

SOCIAL AND ECONOMIC
ORGANIZATION OF THE TAMIL MELAY
SOCIETY



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SOCIAL AND ECONOMIC ORGANIZATION IN RURAL MALAY SOCIETY

Cornell University

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SOCIAL AND ECONOMIC
ORGANIZATION IN RURAL MALAY SOCIETY

A Thesis

Presented to the Faculty of the Gradual School
of Cornell University
in Partial Fulfillment for the Degree of
Doctor of Philosophy

by
L. Conner Bailey, Jr.
January 1980

BIOGRAPHICAL SKETCH

J. Conner Bailey, Jr. was born on November 19, 1946, in Burbank, California and lived in the Los Angeles area until 1964. After graduating from Hollywood High School, he attended Southern Oregon College in Ashland, Oregon where he received his B.Sc. in History in June 1968. One month later he joined the United States Peace Corps and was assigned to work with the Malaysian Ministry of Health in rural Sik District, in the State of Kedah.

After three years with the Peace Corps and one year of extended travel, in Fall 1972 he began graduate studies at Ohio University, and wrote a M.A. thesis based on field research conducted in Malaysia early in 1974. In Fall 1974, after gaining a Master of Arts degree in International Affairs from Ohio University, Bailey continued his graduate education in the Department of Rural Sociology at Cornell University.

Mr. Bailey returned to Malaysia for a third time at the end of 1976 and began eighteen months of fieldwork in the States of Trengganu and Kedah. He returned to Cornell University in August 1978 and while working as a teaching assistant, wrote a Ph.D. dissertation based on his Malaysian research. During this time he met and married Lisa Ann Brouillette Bailey. Mr. Bailey currently is on the staff of the International Center for Living Aquatic Resource Management in Manila, the Philippines.

ACKNOWLEDGEMENTS

During my graduate career I was fortunate enough to receive financial support over four academic years from a National Defense Foreign Language Fellowship which enabled me to continue my study of the Malay/Indonesian languages. Funding for twelve months of field research was provided by a Fulbright-Hays Doctoral Dissertation Fellowship. An additional six months of research support was provided through a grant from the Center for International Agriculture, Cornell University. The final stages of dissertation preparation were supported by a Cornell University Summer Fellowship and by a grant from the Southeast Asia Program* Cornell University. To these sources of support I am indebted.

Beyond this institutional support, a large number of individuals have provided valuable assistance. First and foremost I must thank the residents of Gong Guncil, Mangkok, and Kampung Dusun who took me in, answered endless questions, and befriended me in countless ways. A number of other Malaysians also contributed their time and energies to the furtherance of my research. Of these, Datuk Mokhzani Abdul Rahman, Dr. Harun Derau, Dr. Radzuan Rahman, Mr. Sioe Kuan Tow, Mr. S. Selvadurai, and Mr. Andrew Lai deserve special thanks.

Among my academic colleagues at Cornell University, my deepest debt is to the Chairman of my dissertation committee, Professor Milt Barnett, who encouraged my efforts and endeavored to keep my attention focused on those issues critical to the dissertation. Professors Tom Kirsch and William F. Whyte, the other two members of my dissertation

committee, offered both encouragement and solid recommendations.

Professors Norman Uphoff and John Cohen assisted me in the initial design of this research project.

The Southeast Asia Program at Cornell provided an atmosphere conducive to academic work and to the exchange of ideas among amiable and experienced colleagues. Of the many members of this Program X would like to single out one man, Professor Emeritus John M. Echols, for special thanks. Professor Echols was not directly involved in the research for or the preparation of this dissertation. Indirectly, however, by his example and his presence, he was (and is) an inspiration.

A number of people assisted me in the preparation of this dissertation. Judith C. Leon helped edit portions of the manuscript and handled many of the details regarding final approval of this dissertation. Judy Golub also helped to edit the manuscript. My greatest debt of gratitude, however, goes to Lisa Bailey, my wife and friend, who lived with me while I wrote, who edited and argued with me about what I wrote, prepared clean drafts and typed the final version of the dissertation. Lisa's contribution, and that of my other friends and colleagues mentioned above, has been substantial, but I bear responsibility for what is written here.

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LIST OF MEASURES

Kati = 1.33 pounds
Bukul = 133.33 pounds (100 kati)
Relong = 0.7 acres
M\$2.35 = U.S.\$1.00 (approx.)

This study is based on over five years of experience living and working in rural Malay villages. My first three years (1968-1971) in Malaysia were spent as a Peace Corps Volunteer working at a rural health clinic in Sik, Kedah. In 1974 I returned to the same area for a three-month visit to collect data for a Masters thesis. From January 1977 to June 1978 I again returned to Malaysia.

ABBREVIATIONS

DRC Dry Rubber Content
FA Farmers' Association
JKKK Jawatan-kurasa Kemajuan Kampung
(Village Development Committee)
MARDI Malaysian Agricultural Research and Development Institute
RISDA Rubber Industry Smallholder Development Authority

PREFACE

During this time I have become aware of an interesting and systematic source of diversity within rural Malay society, one based on production processes and the social relationships these processes engender. Prior to 1977, I had traveled through various Malay villages, but I actually had lived in only one. When I compared my personal experience with the written accounts of rural Malay society available in the academic literature I began to notice some important differences. The types of labor organization among both rice farmers and fishermen, for example, seemed to be quite different from those of the rubber tappers with whom I had lived and worked. These differences, I thought, could lead to other differences of a systematic nature.

As this idea formed I realized that a comparative study of rice farming, fishing, and rubber tapping would serve two personal goals. In terms of practical knowledge, this comparative study would allow me to learn more about each of these three economic activities. As a social scientist concerned with the application of research to issues of rural development, this practical knowledge would be valuable. At another, more philosophical level, it became apparent that undertaking this study would allow me to scratch a personal cerebral itch.

How important is what people do to earn a living to how they live and interact with their physical and social environments? To what extent do the practical and material exigencies of life shape and influence social relationships? The importance of these issues has been and will continue to be debated by generations of scholars. Herein I offer my own small contribution. I do not accept a dogmatic position of economic determinism. Certainly there are important aspects of life which are little affected and even transcend mere economics, but there are others which are promoted or limited by their material context. I am interested in the social consequences of production processes and relationships; and I argue that not only are economic and non-economic aspects of life often inseparable, but that there are traceable links between the two.

CHAPTER ONE

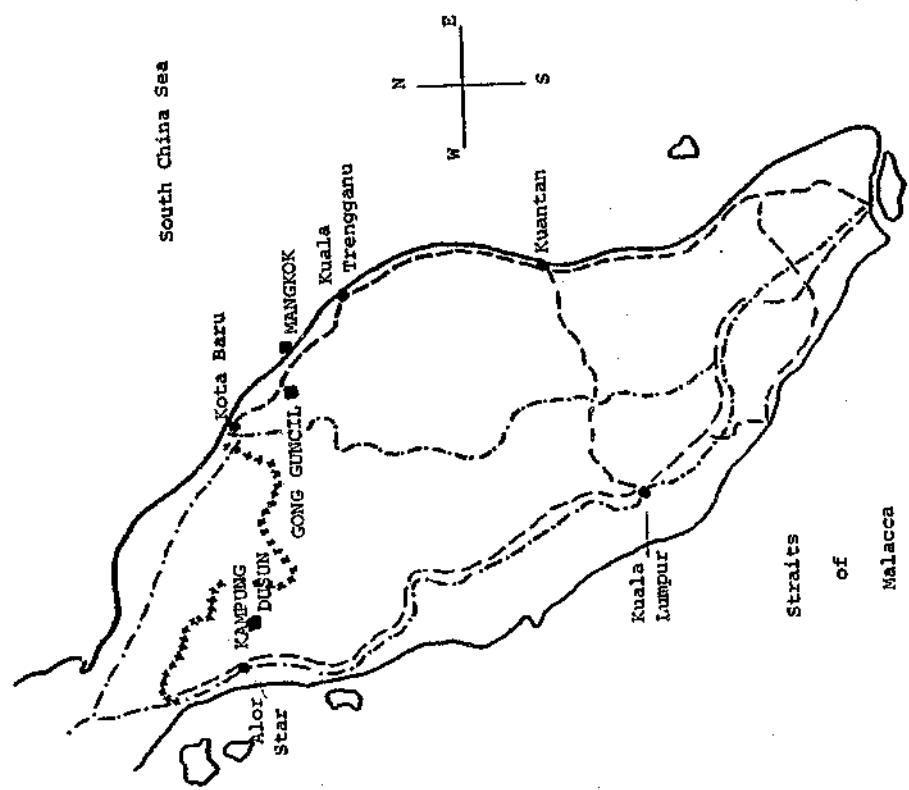
BASIC QUESTIONS AND THE COMPARATIVE APPROACH

Basic Questions

What are the social consequences of differing environmental and economic adaptations? How does the manner in which people earn a living affect patterns of social interaction in both economic and non-economic relationships? To what extent can we trace the basis of social structure through analysis of the material basis of a society's existence? Answers to these questions were sought during the course of intensive field work in three separate rural Malay communities in Peninsular Malaysia (MAP 1), each of which is engaged in different environmental and economic adaptations. Rice farming, rubber tapping, and fishing, the three adaptations compared in this study, are the most important sources of livelihood for rural Malays.

