position, they can be confident in having at least some partial income form the usually conscientious offspring. At the same time, it must be realized that very few village families have access to the education and the urban, high-caste, or high-status contacts frequently necessary for securing a civil service or white-collar position in Denpasar.

A changing economy also results in changing values. One young local man who has become successful in the tourist industry of south Bali has gained considerable wealth. However, the very people who have helped to make his financial success have also conveyed their modern values to him. Consequently, he spends his newfound wealth on himself buying a motor scooter, tape recorders, and building a large new house, while his relative wonder what happened to his sense of sharing among family members.

Much of the economic relationships existing in *Banjar Jegeg* continue to be based on traditional concepts of *gotong royong* (mutual aid). In fact, Banjar members take pride in explaining how their banjar (as opposed to "so many others"), if a member is in need of aid (either cash, kind, or service) his neighbors willingly help him, with expectations no greater than traditional giving of tobacco, betel, coffee, and eventual repayment in kind. Yet the basis of exchange in agriculture continues to shift from labor exchange groups or payment in kind to payment in cash, as *banjar* members break away from traditional agricultural economy to work individually at cash-paying microniches, as consumer goods are increasingly displayed and increasingly desired-from all this, it is likely new concepts of individual private property will increasingly displace traditional familial and communal ownership ideals.

It is useful at this point to compare the case of Bali with the employment situation in Java. Collier found that: "the 'employment' problem in rural Java is not a problem of 'no work,' but one of low wages and low productivity. The effect of reduced employment in rice cultivation (through mechanization changes) will not be the forcing of the rural population into idleness, but an increasing shift of the labor force into non-rice and non-agricultural activities in which they may have to work even longer hours to obtain the same low incomes."[32]

In Bali a similar pattern seems to be emerging with the expansion of microniches. Still, especially in the south Bali area, the growing tourist industry continues to absorb some of the surplus labor supply. Further, the greater presence of capital, at least in this same area, seems to keep incomes considerably above those of rural java. Yet competition for microniches is becoming increasingly intense, as more and more displaced agricultural workers and non- Balinese, primarily from Java, look for work in this economic sphere.

In conclusion, while changes in the agricultural system and family economy have perhaps weakened the fabric of Bali's traditional socioeconomic system, the ritual sphere

[32] Collier, p. 45.

(through which much of Bali's economic resources have long been channeled) appears to be basically intact. This is significant, for the economic patterns and social relationships evoked through regularly occurring familial and communal celebrations represent constant reaffirmation of enduring socioeconomic and cultural values. In the next section we will examine how the members of *Banjar Jegeg* have traditionally put on ceremonies. An attempt will be made to determine if and how the traditional ritual system is changing, and, if so, what the implications might be for the village economic system.

"Yadnya": The Economics of Ritual

A number of scholars have written at length about the temples system of Bali and the role of ritual in community life.[33] Still, no one has attempted to explain how elaborate rite-of-passage ceremonies and continually recurring temple festivals from a part of village economy. Questions regarding the organization and financing of lavish ceremonies and the impact their has on family economy have also lone gone unanswered.

In attempting to examine these issues we will briefly discuss the background of religious/ritual activities. Why are the Balinese motivated to practice their religion on such a labor- and resource-intensive scale? Next by reviewing a series of case histories, many taken from families of banjar Jegeg, we will gain a better understanding of the scale and scope of ritual related expenditures. Finally, the social system specifically supporting the ritual sphere will be discussed, followed by an analysis of the implications of ritual economy phenomena for larger, changing economic systems of Bali.

Bali's special form of Hinduism (*Agama Tirtha,* literally, "Religion of Holy Water") divides all religious ceremony into five categories: *Resi Yadnya* (priest's consecration), *Buta Yadnya* (ceremonies to placate demons and evil), *Dewa Yadnya* (ceremonies for the gods and ancestors), *Manusa Yadnya* (rites of passage), and *Pitra Yadnya* (death related rituals). Most Balinese families are primarily involved in ceremonies falling into the latter three categories. *Dewa Yadnya* ceremonies are celebrated on a fixed calendrical schedule according to which the gods periodically descend upon the temples to take up residence for varying amounts of time (from a few hours to a month or longer). The size of the congregations belonging to more than 20,000 temples of Bali varies immensely. The "mother temple" at *Besakih* nominally includes all Balinese as members, while small family courtyard temple may include only a dozen or so people. The variety of temple is immense and includes a range of royal, politically based "state" temples, family temples, marketing temples, village temples, *banjar* temples, *subak* temples, hill temples and spring temples, to name only some of the wide variety.