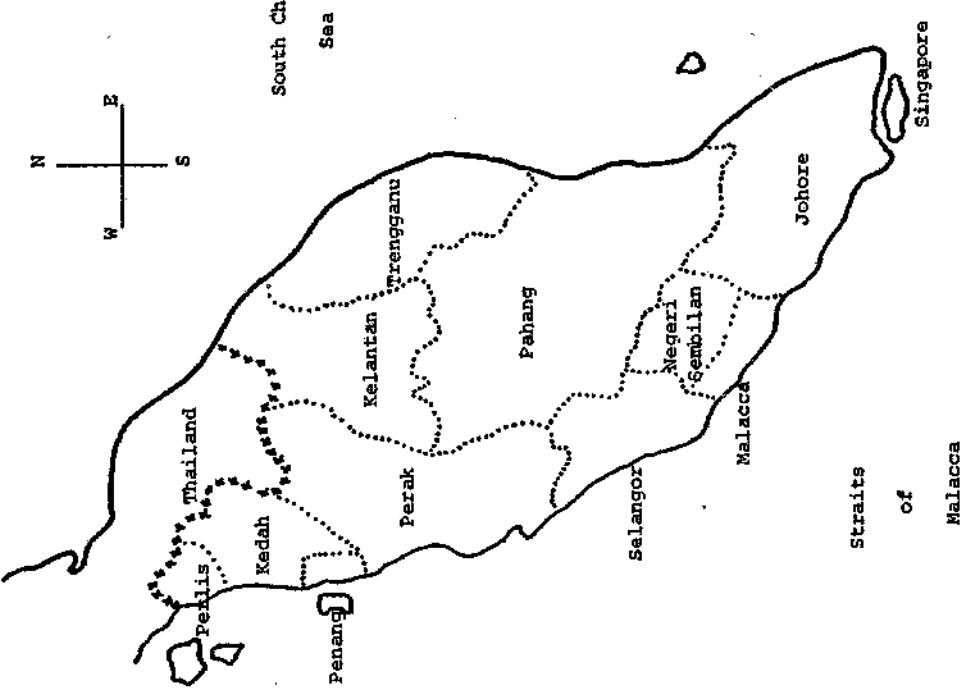
In each of the three communities studied, the pace, tenor, and character of village life are closely related to the needs and timing of these differing adaptations, and the kinds of social relationships formed in the course of production were found to carry over into non-economic aspects of life. Rice Farming families are dependent upon their neighbors and kinsmen during seasons of peak labor demand such as transplanting and harvest. The cultivation of rice is marked by complex reciprocal labor exchanges. These reciprocal obligations are important both in terms of rice production and in the broader social

Map 1
Location of Study Communities



Map 2

Peninsular Malaysia:
Political Boundaries



setting in which this production takes place. No comparable dependence upon labor exchange is found among either rubber tappers or fishermen. Rubber tapping is essentially an individual activity, a daily routine unmarked by seasonal labor demands. Fishermen are more dependent upon one another for cooperation in handling their nets, but this cooperation is limited in scope to a few men and limited in time by the constantly changing composition of crews. Unlike the larger groups of workers mobilized in rice cultivation, where reciprocal labor obligations lead to relationships between farming families which persist from season to season, the composition of the smaller fishing crews is based more clearly on economic advantage for the individuals involved.

Particular production processes dictate the type of labor organization required in each of the three cases outlined above. The relative importance of cooperation and reciprocal labor exchange has far-reaching significance for social relations within a community, but must be seen in a broader context which includes available natural and technological resources.¹ Particular types of labor organization are determined by the manner in which these natural and technological resources are utilized, and also are influenced by the manner in which access to and control over these resources are gained and maintained.

Production processes and economic relationships which these processes engender are of central importance in the formation of broader social relationships. "The anthropologist is interested in the structure and organization of economic activity for two reasons: most social relations have an economic coefficient; many social relations are primarily concerned with economic values" (Raymond Firth, 1952:122). This generalization is applicable across social and cultural boundaries, but may be seen to be of special significance in a society where a majority of the population live and work at or near the margin of subsistence. To be sure, even in this situation life is much more than an unending hand-to-mouth struggle for existence. Religious worship, artistic endeavor, and local forms of entertainment all have a place in the life of rural Malays. These non-economic aspects of life are worthy of exploration in their own right, but need be understood in the broader context of social life which, it is argued here, is largely shaped and determined by production processes and economic relationships. It is unnecessary to take a position of absolute economic determinism to underscore the importance of economic aspects of social life. It is enough to recognize that "social life is a response to the practical problems of earthly existence" (Harris, 1979:ix). In an industrial society with highly developed institutions which administer unemployment benefits, social security, and other programs of social welfare, these "practical problems" are complex, and include far more than simple material survival. In a society where many people live at or near a basic subsistence level, however, the practical exigencies of material life are of immediate and pressing importance, and occupy a

¹ Natural resources include land, domesticated and non-domesticated plant varieties, ground water and rainfall, fish, and fishing grounds. Technological resources are essentially tools (and the knowledge and skills to use these tools) for modifying and exploiting naturally occurring resources, including fishing gears, plows, hoes, and other implements, as well as irrigation facilities, new fertilizers, responsive plant varieties, organic and inorganic fertilizers, and internal combustion engines which power tractors or propel boats.

central place in their day-to-day thoughts and actions.

The basic questions asked in this study are posed not only for their intrinsic intellectual interest, but as a means of identifying important but previously overlooked sources of variation within rural Malay society. Within any given society there are likely to be a number of differing local physical environments or habitats which require specific adaptations. The three communities included in this study are a case in point. The three adaptations of rice farming, rubber tapping, and fishing differ in significant respects. Previous studies comparing differing environmental and economic adaptations typically have focused attention on different ethnic groups exploiting various ecological niches within a larger environmental setting, and have described the various adaptations and symbiotic relationships involved (e.g. Forde, 1934; Barth, 1956; Bennett, 1969). This study argues that a similar comparative approach may be taken in the study of a single cultural grouping. By comparing the three most important economic adaptations found among rural Malays we are in a position to establish which features of life are linked most clearly to the material bases of their society. The basic questions initially posed can be applied to any society. This study seeks to apply these questions as a means to understanding a particular socio-cultural grouping, the rural Malays of Peninsular Malaysia.

The goal is to discover important and systematic differences and similarities among rural Malays, and by so doing illuminate the essential nature of these warm and hard-working people. This said, let us now turn to a brief introduction of the three communities studied.

The Three Communities

Gong Guncil

Gong Guncil is a rice farming community situated in the middle of a broad alluvial plain formed by the Besut River. Most of the land is low lying and swampy, ideal conditions for wet rice cultivation. Gong Guncil is located within the area served by irrigation facilities controlled by the Besut Agricultural Development Project, and most of the rice land is double-cropped. Though new fertilizer responsive varieties have been readily adopted by most farm families since irrigation was introduced fifteen years ago, current cultivation practices are a mix of the old and the new, and many families continue to plant traditional long-standing varieties on some part of their land. Where the land is unsuited to rice, rubber and fruit trees are grown and houses built. In addition to the sale of rubber and fruit, most families raise livestock. These and other secondary economic activities are important as sources of supplementary income (sometimes the major source of cash income), but it is the cultivation of rice which determines the timing and relative importance of these secondary activities (Bailey, 1979) and provides Gong Guncil with its distinctive character.

Mangkok

Mangkok is a fishing village located on a narrow spit of sand between the Setiu River and the South China Sea. The fishermen of Mangkok use small (25' to 35') boats powered by six or eight horsepower diesel engines with a draft of three feet or less, which allows them to pass over sand bars as they make their way in or out of the river

mouth. Currently the most common gear is a drift or gill net which is used at night. Fifteen or twenty years ago, however, diesel powered boats had not yet appeared and fishermen depended on wind power. Different types of boats and nets were used and fishing took place during the day. Several years after the current style of boats and nets had been adopted a major transformation in marketing relationships led to the break-up of ownership patterns which had favored a few families. Today most boats are operated by fishermen-owners.

In Mangkok secondary economic activities also are important, but for the most part these are related to the processing of fish and provide employment for the women of Mangkok, who do not go to sea. Minimal organic content in the sandy environs of the village limits agricultural activities to cultivation of coconuts and provides graze for only a small number of goats. Across the river acidic swampish soils support the nipah palm (Nipah fruiticans), used for roofing materials, kerput (Scirpus mucronatus), a sedge used for weaving mats and baskets, and the gelam tree (Mallotus leucodendron), used for making charcoal. Further into the interior is found land suitable for rice cultivation, where approximately one quarter of Mangkok's families grow a single crop of rice on land they sharecrop. In rice cultivation the periods of land preparation, transplanting, and harvest coincide with seasons of poor fishing in the area. While some fishermen cease fishing to plant rice, others take their boats and nets a hundred miles or more down the coast in search of better catches.

Kampung Dusun

The people of the third community studied, Kampung Dusun, are

dependent primarily upon rubber tapping for their income, which varies widely due to fluctuations in the world market price for this commodity. Kampung Dusun is situated in a hilly region where wet rice cultivation is limited to narrow valleys formed by small streams and rivers. Most of the rubber trees owned or tapped by residents of this community were originally planted thirty or more years ago and yield poorly when compared to newer varieties developed by the Rubber Research Institute of Malaysia (RIM). Though replanting grants are available, loss of productivity for a period of at least seven years from the time of clearing the old stand until the new trees can be tapped limits participation in the government's replanting scheme.

Prior to the introduction of rubber early in the twentieth century, the population of Kampung Dusun and the surrounding area was much smaller and engaged primarily in subsistence agriculture. The predominantly hilly terrain was of limited utility, supporting hill rice, seasonal and non-seasonal fruits, and various products gathered from the jungle which were used in regional trade. Once rubber was established as a viable cash crop, subsistence agriculture declined in importance and the population of the area increased dramatically.

In common with the other two communities studied, a wide variety of secondary economic occupations are found to exist in Kampung Dusun, and due to the volatile nature of the rubber market these alternative sources of income take on special importance. Nonetheless the character of this and the other communities studied is strongly influenced by their respective primary economic pursuits.