The primary purpose of a *Dewa Yadnya* ceremony, regardless of the temple in which it takes place, seems to be to ask the blessings of gods and continued protection for the congregation. If these recurring *Dewa Yadnya* ceremonies are not performed improperly, the congregation or member of it may suffer any number of problems, including crop losses, epidemics, political instability, etc. If such problems occur, the specific dissatisfaction of the gods is usually communicated through a trance medium so that the situation may be righted. To avoid

[33] Roelof Goris, "The Temple System," in *Bali: Studies in Life, Thought and Ritual*, ed J.L. Swellengrabel et al. (the Hague: W. van Hoeve Publishers, 1960); Jane Belo , *Bali: Temple Festival* (Seattle: University of Washington press, 1953); Miguel Covarrubias, *Island of Bali* (New York: Alfred A. Knopf, Inc., 1937); James Boon, *The Anthropological Romance of Bali,* 1597-1972 (Cambridge: Cambridge University Press, 1977); C. Hooykaas, A Balinese Temple festival (The Hague: Martinus Nijhoff, 1977).

such catastrophes the Balinese attempt to carry out meticulously all required ceremonies at all temples regardless of their size or status. A second consideration that motivates temple congregations excel in the elaborateness of their ceremonies is status. If, for example, a village renovates its village *Pura Dalem (*death temple*)* or hires a famous Balinese operas (*arja)* troupe to entertain the gods and congregation during the temple anniversary (*odalan*), neighboring temple congregations may feel its desirable to respond in kind.

The primary demands for goods and labor on village families who are congregation members fall during these temple odalans. There are a wide variety of types of *odalans* that determine the requirements for offerings, priests, entertainment, etc. At least once every 210 or 420 days there is a major odalan at most temple, usually lasting 3-4 days, while every 10, 50,or 200 years very large celebrations may have to be performed.

To give some indication of the intensity of the temple system let us look at the situation in the Banjar Jegeg area. In the township of 5,000 inhabitants including *Banjar Jegeg*, an area of approximately 4 square miles, there are 39 major temples (excluding house temples). After discussing temple membership with a number of community members it was found that many villagers are active members of from six to ten local temple congregations (including clan and house temples), and rarely does one find a family that does not actively participate in at least three or four temples.[34] Within a family, individual members may hold differing temple membership. In table 5 we see what an ordinary family in *Banjar Jegeg* membership. In table 5 we see what an ordinary family in *Banjar Jegeg* expended in cash, goods, and labor for anniversaries (odalan) in the temples in which the family is a member, over the previous 420 days leading up to the interview. While the example given above is fairly representative of the Sukawati area, expenditures of families for temple festivals may vary considerably in other areas of Bali.

There is a clear tendency for temples with smaller membership to require greater contributions on the part of member. However, it is misleading to assume that all contributions are total losses to the family income. On the contrary, much of the food material given to temples are cooked and eaten by family members while working at the temple. Fruit and other offering material purchased in the *pasar* are carried after being dedicated at the temple, to be eaten by family members.

TABLE 5: EXPENDITURES OF A SOUTH BALI PEASANT FAMILY ON TEMPLE ODALANS OVER 420 DAYS (12 35-DAY MONTHS)

TEMPLE MEMBERSHIP BY FAMILES	CASH	GOODS	LABOR
Pura Desa (Village settlement temple, membership 1,000)*	Rp. 750	2 1/2 kg rice 1 coconut	10 days (every fourth yr)
Pura Dalem (village death temple, membership 1,000)	Rp. 650	3 kg rice 1 coconut 1 bamboo pole	10 days (every fourth yr.)
Pura er Jeruk (minor subak temple, member 900)	Rp. 300	2 kg rice 1 coconut	10 days (every thirf yr)
Pura Lumbung (minor subak temple, membership 900)	Rp. 200	1 kg rice 1 coconut	5 days (every third yr)
Pura Banjar Jegeg (neighborhood	Rp. 300	3 kg rice	10 days (every yr)

[34] Not to mention the fact that many families are tied to a number of more distant temples, such as those representing island-wide descent groups.

temple, membership 1500		3 coconuts 1 bundle palm leaves	
Pura Tumpek (clan temple, mother's side of family, membership 38)	Rp 800	5 kg rice 7 coconuts	10 days (every yr)
Pura Gunung (Clan temple, father's side of family, membership 45)	Rp 700	5 kg rice 5 coconuts 6 eggs 1 bottle oil 5 cookies 1 bamboo pole 2 *papa*	10 days (every yr)
Pura Madiya (extended-family temple [dadia], membership 30)	Temple ceremonies financed through temple ownership of .4 ha of *sawah*		
Sanggah (house temple, membership 5)	Rp. 2,000		2 days (every yr)
Total	Rp 5,700	20 ½ kg rice 19 coconuts, etc.	42 days (average per 420-day Balinese yr)

The cost of *Dewa Yadnya* ceremonies, while regularly occurring, are light in comparison with the resources the average Balinese family periodically expends on *Manusa Yadnya* and *Pitra Yadnya* ceremonies. Since there is no longer congregation to share expenses (through many groups may help out, as well be shown), the ultimate costs of the particularly expensive tooth filing (*matatah*), marriage (*nganten)* and cremation (*ngaben*) ceremonies rest on the family alone. Village families often spend years planning and saving to perform these rituals. What motivates the Balinese to spend so lavishly and sometimes to go into debt to carry out these ceremonies? In attempting briefly to answer this complex question it is useful to understand that the Balinese views life, death, and rebirth a cyclic system. The rapidity with which this system moves and its immediacy to the families involved makes it all the more important. For example, grandmother may die and be reborn as the grandchild of her grandchild. To facilitate this process it is essential that the key rite-of-passage ceremonies, both in life and death, be performed appropriately. An individual who does not receive the proper ceremonies in life is ashamed, and a spirit that is not properly treated in death may return to cause the family anguish and misfortune.

Another force frequently giving impetus to the elaborate celebration of these rite-of-passage rituals (*Manusa* and *Pitra Yadnya*) is the desire to acquire or demonstrate family or clan status. In *Banjar Jegeg*, whether it is an extravagant (*nelubulanin*), both those immediately involved and those looking on may discuss and comment on the quality of the activity (its size, the money expended on it, if it was carried out in the proper manner, and how it compares to other ceremonies of similar nature held in the area).

Informants in *Banjar Jegeg* say that a family or clan should put on ceremonies where the degree of elaborateness reflects their *kemanpuan* (an Indonesian term meaning "ability or prosperity"). A family that does less than it is able in order to save money may be considered pahit (literally "bitter," but here tightfisted, stingy"). Such a family may, by skimping on required rituals, lose status within its community, anger its ancestors and generally bring problems upon itself both this world and the next.

The question of why the Balinese, who seem so communally oriented in many activities, can be become competitive and status seeking when involved in activities of the ritual sphere has perplexed many who have studies Balinese culture. As Covarrubias noted: It was surprising to discover the extent to which the question of rank obsesses so simple and democratic a people as the Balinese."[35] Most recently Boon and Lansing[36] have indirectly dealt with this question. The answer may, in part, lie in the nature of the prehistoric-in-origin, generationally based village organization and the impact of the Hindu caste system with its conceptual world upon that earlier system. It is enough to say here that competition may be intense not only among the upper castes, but among the common-caste families as well, and that this competition can be subtly actualized through demonstrations of rank connected to activity in the ritual sphere.[37]

When a village family has a *Manusa Yadnya* or *Pitra Yadnya* ceremony to perform, they have to make a number of decisions. Their first decision is to determine at what level of complexity they desire, for economic and status reasons, to perform their ritual. The Balinese categorize such ritual into three levels: nista (simple)*, madya* (intermediate), and *utama (*highest or complex). These levels reflect, among other things the number and type of material offerings (woven palm leaves with flowers, pigs, ducks, cloth, etc.) required and whether a *Brahmana* priest (*pedanda*) is necessary or whether a lay priest (*pemangku)* will suffice. How ever, these categories are relative to one's caste status, and consequently what is nista for a high-caste person will be difficult than what is nista for a lower-caste one.