Commercialization of the Rural Economy

In the brief outline presented above, each of the communities is seen to have adapted to significant technological changes which affected their relationship to existing natural resources. These changes have dramatically altered pre-existing social relations within the three communities. Production for subsistence needs has been replaced by increased commercialization. Rice farmers planting fertilizer responsive varieties are beginning to produce a marketable surplus from which they must pay for purchased inputs. Fishermen in Nangkok must meet fuel and other expenses which were unnecessary before the introduction of diesel engines, and new marketing relationships have tied their economy to major urban centers hundreds of miles away. Rubber tappers are even more involved in a cash economy and dependent upon the sale of rubber for their daily food supply. This commercialization of the rural economy has altered the form of reciprocal labor obligations among rice farmers, changed the composition of fishing crews, and reduced the significance of economic cooperation among rubber tappers. Along with these basic changes have come new types of economic specialization, new divisions of labor among the sexes, and new sources of social stratification within rural Malay society.

The Comparative Approach

The three communities introduced above offer the opportunity to discover commonalities and differences within rural Malay society. Adopting a comparative approach which focuses attention on differing economic and environmental adaptations enables us to more fully understand

stand the social consequences of these different adaptations than would be possible through a study of any one adaptation. The primary advantage of the comparative approach is to be able to compare and contrast similarities and differences, and in so doing illuminate the most important qualities of the subject at hand.

The broad purpose of this study is to discover and explain, through analysis of the three most important adaptations in rural Malay society, a systematic source of socio-cultural diversity. Previous comparative studies of rural Malays have been limited to comparisons between single and double-cropping rice cultivation systems (Purcell, 1971; Ouchi et al., 1977). While important differences exist among Malay rice farmers, the study of this adaptation alone provides a more limited understanding of rural Malay society than is possible through the comparison of rice farmers with fishermen and rubber tappers.

Beyond the comparative studies of rice farming communities noted above, there are no comparative analyses available on rural Malay society. Syed Husin Ali's Peasant Society and Leadership (1975) comes close to adopting a comparative approach, though he explicitly disavowed responsibility of comparative analysis (*ibid.*:2). The focus of his attention was upon patterns of local leadership in three communities, each of which was engaged in different economic adaptations.

The demands of teaching made it impossible for him to undertake a careful study of production processes, which would have required extended periods of residence in each of the communities studied. As a consequence, Syed Husin Ali was unable to relate the similarities and differences he found to questions of economic and environmental adapta-

tion, or to social relationships based on production. I believe that the present study will serve to elucidate the close interrelationship between processes of production and the broader social processes and relationships dealt with by Syed Husin Ali.

Beyond the work of Syed Husin Ali and the above mentioned studies of rice farmers, previous students of rural Malay society have been concerned primarily with description and analysis based on case studies of single communities. This is understandable because of the great investment in time required in collecting data adequate for even a single case study. Over the years a number of case studies have been published, including those of Raymond Firth (1966) and Thomas Fraser (1960) on Malay fishermen, and those of M.G. Swift (1965) and Peter Wilson (1967) on Malay rubber tappers. There are, in addition to these major works, a number of shorter published and unpublished studies focusing on specific aspects of rice farming, fishing and rubber tapping among rural Malays (see Bibliography).

Readers interested in drawing comparative conclusions from these studies are hampered in a number of important respects. Individual researchers have their own research agendas, and their data may not be strictly comparable. Each study asks different questions, and each student brings to the task different personalities and interests. The same no doubt is true in the case of the present study. An important difference lies in the fact that the same researcher with the same basic questions and interests approached the task at hand with an explicit comparative perspective.

Because of the major differences between the three adaptations

studied it was not always relevant or possible to ask the same exact questions or collect the same kinds of data from rice farmers, fishermen, or rubber tappers. However, the same general type of information could be and was collected. For example, in analyzing relationships between owners and non-owners of such productive resources as land and boats, the details of their relationship are bound to differ, but the nature of their relationship is comparable in the full sense of the word. Similarly, the details of labor organization in each of the three communities are different but are comparable one to another.

Adopting a comparative approach has a number of important advantages over studies of individual communities. Experience in one community raises issues and questions that can be asked during the study of another community, and which otherwise may have been overlooked. The insight gained during comparative research "can generate new research problems and new perspectives" (Armer and Grimshaw, 1973: 21) and leads to "methodological acuity" (Ibid.:23). The necessity of collecting data upon which comparative statements can be made requires the focusing of attention on specific questions. For this study these questions related to processes and relationships of production. A wide range of other data were collected during the course of field work, most of which are not included in this study. The purpose here is not to present a detailed ethnographic account of rural Malay society, but rather to present a framework in which systematic similarities and differences within rural Malay society can be illuminated and explained.

In this Chapter it has been argued that the study of produc-

tion processes and the relationships these processes engender are not only useful in their own right, but provide a fruitful means of understanding broader social processes. By focusing on particular production processes and relationships in a comparative context, this study hopes to present a richer portrayal of rural Malay society than has been possible through previous and more limited case studies. It is further hoped that the description and analysis presented here will prove useful not only to academicians interested in Malay studies, but to planners and administrators of rural development programs in Malaysia as well. Of particular interest to this latter audience will be a number of general and specific comments and recommendations concerning development policy and programs which are included in the concluding chapter of this study.

In the Chapter which follows a general discussion of rural Malay society is presented. Chapters Three, Four, and Five will build upon this more general discussion by presenting detailed descriptive information on each of the three communities studied.

CHAPTER TWO

RURAL MALAY SOCIETY

In this Chapter sources of social and cultural unity and diversity within rural Malay society are discussed, together with a brief overview of the setting of rural life in Malay villages.

Sub-cultural Differences Within Rural Malay Society

The Malay Population of Peninsular Malaysia is comprised of a mix of indigenous Malays and various migrants groups from Indonesia, including Minangkabau, Javanese, Achinese, and Buginese, as well as migrants from Patani. For the most part these migrants arrived in the late nineteenth and early twentieth centuries, and appear to have retained their own diverse cultural and linguistic heritages. Even among Malays of Peninsular origins significant social and cultural differences are found to exist between the East and West Coasts of Peninsular Malaysia.

In addition to such sub-cultural diversity, different historical experiences have affected rural Malay society. The East Coast states were less affected by the colonial experience than was the West Coast. The heaviest concentration of European economic activity was on the West Coast, especially in tin mining and rubber estates. The East Coast, isolated by a spine of mountains running down the middle of the Peninsula, and by a lack of adequate port facilities compounded by seasonal high seas, remained an economic and political backwater. Roads, railways, and other infrastructure were concentrated on the West Coast and were designed to facilitate the extractive economy of the colonial period.

Non-Malay migrants, primarily Chinese who worked in tin mines and who developed a dominant position in wholesale and retail trade, and Indians who worked on British plantations and for the British administration, were also concentrated on the West Coast. On the West Coast, important economic activities, including the marketing of both rice and rubber, came to be dominated by non-Malays, who also dominated retail trading in both large cities and small towns. Non-Malay economic penetration on the East Coast was more limited, leaving greater scope for Malay participation in local trading ventures. Even on the East Coast, however, non-Malays have come to dominate wholesale trading and much of the retail trade in the major towns and cities.

Obviously, then, a study of differing economic adaptations cannot hope to explain all the differences found to exist in rural Malay society. The cultural tableau is too rich and varied to expect that any single factor can explain all of the variance in this society.

To the extent possible, the factor of sub-cultural variation is minimized by selecting communities which are populated by Malays with peninsular origins. Two of the communities (Gong Guncil and Mangkot) are on the East Coast and separated by only thirty miles, while the third community (Kampung Dusun) is in the interior of the West Coast. Comparing this latter case with the two East Coast communities presents difficulties in isolating cultural factors from the factor of economic and environmental adaptation used in this study. Ideally all three communities would have been within the same region. Due to constraints of time and energy it was necessary to include the West Coast community of Kampung Dusun, where previous field work had been carried out (Bailey, 1976).

Though there are important sub-cultural differences between the Malays of the East and West Coasts, inclusion of Kampung Dusun as the third community minimizes these differences in that this village originally was inhabited during the nineteenth century by migrants from Patani (located on the East Coast in present day southern Thailand). During the twentieth century and with the establishment of rubber as an important crop for estates and smallholders alike, Sik District (and Kampung Dusun) attracted settlers from the more densely populated coastal plains of the West Coast. Though strongly influenced by these migrants from the West Coast, Sik District along with the neighboring districts of Baling, Kubang Pasu, and Padang Terap maintain a distinctive character. The dialect spoken in these districts is quite close to that of Patani and Kelantan, and frequent visits across the border into Patani by residents of Sik District serve to maintain kinship ties.

Some Unifying Features Within Malay Society

While sub-cultural and historical factors have led to diversity within rural Malay society, there are also many similarities which serve to bind the Malays of Malaysia together, not least of which is the political need to cooperate to maintain Malay control over national politics. The United Malays National Organization (UMNO) dominates the governing National Front and has dominated national politics since independence in 1957. Under UMNO Malays have been accorded preferential treatment in government employment, university positions, and in certain licensed occupations (e.g., taxi drivers). UMNO's appeals for ethnic solidarity play on the shared religion of all Malays, Islam, but in this they compete with the opposition Islamic Party (Partai

Islam). Political appeals for ethnic and religious unity based on a shared religion are made by both parties, and regardless of the impact of such appeals on election day, consciousness of religious solidarity certainly is heightened. This shared religious consciousness is not simply a matter of political manipulation, however, but a pervasive influence throughout rural Malay society. Every Friday, in both rural and urban areas, Malays gather in mosques for mid-day prayers, uniting individuals in the common brotherhood of Islam.