A second decision a village family must take in planning a ceremony in the number of quests to invite. This is important, as one's status and network of social relationships are demonstrated publicly by how many quests are invited and who they are. Further, the cost of feeding guests[38] is one of the key determinants of the total expense incurred through ceremonies. However, to help families in decision-making and to keep the competitive tendencies for status from turning into an ever-accelerating, economically disastrous pattern, certain precedents and ground rules have been developed.

For example, in performing cremations, according to one's caste one cannot exceed prescribed limits. If excessive offerings are made, unfavorable consequences may occur. Members of Banjar Jegeg frequently mention an example of this. As the story goes, a few years ago, a wealthy low-caste family performed as extremely elaborate cremation ceremony in an attempt further to demonstrate and contribute to their status within the community. Many fancy offerings were made, which many onlookers felt

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[35] Covarrubias, p. 46.

[36] See James Boon; also, John Stephen Lansing, " Rama's Kingdoms: social Supportive Mechanisms for the Arts in Bali" (ph.D. diss., University of Michigan, 1977).

[37] In Balinese, this tendency for competitive rivalry focusing on relative status is termed majengah-jengahan, "competing in which defeat brings shame," from the root jengah "anger mixed with shame." The phenomenon of intergroup rivalries is pervasive in Bali and can go on for many generations, occurring in widely diverse areas, such as performing arts, sports and temple buildings well as ritual display. The group loyalties involved may be those of family, clan, village, or even regional location.

[38] The distinction is made between two types of "invitees" (*ajakan*): those who are *matah* (literally, "raw"), i.e., those persons-usually family, close friends, and neighbors-who help with ritual from the very beginning (when it is still "raw"), and those who are *lebeng* (literally, "cooked"), i.e., distant family or acquaintances who are invited only for the main days of the ceremony (when things are really "cooking") and who usually end up more as formal, non helping guests.

inappropriate for any low-caste family to use regardless of their wealth. Later that night, after the corpse of the deceased and been burned, strange noises were heard. Upon rising, members of the deceased's family saw the departed relative, his mouth stuffed with the elaborate offerings, moaning that he was too heavy (i.e. too burdened down by offerings) to enter heaven (*suarga*). A second ceremony had to be performed quickly to relieve the spirit of its burden and speed it on its way.

There are also guidelines to be followed in inviting guests. For example, in *Banjar Jegeg* if one is holding a cremation ceremony it is considered essential that one invite all family members of the level of second cousin (*mindon*). However, with less elaborate rituals such as *oton* (six-month birthday ceremonies) one need feed only extended family members as far as first cousins (*misan*). While there are few rules limiting the number of guests a family may invite to a ceremony, there are strict norms regarding what and how much they may be fed. One respondent from a neighboring village who spent 10 years as an assistant to the village headman (*klian desa*) said that he spent much of his time following up compliments villagers made against other villagers who had been too extravagant in "entertaining" guests. In one case during community-wide cremation preparations, a compliant was made against a family that was giving quests sate (pork on skewers) with pieces of meat significantly larger than usual. Thus, while we find a tendency for certain, and usually wealthier, families to attempt to raise or display their status through unusually elaborate ceremonies, there is also a range of controlling mechanisms designed to keep the complexity of ritual from escalating beyond the means of poorer members of the community.

Let us now examine what rite-of-passage ceremonies a Balinese family must celebrate as family members pass through life, and what such rituals cost. In table two types of families in *Banjar Jegeg*. The first type includes common-caste (*sudra),* low-income (Rp. 10,000-20,000/month) families, while the second type are high-caste, middle-income (Rp. 30,000-80,000/month) families with civil service or hotel industry jobs. As you can see in table 6, the high-caste families frequently expend twice as much or more on their rituals. It should also be noted that table 6 gives the costs of rite-of passage ceremonies for one person.

However, since the costs of the major ceremonies (tooth filings, marriages, and cremations) are only marginally increased with the addition of other people who need the same ritual to be performed, some families, particularly the pooper ones, save considerable amounts by sharing the costs of a single rite-of-passage ritual with one or more (usually related) families. For example, a large extended family living in a fishing village in south Bali decided to gather their resources for a tooth-filing ceremony. While Rp. 1,500,000 was expanded, 30 people from six nuclear families were taken care of at a cost of only Rp. 20,000 per person. Still, while it is usual for relatives to help a family holding a major ceremony, families less frequently hold joint ceremonies and share the costs. The reasons informants give for more ceremonies not being combined in this manner are: (*a*) that wealthier families fell their status is lowered since people may think they are skimping by joining with their relatives, and (*b*) that tension become too sharp in the long planning and working process, and frequently conflicts arise over the question of whether the number of innovations, costs, and other crucial considerations have been evenly divided.