Malay Muslims combine their religious orthodoxy with a number of indigenous practices and beliefs. Traditional healing practices are a blend of sophisticated herbology and supplications to unseen spirits (see Gimlette, 1971). Until recently, annual offerings were made to spirits in Gong Guncil to ensure a good rice crop. At one time a community-wide affair, now only one family performs the semoh bendang. Similar ceremonies at one time regularly were held in fishing villages, but are now used only by individuals whose boats have been plagued by poor catches. Whether for ensuring a good catch, a bountiful crop, or regaining health, spiritual entreaties always are made in the name of Allah, whose servants the spirits are said to be.

It is worth noting that informants in Gong Guncil and Mangkok report that the dropping of these ceremonies coincided among rice farmers with the introduction of irrigation facilities and double-cropping in the mid-1960's, and among fishermen with the introduction of diesel engines which replaced reliance on the wind for propulsion. The coincidence is probably just that, and it should be noted that orthodox religious leaders for decades have attempted to purge such

non-Islamic ceremonies. Yet one may speculate that technological advances have made rice farmers and fishermen less dependent upon the vagaries of rain and wind, and this may have contributed to the demise of these propitiatory ceremonies.

Interestingly, no comparable propitiatory ceremony has been observed among Malay rubber tappers. Rubber tapping is a more recent adaptation than rice farming or fishing. As Wilson (1967:94) notes, rubber tapping lacks a basis in tradition such as is found in the other two adaptations. Rubber production is a risky enterprise, but not in the same sense that rice farming and fishing are risky. Traditional rice cultivation practices depended on adequate but not over-abundant rainfall, and the crop itself was (and is) subject to decimation by various diseases and pests. Fisherman at sea risk their lives and their equipment in pursuit of unseen prey. The risks associated with rubber tapping have less to do with pests, diseases, and other natural phenomena than with the vagaries of an impersonal market -- an unlikely object of propitiatory ceremonies.

Politics and religion are but two sources of socio-cultural unity in Malay society. First and foremost, the majority of Malaysia's Malay population are rural producers of primary products. Malay agriculturists typically own small plots of land and the vast majority earn incomes which keep them at or near subsistence levels. Malay fishermen also are typically poor, and increasingly their small boats and simple gear are competing disadvantageously with larger and more efficient boats controlled by urban, usually non-Malay, merchants. There is little hunger and probably no starvation among rural Malays,

but their relative poverty in comparison to urban Malaysians, Malay and non-Malay alike, points to considerable inequality in income distribution (see Hirschman, 1975; and the Third Malaysia Plan, pp. 159-198).

Inequality on a smaller scale also is a feature of rural life itself. While the majority of rural Malays live at or near subsistence levels, a significant minority are able to generate sufficient surplus to ensure a comfortable standard of living. A wealthy rural Malay family may own twenty acres of land while average holdings are one-tenth this size. In the past, traditional redistributive obligations modified local economic inequalities and offered social prestige and respect to wealthy villagers who provided loans, gave large feasts, and were otherwise generous with their wealth. Traditionally wealth has been less important for what it may purchase than for the social uses to which it may be put (Gullick, 1965; Bailey, 1976). The traditional rural Malay egalitarian ethos requires the holding of elaborate feasts, generosity towards the poor, and other redistributive behavior before the possession of wealth itself is accorded due respect.

Wealth alone is neither sufficient for nor the sole source of prestige, respect, or influence in rural Malay society. Religious knowledge and piety also provide a Malay with considerable influence within a community. The extent of this influence may be restricted to religious affairs, or it may broaden to include such matters as mediation of local disputes within and between families. At the village level those possessed of superior religious knowledge are accorded respect and deference, as are those who make the pilgrimage (haj) to

Mecca. Religious knowledge and piety are available to all Malays regardless of economic condition, but the expense of the haj means that only the wealthy can afford the honored titles of haji (for men) or hajjah (for women).

The Setting of Rural Life

Rural Malays live in villages (kampung) which may be either nucleated or linear, depending on topography and infrastructural developments such as roads and canals (Affiuddin Haji Omar, 1972). Malay houses typically are raised off the ground on posts, and constructed of planked lumber or locally available materials such as split bamboo, and use either galvanized metal, clay tile, or thatch roofing materials. Raising the houses off the ground allows for improved ventilation against the tropical climate's heat, some protection against flooding, and discourages the incursion of centipedes, snakes, or other unwanted visitors. A small house constructed entirely of locally available materials may cost only time and labor while a modest house using lumber and galvanized metal roofing may cost M\$2,000 (U.S.\$850). Larger, more elaborate houses may cost three or four times this amount. Surrounding the typical Malay house will be a number of seasonal and non-seasonal fruit trees, a small plot of vegetables and tubers, a small storage house for unmilled rice or Paddy (padi), and perhaps a small corral for livestock.

Malay villages vary in size, but except in proximity to a town or city rarely do they have a population in excess of five hundred. The definition of what comprises a village, however, is not altogether clear. A continuous string of houses along a road may be divided into

different kampung on the basis of a pre-existing boundary as temporally ephemeral as a tree or a drainage ditch. In other cases the geographic boundary is clear but social ties (friending and marriage patterns, reciprocal labor exchanges, etc.) are such that two different kampung may be regarded as a single community. Social boundaries may be further expanded to include those villages whose male inhabitants pray in the same mosque on Fridays, whose children attend the same local elementary school, or those villages which share a common headman (ketua kampung).

Common attendance of the same mosque or school provides a common locus of interaction for people from a number of separate villages, but because the boundaries are not likely to be the same (mosques tending to draw from a more restricted locality), the areas served by these institutions cannot always be used to delimit a community for the purpose of the present study. In two cases (Gong Guncil and Kampung Dusun) it was necessary to include more than one kampung, as locally defined, in the communities studied. This was done in part on the basis of kinship and friendship ties, and in part on the basis of economic relationships, including sharecropping relationships and reciprocal labor exchanges.

Defining a community on the basis of common attendance at a mosque, school, or sharing of a single village headman is further complicated by the fact that these boundaries have been established by various government agencies (the State Department of Religious Affairs, the Federal Ministry of Education, and the District Office, respectively), and not by the villagers themselves. Nonetheless, these institu-

tions are significant in their own right. Local elementary schools have committees analogous to Parent-Teacher Organizations in the U.S.A., and mosques have committees chosen by the male members of the congregation.

The significance of these committees lies less in their activities than in their composition. The members tend to be the same, almost invariably headed by the ketua kampung. Where Village Development Committees (Jawatankuasa Kemajuan Kampung) exist, the membership is again repeated. This latter committee, in most villages either moribund or totally non-existent, is responsible for establishing local development priorities, carrying out local projects, and forwarding project proposals to the District Office. Lacking technical or financial resources, however, the Village Development Committees (with some notable exceptions) typically do little other than request government assistance and without immediate response wither into inactivity.

Examining the membership of the various local committees formed at the government's behest provides interesting information on local leadership patterns. Election to these committees is carried out in public, and often in the presence of a government official who has come to the village to encourage the committee's formation. Willing to oblige, when nominations are opened the name of the ketua kampung typically is proffered as Chairman. He may demur, citing his other committee responsibilities, but will finally accept. The position of secretary will then be filled, often with a younger man with some secondary education which will equip him with the ability to compose letters to the various government agencies. Finally, the remaining

members are nominated, seconded, and selected. Neither chairman, secretary, nor ordinary members are selected by means of election between competing nominees. Only one nomination is likely to be brought forward for each position and the nominee approved through informal consensus indicated by murmur of approval and nods of agreement.

The results are predictable in advance, but the picture of consensual agreement derived from this process may be misleading. Sometimes villages are riven by factions that are not immediately apparent. These factions may coalesce around individuals who are competing for local influence, and often such factions find expression in allegiance to competing political parties. As clearly shown by Kessler (1978), who analyzed political conflict in terms of economic class, political allegiances may reflect more than individual competition for local influence. Outside of Kelantan, where UMNO and Partai Islam have been engaged in a long and acrimonious political struggle, local factions may be less clearly based upon ideological differences than upon pre-existing tensions between individuals seeking local influence. In extreme cases the formation of factions may seriously disrupt village life. During the election campaign of 1969, some villages in Sip District (though not Kampung Dusun) were so divided that members of one faction would not attend wedding feasts or burial ceremonies held by members of the other. The main division, between the factions supporting UMNO and those backing the Partai Islam, was subsequently papered over by the formation in 1972 of a National Front Government which included these and other parties in a ruling coalition. (Partai Islam was expelled from this coalition in 1977 during a contro-

versy surrounding alleged corruption. It suffered serious losses during the State and National elections of 1978, including loss of control in Kelantan, its traditional center of power.)

Marriage

Though local factions often divide a community, ties of kinship, more lasting than the personal and political competition around which these factions form, serve as a countervailing and unifying force within rural Malay villages. Typically the residents of a given community are able to trace familial ties to most if not all of their fellow villagers, and are able to call upon their kinsmen for assistance in time of need. Insofar as they are able, kinsmen are expected to help each other with emotional and material support, and to assist one another in the fields or at sea. The closer the familial bond, the stronger are these expectations, and more frequently are the obligations of kinship invoked.

Often one finds clusters of close kinsmen living in separate houses situated on a single parcel of inherited land. With the exception of the matrilocal Minangkabau, the pattern in rural Malay society is for newly married couples to live near whichever set of parents is most able to provide material support. In some cases a newly married couple will reside in the same house with one set of parents until they are able to build a house of their own, which may be located next to or near the house of these parents. The most important form of material support for a young couple is access to land, and the decision as to which set of parents to follow is often made on this basis. If land is available, the newly married couple may be allowed to sharecrop the

land, or title may be transferred into the name of the parents' offspring.