A second strategy that is being used by village families to reduce the burden of rite-of-passage ceremonies on the family economy is the mixing of rituals. For example, the family of the former civil head (*perbekel*) of the sub-district in which Banjar Jegeg is located, in an attempt to save money and to set an example for the rest of the village, combined its children's tooth-filing ceremony with its house temple anniversary and a grandchild's oton. Further, it is becoming more common in banjar Jegeg to combine tooth filings and weddings.

Even families who reduce some of the expanses by joining with others in holding ceremonies or by combining a number of needed rituals together still must have considerable resources available to expend. Where do families with incomes of Rp. 10,000-20,000 per month obtain these resources in cash and kind, not to mention the labor needed to cook all the meals for guests and helpers? As Clifford Geertz[39] has noted, every Balinese family is tied into a network of overlapping yet independent organizations evolving out its membership in temples, *banjar*, *subak,* caste /descent-group system, kin group, voluntary work and entertainment associations, and village. Through these associations a nuclear family gains a large number of friends and extended-family connections as well as a large range of contacts within the wider community. Between the family and these contacts cash, goods, and labor-sharing relationships develop. Some of these relationships are informal, and, thus, if a family is trying to organize a ceremony, extended-family members and close friends may contribute and coconuts, lend money, and generally help out. However, more frequently such relationships are clearly defined and formalized in specialized groups and organizations.

While in some areas of Bali extended family (*dadia*) organizations seem to be the primary source of resources, in *Banjar Jegeg* area independent neighborhood associations are heavily relied on to supply materials, labor, and sometimes cash. Some such organizations are unknown as *seka patus.* Most seka patus organized for *Manusa Yadnya* ceremonies consist of form 15 to 50 member families. If a member family wants to perform a ceremony it can reserve its turn for a certain date. When the time comes near, seka members must contribute the agree-upon amount of rice, coconuts, cooking oil, palm leaves, labor, and so forth, to the family holding the ceremony. *Seka patus* generally agree to grant only one or two requests per harvest or year. Each family gets only one opportunity, on a first-come-first-served basis, to draw on the services of the seka. Thus, depending upon the number of members and the number of requests that can be granted each year, a *seka patus* may last for anywhere from 5 to 30 years before all members get the opportunity to use its service. Two examples of seka patus operating in Banjar Jegeg are given in table 7.

Most of the families in banjar Jegeg belong to two or three seka patus of the kind discussed above. Many banjar families also belong to *seka patus pipis* ("cash"), which allows member families to collect anywhere from Rp. 1,000 to Rp. 20,000 from all *seka* members when their turn comes up. Still another type of banjar-oriented saving group is the seka *celelengan* (from *celeng* or"pig"). Members belonging to such groups must contribute a fixed amount usually Rp. 50-100) periodically over the 6 months leading up to *Galungan* (a major Balinese holiday) when a pig is brought and divided up. There are 15-20 such groups operating in *Banjar Jegeg*. Respondents say that people belong to

[39] Clifford Geertz, "Form and variation in Balinese village structure," *American Anthropologist* 61 (1959): 94-108.

these organizations so that their money will be protected from the immediate tendency to spend it or from neighbors who desire to borrow it and so that they will have enough meat to eat during the holiday season.

All members of *Banjar Jegeg* must belong to the *Seka Patus Mati* ("death") that is specially run by *banjar* to provide materials and labor for families faced with burials and cremations. Unlike other forms of *seka patus* (and because of the immediacy of need in disposing of a corpse) the *seka patus mati* is a permanent organization and helps every banjar family that is in need, regardless of whether it has received assistance before.

It should be clear from the foregoing discussion that through activating the resources of friends, relatives, and the various seka patus organizations, even poor banjar families can occasionally mobilize hundreds of kilos of rice, gallons of oil, bushels of coconuts, thousands of rupiah, and many person-hours of labor without great difficulty. Further, through the use of these incredibly complex networks of labor and resource sharing, peasant families are often able to put on impressive ceremonies without mortgaging their land or falling too deeply into debt to any one party.

TABLE 7: TWO TYPES OF SEKA PATUS BERAS (RICE-FOCUSED RITUAL ASSOCIATION) AND THE REQUIRMENTS ENTAILED

	Type 1*	Type 2*
Materials:	10 kg rice	5 kg rice
	1 bottle cooking oil	½ bottle cooking oil
	2 coconuts	1coconut
	1 chicken	…
	50 *Kepeng* (ceremonial coins)	…
	1 bundle dry palm leaves	…
	1 bundle green palm leaves	…
Labor:	1 adult family member working 4 hr per day for 10 days before the ritual, plus 2 adult family members (1 man and 1 woman) working 24 continuous hr stating the night before the ceremony begins	…
Number of members families	40	22

* Type 1 seka members are also required to donate cooked rice for their personal consumption while working, as well as to house guests who have come for the ceremony.

While some people have speculated that Bali may soon see the end of this elaborate ritual system, ceremonial functions not only continues in the Banjar Jegeg area, but continue at a hyperactive pace. Further, it is not only the more traditional segments of the community that are involved but the families who have entered the larger Indonesian macroeconomy as well. The recent wedding at the central *puri* (palace) in Gianyar regency is one example. Being of royal caste and coming from the family of a former king, the groom's family spent a reported Rp. 25,000,000 to see that the pair were married in a traditional manner befitting their status. A more typical example is that of a young high-caste couple working in a tourist industry who spent Rp. 600,000 on their wedding ceremony, which also included the tooth filing of three relatives. Many village families continue to expend in ceremonial activity amounts that must be considered large

in proportion to their income. Consequently, much of the cash and goods in the banjar continue to flow, as they traditionally have, through the ritual sphere.

Exactly what impact this side of village economy has on government development strategies and the larger Indonesian economy operating in Bali is hard to assess. Certainly, it is clear that many families are continuing to save (through the various traditional organizations) their resources for ritual activities rather than spend them on consumer goods. Whether this will change in the future is uncertain, but apparently there is a clear and continued stress on traditional ritual activities.

It is interesting to note, however, that many of our acquaintances in *Banjar Jegeg* gave us the impression that both ritual activities and ownership of consumer items (modern-style houses, motorcycles, fancy clothes, etc.) bring status. Still, it is unclear whether consumer goods will eventually usurp the position of ritual activities as denoters of prestige.

Including, it is important to point out that while some "development experts" have indicated that lavish displays of wealth for traditional rituals not necessary be the case in Bali. As was mentioned earlier, through the careful use of traditional goods and labor-sharing networks a village family can minimize many of the costs incurred through ritual activities. Only when families must mortgage or sell their land is their economic condition seriously damaged by these ceremonies, and this usually is not the case. Since the seka patus are run on a no-interest basis, they act as neighborhood saving and loaning institutions where no one profits or loses. Moreover, village families that begin to accumulate more wealth than their neighbors may decide to divest themselves of a certain amount (returning most of this amount to their neighbors) in ritual display. While their status may be raised as a result, their economic distance will be minimized.

However, if villages switched their status-ascription system completely to a consumer-goods basis, the situation might be quite different. In buying a motorcycle a family's capital resources leave the community (being divided among Japanese corporation, a Jakarta-based importer, and a Denpasar retailer, while many of the resources expended on rituals remain in the community, where they can be shared.

Conclusion

By surveying three aspects of Balinese village economy this study has described a series of economic patterns, both traditional and emerging. As we have seen, the traditional Balinese village economy was based on surplus rice production. Much of the work activity, whether for secular goals or religious ritual, was carried out in cooperative labor-exchange groups, with traditional culture values stressing and joint ownership of goods. The elaborate ritual system, through which much of the community's wealth flowed, tended to equalize income disparity and foster the valued state of socioeconomic equilibrium within the banjar (leaving aside the court-banjar axis, with its own economic features). The boundaries of the peasant community flowed within it.