Marriages between Malays as closely related as first cousins are permitted, and in some cases encouraged. Though parents traditionally chose their offsprings' marriage partners, young men and women today prefer to make their own decisions regarding whom and with whom to marry. In the past women were married as early as their fourteenth year, the men being several years older. More recently the age at marriage has increased. It is now rare for women to marry before their sixteenth year, and they do so more commonly after their eighteenth year, while their husbands are likely to be in their early twenties. One major factor influencing this change in age at marriage is the increased availability of and acceptance of the importance of education, for boys and girls alike, not only at the primary but at the secondary level. Prior to Independence in 1957 facilities for secular education had been quite limited in rural areas. Since then rapid expansion of the school system has brought primary and secondary education to the previously neglected rural populations.

Marriages tend to bind together families which are of approximately the same economic standing. Differences in economic standing among the majority of rural Malays are not extreme and present no obstacle in arranging a marriage. Within any given community, however, there are likely to be a few families significantly better off than their neighbors. These families typically are descendants of the original inhabitants of the area who laid effective claim to relatively large acreages of land. Through the generations these families have

become closely interrelated and continue to form marriage alliances among themselves. These relatively wealthy families are reluctant to conclude marriage alliances with families significantly poorer than themselves, not so much from a consciousness of themselves as a separate class but rather from concern for the material well being of their children and grandchildren. The result, however, is the establishment of an identifiable group within rural Malay society who are isolated from the majority in terms of kinship. In recent years these families have widened the potential range of marriage alliances to include other relatively wealthy groups in society, including local teachers and government officers.

One means by which poor families are discouraged from seeking marriage alliances with more wealthy families is the requirement of paying the wife and her family a dowry, known as mas kahwin (literally "wedding gold"). The sum of money demanded as mas kahwin varies widely. A wealthy family with an educated daughter may demand M\$2,000 (U.S. \$850) or more. The son of a poor family will be unable to meet this expense, and will be more likely to marry the daughter of a family of roughly comparable economic standing where the mas kahwin may be as little as M\$200 (U.S.\$85). While the cost of mas kahwin will not prevent the son of a wealthy family from marrying the daughter of a poorer family, such unions are uncommon.

The mas kahwin, in addition to certain other negotiated gifts, is meant primarily for the security of the wife in the event that the husband divorces her. Divorce is quite common and easily arranged. Most rural Malays appear to have been married and divorced several times.

and there is little difficulty in remarrying for either men or women. (Djamour, 1959, devotes separate chapters to marriage and divorce among Malays.)

Inheritance

Within rural Malay society inheritance of material assets tends to be divided equally among all children. Though the Koran favors male heirs with a larger proportion of an inheritance, Malay parents feel that both sons and daughters have equal need of and claim upon the family's property. Equal treatment of all heirs may be modified by other factors, however. For example, a parent owning two scores of rice land is unlikely to divide this land equally among five or six offspring. To do so would reduce the size of individual holdings to an uneconomic fragment. The distribution of an inheritance is likely to be based on the needs of the various possible heirs. Some of the children may find employment outside of the village or marry a spouse who owns land sufficient for that couple's own needs. By the time a parent is ready to pass along control of land to his or her children, they already may be established economically, and their respective needs and abilities already will be manifest.

A small holding of two acres of rice land, for example, may be divided among two offspring, perhaps giving the family house and adjacent land to another. It is hoped that the other children will manage through marriage, migration, or other employment. There are a wide number of possible variations upon this example. Each of the offspring may be given a share in the land which is then worked by one or two of the heirs, who in turn give some part of the yield to their siblings in

an informal sharecropping agreement. Alternatively, the land may be sold and the proceeds divided among the heirs. This is most common if the parent dies before the land has been divided and if the various heirs cannot agree among themselves on the disposition of the land. To forestall such disagreements, parents prefer to distribute their inheritance as they reach old age, surrendering control over the land in return for material support during their remaining years.

Fragmentation of land holdings from generation to generation occurs as the ratio of population to available land becomes increasingly unfavorable. The effect of inheritance upon relatively wealthy families in the land-based economies of rice and rubber should also lead to decreased size of land holdings from generation to generation. It would appear, however, that fragmentation of large holdings has been delayed by selective marriage alliances which bring together families of landed wealth or unite families of landed wealth with government civil servants whose wealth is derived from a regular salary. The process of fragmentation also may be slowed as the offspring of these families are likely to achieve above average educational attainments and enter the ranks of the civil service, in which case those siblings who stay at home stand to inherit the bulk of their family's land. Finally, it should be noted that families who already are wealthy will be able to convert their surplus income into the purchase of land which may come onto the market.

For rural Malays engaged in land-based economic activities, inheritance is the primary means of access to productive resources. Land, and especially rice land, is a limited resource which rarely is

offered for sale. A family which does not inherit land is likely to remain permanently landless. Even when land is available for purchase, it is likely that the price will be too high to be afforded by most families.

Inheritance plays a reduced role in providing access to productive resources in a fishing economy due to the ease with which fisherman buy and sell used boats and fishing gear, and the relative impermanence of these productive resources compared to land. Boats and nets deteriorate over time and need constant repairs and replacement. Moreover, the most important resource to fisherman, the sea, is freely available to all. By way of contrast, permanent and enforceable rights are attached to land, which may be transferred from generation to generation. Unlike land, which is in limited supply and usually privately owned, it is possible to build another boat or buy a used boat, and to add another net to the fishing grounds.

Rural Malay Society

This Chapter has reviewed a number of salient differences and similarities within rural Malay society. Socio-cultural diversity among rural Malays was seen to be a result of such historical developments as migration both from Patani and from various points in the Indonesian archipelago, and the differential impact of the colonial period on the East and West Coasts of Peninsular Malaysia. By choosing three communities with Peninsular origins, the intervening factor of sub-cultural diversity has been reduced for this study. The focus on variation in important economic and environmental adaptations explains a previously overlooked source of diversity within rural Malay society.

Despite significant sub-cultural diversity there are a number of features in rural Malay life which give this cultural grouping cohesion and a strong sense of ethnic identity. Malaysia's population is comprised of several distinct ethnic groups, including the Malays (who comprise roughly half of the total population), Chinese (roughly thirty-seven per cent), Indians and Pakistanis (roughly eleven per cent), and a number of smaller immigrant and aboriginal groups. In this pluralistic national society, ethnic identification -- a sense of "we" versus "they" -- comes naturally and is expressed in political and economic competition. UMNO and Partai Islam, the two major political parties representing Malay interests, use the theme of ethnic identity in their political campaigns. In their own way each party strives to retain the paramount political position of the Malays in Malaysia. Malay ethnic solidarity also draws upon the brotherhood of Islam, to which all Malays belong. Islam unifies the Malay population and is the single most important factor in differentiating Malays from non-Malays in Malaysia.

The unifying feature of Islam provides an emotional sense of ethnic identity, but this identity must be understood in the context of political and economic friction between Malays and non-Malays. While Chinese, Indians, Pakistanis, and Europeans control the nation's economy and by weight of numbers dominate urban life, the Malays of Malaysia are predominantly rural producers of primary products, the marketing of which essentially is beyond their control. The major towns and cities of Malaysia are foreign ground to most rural Malays, and conversely rural Malay villages are foreign to most urban Malaysians.

Interaction between urban and rural Malaysians essentially is limited to marketing and other economic relationships which are fraught with tension. Occasional visits to urban areas provide rural Malays with evidence of an economic vitality and wealth unknown in the rural areas.

Such economic inequality has become a major campaign point of both UMNO and Partai Islam and is reflected in the government's attempts to re-structure the economy by increasing Malay participation in the essentially urban economy (Third Malaysia Plan, 1976 - 1980; see especially Chapter One on the New Economic Policy).

Despite efforts by the government, the majority of Malaysia's Malay population will continue to live in rural areas in the foreseeable future. As agriculturists and fishermen the majority of whom live at or near a subsistence level, their primary day-to-day concern is earning a living for themselves and attempting to ensure a decent standard of living for their heirs. Such concerns are much more immediate than questions of ethnic solidarity, which typically arise to the forefront of consciousness only during political campaigns. Daily life on the village level revolves around production processes and social relationships which are directly influenced by these processes.

In the three chapters which follow, detailed descriptions of production processes and relationships will be offered on the adaptations of rice farming, fishing, and rubber tapping.

CHAPTER THREE

GONG GUNCIL:

A RICE FARMING COMMUNITY IN TRENGGANU

The Setting

Gong Guncil is set in the broad plain formed by the Besut River, a plain rimmed by mountains reaching elevations of over 4000 feet and set against the South China Sea. Interspersed throughout the plain are small hills, rarely over 200 feet in elevation and sometimes only a few feet higher than the rice fields themselves. In the local dialect the term gong refers to such slight elevations in the terrain, while a more substantial hill will merit the term bukit. Gong Guncil takes its name from such a minor elevation where a species of tree (locally known as a sunclil tree) was at one time prevalent. Maps of the surrounding rice plain are dotted with the names of villages prefaced by the word dong as homes typically are located where the land is higher and consequently drier.

The Besut plain includes about 14,000 acres of rice land, including 12,600 acres which are provided with irrigation for double-cropping. Further into the interior, the plain narrows and is succeeded by hills and mountains. The main economic activities in the interior are rubber tapping and the collection of fruits and jungle produce to sell. Limited quantities of rice are grown for local consumption where low-lying level land is available. As one moves further up-river, the population becomes increasingly sparse and the land available for cultivation increasingly limited by the presence of a national forest reserve

which protects the headwaters of the Besut River and the mountains and forests which flank the rice plains.

Downstream the rice lands of the Besut plain give way to the sandier beris soils near the coast. Some of these sandy soils are planted with rice, but they yield poorly and more commonly are planted with coconuts or tobacco. Coconuts predominate along the coastal fringe, while tobacco tends to be grown towards the interior. Since the late 1960's tobacco cultivation has gained widespread acceptance due to the profitability of this crop, especially in rotation with rice.

The soils of the main rice plain are alluvial deposits brought from the surrounding mountains by the Besut River. The predominant soil type is known as the Chempaka Series, a yellowish-brown friable clay. Underlying the topsoil in the rice field is a two- to three-inch thick plow pan created by repeated plowing at the same depth which acts as an impervious layer through which the movement of water and nutrients is inhibited. This plow pan is the most important feature of the soil structure of a rice field and is vulnerable to damage if large, heavy tractors are used. Below the plow pan the soil becomes increasingly yellow as the organic content is reduced. The Chempaka Series is categorized as a Class II soil in Malaysia, a classification based on productivity. There are no Class I soils in Besut; the largest concentration of such soils in Malaysian rice fields is found in the State of Kedah on the West Coast. There farmers may obtain upwards of 1,000 gantang of rice per acre per season, compared with an optimum level of perhaps 500 to 550 gantang in the Besut area. This latter figure is based on field tests conducted by MARDI (Malaysian Agricultural

Research and Development Institute) under carefully controlled conditions. Farmers in the same area reported average yields of 300 to 350 gantang per acre per season.

A gantang is a volumetric measure equivalent to one Imperial gallon; one gantang of unmilled rice weighs approximately 5.6 pounds. The gantang will be the measure used throughout this study; for those readers more familiar with the international measure of kilograms per hectare, the conversion formula is as follows: multiply the number of gantang by 2.54 (kilograms per gantang) and then again by 2.471 to convert the figure to hectares. Three hundred gantang, for example, equals 1,883 kilograms per hectare. The price that farmers receive is easily calculated on the basis of gantang, since during the period of study the price was approximately M\$1.00 per gantang of unmilled rice (paddy).

The Besut Agricultural Development Project

In an effort to raise the productivity of rice farmers in Besut, the national government has developed irrigation facilities to allow for double-cropping of wet rice. Since before Independence it has been a goal of the governing authorities to achieve national self-sufficiency in rice, the national staple. In 1961, the Sungai Angga Irrigation Scheme was built, providing irrigation to some 2,500 acres of the Besut rice plain, including the Gong Guncil area. This project supplied water by damming and diverting the flow of the Angga River (a tributary of the Besut River) and channeling the water to the fields through unlined canals.

In the early 1970's this Sungai Angga Irrigation Scheme was

expanded to become the Besut Agricultural Development Project. A new dam diverting water from the Besut River was constructed and the irrigation canals were upgraded and lined with either concrete or prefabricated fiberglass. Paved and dirt roads were built and a rice mill constructed within the Project area. 5,600 acres, including the previous Sungai Angga Irrigation Scheme, was designated the Stage I area of the Project. The Stage II area of some 7,000 acres, in addition to 3,100 acres of the Stage I area, had never been served by irrigation facilities and construction had to start from scratch. A South Korean firm won the international tender and construction was to begin in 1972 and to be completed by 1974 or 1975. Inflation, various delays, and serious cost overruns forced the South Korean firm to abandon the Project before the basic construction was complete, and only by early 1979 was the basic infrastructure in place. The project also was plagued by unrealistic expectations.

In the light of subsequent agronomic research, the initial goal of 800 gantang per acre was shown to have been unattainable, and the cost-benefit calculations that were used for obtaining funds from the Asian Development Bank to carry out this Project proved unrealistic. These unrealistic goals together with construction delays led to a number of newspaper articles and political speeches which labeled the Besut Project a failure.

Despite the concern of officials in the Ministry of Agriculture, the Besut Project area had not previously attracted the attention of researchers. By contrast, the neighboring Kemulu Agricultural Development Authority and the Muda Agricultural Development Authority in Kedah,

the two largest irrigation projects in Malaysia, have been studied by foreign and Malaysian scientists in the social and agricultural fields. It was in part to remedy this situation that I chose the Besut Project area as the site of my research on rice production.

The Village

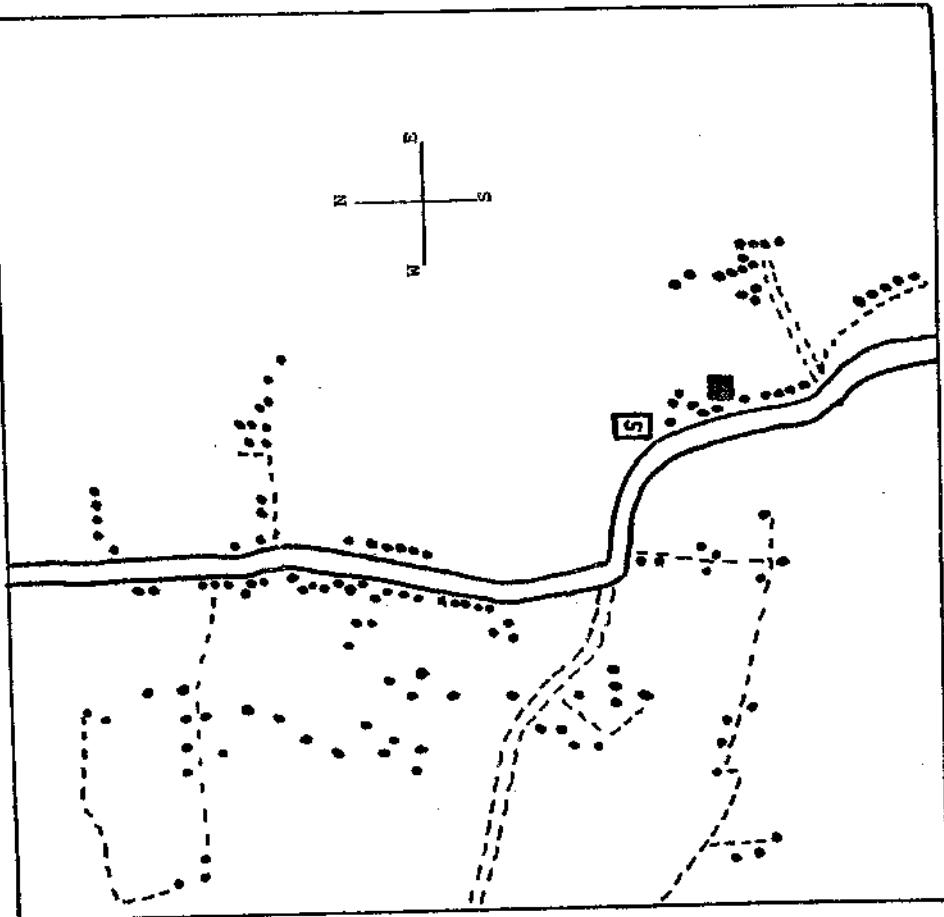
Gong Guncil is similar in many respects to other villages in the Besut Plain. The village is set among rice fields interspersed with stands of rubber and fruit orchards in places where the land is unsuited for rice farming. The houses themselves are arranged in a semi-nucleated pattern on land that is higher than the surrounding rice fields (Map 3). As is the case in any Malay village, the grounds immediately surrounding the houses are kept clear of grass or other vegetation, and this area is regularly swept clean by women or young girls of the family. Beyond this little perimeter fruit trees are found, almost always including one or more coconut trees, as well as banana, rambutan, and others. There also may be small garden plots, though these are not as common as might be hoped.

The primary source of animal protein consumed in Gong Guncil (and by rural Malays in general) is fish, usually salt water fish purchased from peddlers and supplemented by fish captured in rice fields, irrigation canals, and local streams. Virtually all families raise chickens, and ducks also are common. Ducks and chickens are valued for their meat and their eggs, which may be eaten by the family or sold. Chickens and ducks live mostly by scavenging in the area surrounding the family's home but also are fed with kitchen scraps and rice bran. When such food is available, chickens and ducks come running when called

Map 3
Gong Guncil Study Area

Key

	Paved Road
	Dirt Road
	Footpath
	House
	Mosque
	School



by their owners. This may occur several times a day, which keeps them from wandering too far away from home and facilitates rounding them up in the evening when they usually are put into cages for protection against predators. Village chickens are tough and, by American standards, scrawny, but they are highly prized for their taste, which is far superior to that of grain fed chickens who do not scavenge. A chicken of three pounds live weight may bring as much as M\$5.00 if sold. While many are sold, it is common practice to slaughter a chicken if guests arrive for dinner. Chicken is a special treat and guests who are fed chicken rather than fresh or dried fish know their presence at the meal denotes a special occasion. Often, when I was invited to eat with a family, chicken would be served. Later that day or the next, other members of the community would ask what had been eaten and would nod approvingly when they learned (or more likely when it was confirmed, as they probably already knew) that we had eaten chicken.

Chickens and ducks are easily raised and require no great expenditure of capital to obtain. Because of the small number of such fowl raised and sold by an individual family, this is unlikely to be more than a source of pocket money, to be used for immediate expenses. The raising of goats, cattle, or water buffalo, however, entails greater investment and the opportunity to accumulate large sums of money. Inheritance often plays an important role in a family's acquisition of breeding stock, especially for cattle and water buffalo. Buying mature reproductive stock is prohibitively expensive for most families, as the price for such animals is set by the market for meat.

A family owning no cattle or water buffalo need not purchase any

animals to start its own small herd. Often a family which already has a small herd of animals, or which does not want the trouble of raising an animal, will turn over to another family the responsibility of raising and caring for a young animal. This arrangement, known as pawah, takes a number of different forms. The family which takes over responsibility for raising the animal usually obtains ownership of the first female offspring while the owners receive the second. Alternatively, the first-born is assigned a monetary value after it has been weaned and either family may buy out the half share of the other, with first preference being given to the family which raised the animal. This is especially common if the first born is a male whose value will be limited to sale rather than reproduction.