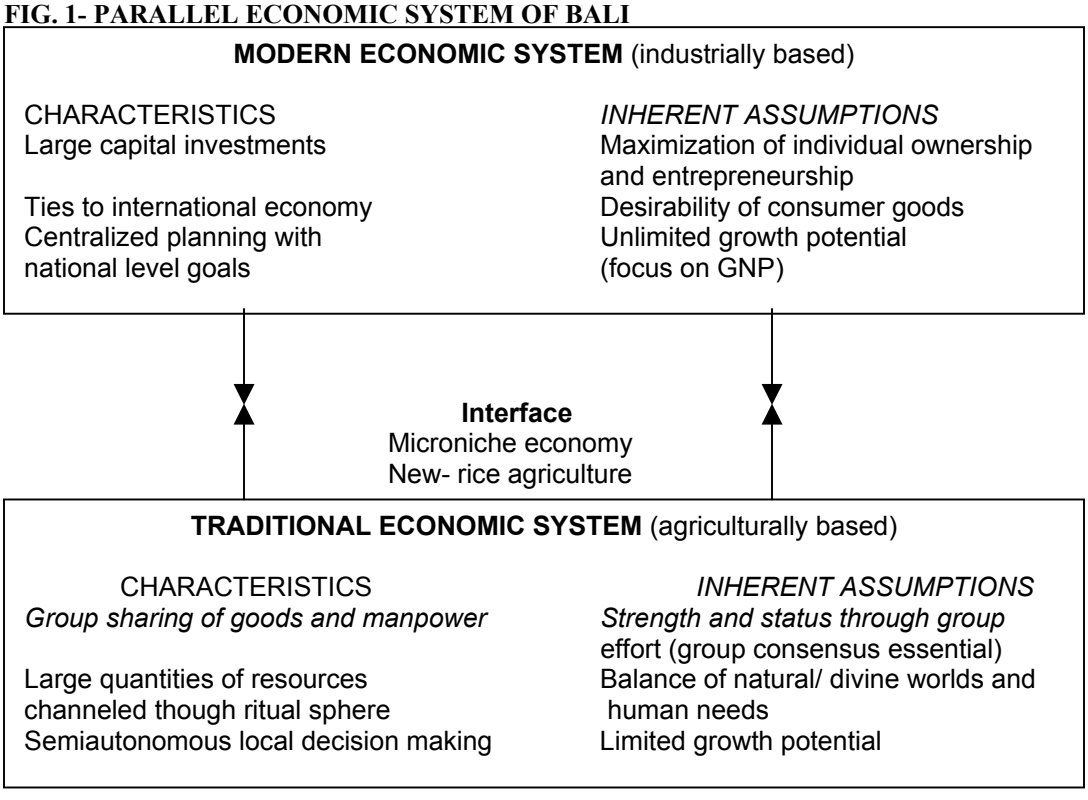
Since the time of the Dutch takeover of south Bali at the begging of the twentieth century, the Balinese village has gradually become exposed to and changed by larger, world economy. Moreover, since Indonesia's independence in 1949, the village economy has come into contact with a modern, national level economic system. In the last 10 years, two forces have brought the traditional and national planned economic patterns into ever-closer proximity. The first is the growth of a new wet-rice system based upon

capital intensive, high technology agriculture. The second is the large influx of capital from private and government sources aimed at developing an economic infrastructure capable of supporting the growth of large tourist industry.

Both of these have been unleashed by the government to contribute to the growth of the modern economic system of Indonesia and tribute to the growth of the modern economic system of Indonesia and its ability to generate capital. The modern economy which the government is attempting to develop is based on the assumption that (a) there is an unlimited potential for growth, and (b) while development strategies based on heavy capital investment in the modern economy will increase income disparity between social classes, they will also result in general increases in income for the poorer classes.

In comparing the feature that characterize the traditional village economy and the modern macro-economy (see fig. 1) we find a series of incongruities. First, a conflict exists between the traditional village economy in which growth possibilities have been limited both in quantity and in form, and government plans which assume that growth can continue indefinitely and are not too particular regarding in which social and economic sectors it occurs, as long as it occurs (and the GNP rises). Yet as we have found in the preceding sections, common-caste village families with small fixed land holdings may have little chance of greatly increasing in microniches. It is still unclear whether new rice can mesh with the Balinese ecological environment or whether a petroleum-based agricultural technology is economically feasible in the context of increasing oil prices. Many of the micro-niches that were made possible by capital "trickling" down from larger capital investment in the modern economy, paradoxically can be exploited only by relying on traditional village economic principles of interest-free loans. Among friends, minimal profit, labor intensiveness, and marginal growth expectations. Already most of the niches are intensively exploited and increasing competition may reduce profits and wages.

FIG. 1- PARALLEL ECONOMIC SYSTEM OF BALI



As an example, which points to a crucial dilemma, recently Japanese firms have made large investments in tuna fishing off Bali, using high-technology boats and equipment and specially trained personnel headquartered in the port of Benoa. While the national GNP can show considerable growth in the fishing sector and tuna exports to Japan are up, the livelihoods of traditional of traditional fishermen in the area can in no way be said to be improving. In fact, local fishermen report declining catches since the advent of the program. But regardless of whether or not the Japanese boats are seriously depleting the waters traditionally fished by men in their outriggers, the fact remains that little or no planning or credit extension for the modernization of the traditional fishing fleet in the area has occurred, and no local fishermen are employed in the new capital intensive tuna industry. In what sense, then, can the lives of these fishing families be said to have been improved by growth in the fishing sector which further enlarges Indonesia's GNP.

As villagers become more involved in the modern economic world, the foundations of traditional village economy are weakened. Desire to acquire consumer goods, which is central to the modern economy, works to counteract the stabilizing effect of intervillage goods and labor-sharing relationships that are demonstrated and activated through ritual and traditional agriculture activities. Community wealth, which once circulated within the village, now increasingly flows outward as villagers acquire motorbikes, radios, electricity, and other goods and serves. However, only those few village members who through luck or (more frequently) connections acquire fulltime jobs in the modern economy are able to channel money back into the village. Consequently, the net loss of wealth appears to compensate for any growth occurring. Studies conducted in Java[40] have similarly shown that the real income of the poorest segments of society has declined during the early and mid 1970's.

After the above discussion it can be argued that traditional economic patterns have operated to support the poorest groups of the Balinese community, rather than letting them slip farther and farther behind. The evidence at hand does not support the claims of some economists who have been influential in the planning of the modern Indonesian economy,[41] who state that although raising GNP and industrial output may increase economic disparity, it will also eventually raise the standard of living of the poorest classes. In this context, the question must be raised: Is it in the interest of the Balinese villager to become so dependent on the new economy that traditional economic relationships are lost?

The traditional socioeconomic system seems to provide answers to many of the problems village families face in dealing with an environment where resources are fixed and possibilities for growth limited. Social and economic planners are beginning to recognize these constraints as operating not only in peasant societies, but throughout the world. Therefore, it seems advisable to integrate preexisting strategies for survival with attempts to achieve growth appropriate to village conditions. Such growth plans must consider the need to increase productivity without destroying badly needed jobs or

[40] As discussed and cited in Sritua Afrief, Indonesia: growth, Income Disparity and mass Poverty (Jakarta: Sritua Arief Associates, 1977).

[41] The economists and theories in question and cited and discussed by Arief.

positive aspects of traditional socioeconomic and cultural ecological systems. Priority must be given to immediate needs of villagers in planning development schemes, rather that to large "national" growth strategies which my "trickle down," or may not.

Afterword

The research for this study was conducted from January 1977 through May 1978. Mark Poffenberger was a postdoctoral fellow at the center for South and Southeast Asian Studies at the University of California at Berkeley and was analyzing data from his research on village economy in eastern Bali. Mary Sabrina Zurbuchen was completing a doctoral dissertation at the University of Michigan; her fieldwork in linguistics was supported by a doctoral research fellowship from the Social Science Research Council. While neither of us is a professional economist, we found that in our close contact with Balinese people the socioeconomic realities of village life continually came to the fore. In an attempt to improve our own understanding and to contribute in small way to what is an undeservedly ignored and, at the moment, particularly crucial aspect of Bali's culture, this study took shape. We would like to express our deep appreciation to our village consultants, too numerous to name here. Helpful discussions were also held with Barry Cerf, John Darling, Jeff Dreyfuss, Jan Edmondson, Ann McCauley, Moses Pounds and David Stuart-Fox. Special thanks are also due to Ida Bagus Purnama Wijana. However, the opinions and findings stated here are the responsibility of the authors alone. In the text, names of respondents and smaller localities are fictitious. It should be noted that during the period our data were collected the Indonesian rupiah was valued at 425 to the U.S. dollar. The retail price of new rice averaged around Rp. 125 per kg and traditional rice however near Rp. 160 per kilo. On November 15, 1978 the rupiah was devalued to 625 to the dollar.

-Mark Poffenberger and Mary Zurbuchen