The Veterinary Department also has a pawah scheme through which selected and presumably improved breeding stock is introduced into the rural areas. In the government's pawah scheme, the family given the cow obtains full ownership of the first female offspring. After the offspring is weaned, the mother is returned to the Veterinary Department to be given to another family. If the first born is male, the family will usually keep the cow until a female is born.

Land Use Patterns

The small parcels of land around village houses are known as tanah kampung (literally village land). As is apparent such lands are used for many purposes, from providing for a family's needs for such important foodstuffs as coconuts and chili peppers, to yielding cash income from the sale of fruits and vegetables. Very little tanah kampung is unproductive. Livestock are tethered and allowed to graze on any

open land not planted to rice, rubber or other crops. Even the swampish land surrounding natural drainage channels (locally referred to as alor) provides food and wallowing grounds for the water buffalo.

Within the village are also areas referred to as tanah dusun, land which may appear to be totally undeveloped. At closer inspection, certain species of fruit trees such as the durian, chempedak, duku, and others will be seen. The sale of fruits from such orchards (dusun) provides an important cash income to many families. Typically tanah dusun is full of brush and undergrowth of seemingly little value. But this vegetation serves as graze for livestock (especially goats), provides a source of wood for cooking, and perhaps most importantly of all, such land contains a wide variety of delicious and nutritious leaves and herbs used in cooking. For many families this is the single most important source of vegetables, and access to this resource is free to anyone regardless of ownership of the particular dusun. Only the fruit trees and their produce are jealously guarded and regarded as private property. Medicinal roots and herbs also are abundant on tanah dusun. While clearing the undergrowth from such land may allow for increased productivity of the fruit crop, it would seem that the advantages of leaving the dusun in a more natural state outweigh any potential increase in fruit, especially when the cost of labor necessary to keep back such vegetation in a tropical environment is taken into account.

The difference in elevation separating tanah Padi (rice land) from kebun cetah (rubber stands), tanah kampung and tanah dusun may be slight but usually is enough to preclude the latter areas from being used for rice farming. Rubber and fruit trees do not thrive in the

waterlogged conditions typical of land suitable for rice cultivation, and only rarely would a house be built on such land. Not only would valuable production be lost, but the site of the house would be uncomfortably wet and muddy. From November through January, the period of the Northeast Monsoon, much of the village is in any event a quagmire of mud, except for the paved road that runs through the village.

The town of Jerteh

The road through Gong Guncil was paved as part of the infrastructural improvements of the Besut Project. It connects the Gong Guncil area to the main East Coast highway, only two miles away, and to the major town of the area, Jerteh, which is two miles further down the highway. Jerteh grew in importance with the construction of the East Coast highway, coming to surpass in size and commercial importance the seat of the District headquarters in Kampung Raja, and totally eclipsing Kampung Amir, which at the turn of the century was the largest town in the District but which now is undistinguishable from any other village in the area. The District's only movie house, a branch of a commercial bank, a branch of the Agriculture Bank, and the District's largest daily market are located in Jerteh. There are several eating shops, and approximately twenty sundry goods shops, as well as several photographers, auto mechanics, and barbers. As is common in towns and cities of Southeast Asia, the goods from these shops tend to spill out onto the sidewalks, which are occupied by a number of petty traders -- usually women -- selling local fruits and sweets.

A visitor to Gong Guncil using public transport will arrive first in Jerteh and then hire a pedicab, locally known as teksi. For

MS1.40 (about U.S.\$0.60) a man will peddle his passenger or passengers the four miles to Gong Guncil, passing through villages, stands of rubber, and fields of rice. No buses serve Gong Guncil, but there is a bus stop at the main highway from which passengers may hail buses north to Jerteh and beyond, or south to Kuala Trengganu. The son of the village headman (Ketua Kampung) operates a Mercedes taxi owned by his father, but he plies the main highway during the day, only returning at dusk. In addition to these forms of transport, there also are bicycles. Most families either own a bicycle or are able to borrow one, and the ride to Jerteh and back takes less than one hour. The teksi is the preferred method of travel for women, who generally travel in pairs or in groups, while the men -- more easily able to travel alone -- generally rely on the bicycle. In addition, within Gong Guncil there are five privately owned automobiles, twelve privately owned motorcycles (predominately Honda 70's), and two small vans used for trading but which may be hired for various transportation needs.

The presence of privately owned automobiles that are not used as "pirate taxis" is rare in rural Malay society. Due to high taxes levied on both automobiles and fuel, the cost of owning and operating an automobile is prohibitive for most. One car owner is the headmaster of an elementary school, the locally-born son of one of the village's wealthiest men. The second automobile is owned by a husband and wife who are both teachers. Another is owned by a man who earns a cash income as the gardener of the local elementary school and who has supplemented this income with inherited wealth in land. The fourth is owned by a wealthy land owner, and the fifth by a school teacher married

to the sister of the headmaster's wife. Each of the families owning an automobile is related to the others, and all five live in one area known as Gong Tanah Merah.

Delimiting the Study Universe

Gong Tanah Merah actually is a village in its own right, separated from Gong Guncil by a narrow strip of rice land. This village along with another known as Baruh Kual and portions of yet another (Pulau Panjang) were included in the present study for a number of reasons. When residence was established by this writer in Gong Guncil, it became obvious that significant social relationships extended beyond the rather artificial boundaries of each village. Indeed, the dividing line between one village and another often is not discernible to the naked eye, and may not be socially significant. More important, it seemed, were such things as friending patterns: who visited the homes of whom, who was invited for a feast, or who was asked to help in the rice fields. It also seemed significant that most of the residents of this area worshipped at the same mosque and formally, at least, were under the same headman. Consequently, data were collected across the formal though insignificant boundaries dividing several "villages".

The study area will be referred to as Gong Guncil, the largest of the four villages. The entire study universe included 134 households with a total population of 694. The breakdown per village is shown in Table 3.1.

TABLE 3.1

Population of Gong Guncil
Study Area by Village and Households

Village	Households	Population	Average
Gong Guncil	68	353	5.2
Baruh Kual	18	87	4.8
Gong Tanah Merah	30	173	5.7
Pulau Panjang	18	81	4.5
TOTAL	134	694	5.2

Friending patterns did not lead to the inclusion of Gong Tanah Merah in the study universe. Rather, the opposite was true. I became interested in Gong Tanah Merah simply because it was atypical, because it was an enclave of the relatively wealthy with their automobiles, television sets, refrigerators, electric generators, and large houses. Such conspicuous consumption seems to indicate a shift away from traditional patterns of redistribution.

Traditional and Contemporary Uses of Wealth

Traditionally, a wealthy family would employ its resources to establish a prestigious and influential position in society by holding elaborate feasts marking rites of passage for its children (weddings, circumcisions, etc.), materially assisting other villagers holding similar feasts, contributing generously to feasts marking religious celebrations, advancing small loans in cash or kind with little expectation of repayment, or providing land and tools to newcomers in the area and thereby assisting them to establish themselves in the community (Gullick, 1965; Bailey, 1976). Wealth was valued not for the level of consumption it could provide, but for the social advantages that followed in the wake of such redistributive largess.

Traditional values related to the function of wealth in rural

Malay society have begun to erode as more and more consumer goods have become available. Automobiles, motorcycles, television sets, refrigerators, and fancy furniture have become status symbols, but generally are limited to the use of the particular family that owns them. Television sets and automobiles, however, have the potential of being shared with others. Rural Malays love to watch television, and, if invited, children and adults alike will crowd before the tube, especially to watch the weekly Malay or Indonesian movie on one of the two national networks. Even in areas not provided with regular electricity, some shopkeepers, utilizing generators for power, will buy a television set and place it in a window or doorway, attracting large crowds who sit, squat or stand outside and who, not incidentally, may purchase drinks or local sweets.

Whether or not television is supplanting indigenous forms of entertainment is a question worthy of more detailed enquiry. For the present study, however, it is worth noting that of the six television sets owned by residents of the Gong Guncil area, only two sets actually were utilized by other than the family who owned them. One of these was operated by a shopkeeper in the manner described above, the other by a young farmer who played his set only a few hours per week because he ran it off of a used automobile battery which needed to be constantly recharged. The other television sets were in the homes of the wealthier villagers of Gong Tanah Merah. I found it interesting that, despite a truly strong desire to watch television, the poorer families never intrude on the private viewing of their more wealthy neighbors. In fact, rarely do they visit these families. During the period immediately

after the end of the fasting month of Ramadan, when villagers visit the homes of friends and relatives, there is little or no movement across what are essentially class lines. Between the average villager and his more wealthy neighbors, close friendship is lacking, and only rarely are families of the poor and the rich united through marriage; more commonly it is observed that families of similar economic backgrounds are united through marriage.

The ownership of a private automobile places a family in a unique position to assist other families, either in times of emergency, as when an illness or accident occurs, or simply to give a fellow villager a lift into town. In the latter case it is notable that only when one locally born teacher drives by will villagers attempt to hitch a ride. The other drivers are said to ignore those who hail them to stop, and are described as sombong (proud), one of the harsher criticisms that a rural Malay is likely to bestow. This teacher's willingness to stop and pick up villagers wins him such praise as to stand as condemnation of the others. Even in cases of illness, the poorer farmers of Gong Guncil prefer to ask a friend who owns a small Honda to carry the sick or injured person on the back of his motorcycle five miles to the hospital, if it is at all physically possible.

As I owned a motorcycle often I was pressed into such duties, and I also found myself upon occasion acting as a taxi service for non-emergency social calls (some of which turned into valuable experiences in terms of data and expanded relationships). It was obvious that I was fulfilling a role which was shared by a number of other motorcycle

registered owner may be entirely different from the name by which he or she is known within the village. Attempting to cut through this confusion on a multi-generational basis would have been a hopeless task. As a consequence the extent of land holdings owned by any given individual or family can only be discovered indirectly, especially with the wealthier villagers. Downplaying their wealth may be caused by fear that the government might levy an income tax (its lowest threshold is well above the level of most villagers), or that if the extent of their wealth were widely known they might be the object of requests for loans and gifts from their poorer neighbors.

Because of these difficulties in obtaining accurate data, the figures presented in Table 3.2 are at best educated guesses. They were derived from interviews with each of the households in the study universe and, where it was deemed necessary, confirmed or augmented by information supplied by certain key informants. In addition, all of

the rice fields in the surrounding area were mapped, and farmers working in the fields were questioned as to who owned each individual keping of land and, if it were farmed by a family other than the owner's, whether the operator was sharecropping or paying a straight rent. (A keping is the land within a bund, and there may be from two to three to as many as seven or eight keping per acre of land.) These maps were then checked against maps obtained from the Land Office. This latter set of maps was less useful for obtaining current information on land ownership than for providing an understanding of the process of fragmentation of land holdings. The Land Office maps did not reflect changes of ownership which occurred over the past twenty years or so. As these maps were not dated,

and as changes in ownership often were not formally recorded in the Land Office, their utility was limited. Nonetheless, these maps do show that in the recent past land holdings were larger than during the period of field research. Unfortunately the extent of this difference cannot be stated with accuracy for reasons noted above.

Land Ownership and Farm Size

The figures in Table 3.2 refer only to those households in the study area which are actively engaged in rice cultivation or which own rice land and receive income in cash or kind from this land. Fourteen households in the study area are not included in this table as they are not involved in the rice economy. We see that there are 27 households which own no land and which depend on sharecropping or cash rentals to obtain access to land. Among those which do own rice land, we see that 66 out of 93 households own less than four acres.

TABLE 3.2

Ownership of Rice Land By Household
in Gong Guncil

Acres	Number of Households				Totals
	Gong Guncil	Baruh	Pulau	Gong Ranah	
0	12	4	4	7	27
Under 1	2	nil	2	2	6
1-1.99	15	2	2	3	22
2-2.99	13	3	5	3	24
3-3.99	10	1	1	2	14
4-4.99	5	3	1	nil	9
5-5.99	3	nil	1	2	6
6-6.99	2	nil	nil	nil	2
7-7.99	nil	2	nil	1	3
8-8.99	nil	nil	nil	nil	nil
9-9.00	nil	1	nil	1	2
Over 10	nil	nil	nil	5	5
Totals	62	16	16	26	120

those households owning ten acres or more are all found in Gong Tanah Merah. The best estimate of their holdings is that they are in the range of ten to fifteen acres, though I have unsubstantiated information that one household owns as much as thirty acres.

The average holdings of rice land owned by households in the study area is 3.3 acres, including land owned by households which do not cultivate their land. Though these figures are important, the actual farm size of households which cultivate rice is somewhat smaller. According to Yap and Dixon (1972) the average farm size for the Besut rice plain is 3.2 acres, and for that section of their survey which included the Gong Guncil area the average was three acres. For the research universe in which I was working, however, the average is somewhat smaller: 2.37 acres.

The land tenure status of the 134 households of the study universe may be seen in Table 3.3.

TABLE 3.3

Land Tenure Status of
Households in Gong Guncil

Category	Number of Households
Land owners not farming	18
Owner-operators	52
Tenants	24
Agricultural laborer	25
Not engaged in rice economy	1
	14

Within the category "land owners not farming" are included the old and infirm who are unable to plant their typically small holdings, villagers with other occupations of a short-term or long-term nature that keep them from actual cultivation, as well as more wealthy land-

owners who let others work their land. The category "not engaged in rice economy" refers to one government mid-wife, one teacher, and a number of elderly widows and widowers who own no land and are typically dependent upon their children for their material wants. "Owner-operators" refers to those households which farm only land that they own, while "owner-tenants" farm what land they possess but supplement this land by renting or sharecropping land owned by others. In contrast, "tenant" households own no rice land and depend entirely upon establishing a rental or sharecropping arrangement with another family. Finally, there is one household (that of a landless widow) that is involved in the rice economy only through employment as an agricultural laborer. (This family has since moved from the area to live near relatives in another State.)

These relatively neat categories become somewhat confused in practice, as for example when a farm family which owns rice land finds their land unusable due to faults in the drainage system and is forced to sharecrop land owned by others until the problem is rectified. (Over fifty acres of rice land in the study area were affected by such flooding during the time this study was carried out.) In other cases a family of owner-operators may own more land than they themselves cultivate. Some owner-tenants are also in this situation. For various reasons (e.g., proximity to their home), they prefer to sharecrop the land of others while renting or sharecropping out some part of their own land.

To create yet more categories, however, would tend to confuse matters without ever being able to account for the full range of possible situations -- which, moreover, tend to change with each season. As the above categories are the ones most commonly in use among Malaysian social and

agricultural scientists, their use here seems appropriate. It should be sufficient to note that the categories themselves are broad and do not fully represent all possible permutations.

Within the area served by the Besut Agricultural Development Project, Yap and Dixon (1972) found that the average farm size allotted

to rice cultivation varied among tenure groups as follows:

Owner-operators	3.2 acres
Owner-tenants	4.6 acres
Tenants	3.0 acres
	In the Gong Guncil area, I found average farm size to be somewhat smaller, as shown below:
Owner-operators	2.28 acres
Owner-tenants	3.18 acres
Tenants	1.99 acres

In part the divergence in these figures may be attributable to the inclusion in the former of extensive areas which at the time of the survey were single-cropped. In such areas a larger farm size would be necessary to maintain a family. The figures presented by Yap and Dixon on ownership of land suggest that in these areas farm sizes are somewhat higher than in areas where double-cropping is predominant. It is also possible that the different methodologies used in collecting the data contributed to the different farm size averages. I am aware that my figures may not be precise, but with the benefit of a smaller study universe and careful checking I believe that my figures are reasonably accurate. My data only cover approximately 250 acres. As such they should be treated with the caution due a small sample. However, on the

basis of extended experience in the area I would venture to say the figures are representative of the Stage I area as a whole.

Table 3.4 gives a break-down of rice cultivating households by tenure category for the individual villages within the study area.

TABLE 3.4

Number of Households by Tenure Category
for Villages in the Gong Guncil Study Area

Village	Owner-Operator	Owner-Tenant	Tenant
Gong Guncil	29	14	11
Baruh Kual	10	2	3
Pulau Panjang	6	4	4
Gong Tanah Merah	7	4	7
Totals:	52	24	25

Data on farm size by tenure category for the individual villages within the study area are found in Table 3.5. The figures in Table 3.5 indicate that the average farm size of farmers in Gong Tanah Merah is significantly higher than found in the other villages studied.

TABLE 3.5

Rice Farm Size by Tenure Category
for Villages in Gong Guncil Study Area

Village	Owner-Operator	Owner-Tenant	Tenant
Gong Guncil	2.17	3.30	2.36
Baruh Kual	2.20	2.50	1.42
Pulau Panjang	2.25	2.38	1.38
Gong Tanah Merah	2.93	3.88	2.00

Average figures are useful in drawing a general picture, but often the range from which these figures are obtained is at least equally significant: Table 3.6 indicates the distribution of farm sizes for farm families actively cultivating rice.

TABLE 3.6
Distribution of Rice Farm Size
by Tenure Relationship

Size	Owner-Operator	Owner-Tenant	Tenant	Total
0 - 0.99	2	nil	2	4
1 - 1.99	16	2	9	27
2 - 2.99	17	4	8	29
3 - 3.99	11	13	3	27
4 - 4.99	4	3	2	9
5 - 5.99	nil	1	1	2
6 - 6.99	2	1	nil	3
Over 7	nil	nil	nil	nil
Total:	52	24	25	101

It may be seen that the majority of all rice farms (87 out of 101) are under four acres. Twenty-two of these cases are tenant farmers, and half of these families cultivate less than two acres of land. This may be due to a number of factors, including a preference for alternative employment. Nine of the twenty-five tenant households depend to a large extent or even primarily upon outside employment, either as laborers with the Drainage and Irrigation Department, as operators of pedicabs or as petty traders. For these households, rice is grown primarily for home consumption and not as a source of cash income.

Tenant households would appear to have adequate labor resources to work larger farms, with the overwhelming majority having at least two able-bodied adult workers within the age range of thirty to fifty years. In only one case were the adult members of tenant households over fifty years of age. In twenty-three cases the farm families were comprised of adults between the ages of thirty and fifty; in only one case were the adults under thirty. Only three tenant households had less than two able-bodied adults. (This definition of adequate labor, however, is

static in that it does not take into consideration short-term incapacities due to illness, advanced pregnancy, etc.)

0 - 0.99	2	nil	2	4
1 - 1.99	16	2	9	27
2 - 2.99	17	4	8	29
3 - 3.99	11	13	3	27
4 - 4.99	4	3	2	9
5 - 5.99	nil	1	1	2
6 - 6.99	2	1	nil	3
Over 7	nil	nil	nil	nil
Total:	52	24	25	101

Twenty of the twenty-five tenant households have lived in Gong Guncil ten years or more, and are not newcomers who may have had difficulty in establishing working relationships with local land owners. Three of the five remaining households have moved into the area within the past ten years, live in Gong Tanah Merah, and sharecrop the land of the richer residents of that village. The limited size of most tenant operated farms cannot be explained by a shortage of labor available to tenant farm families, or by an inability to find owners willing to let them work what land is available for sharecropping. Rather, the factor primarily responsible for the small farm size of tenant households is the limited availability of such land.

The amount of land available for renting or sharecropping is variable and depends upon a number of factors, most notably the labor that households which own land can mobilize. Most farm families in the owner-operator category usually plant all of their own land, but occasionally a short-term limit to their labor resources will necessitate renting or sharecropping out some part of their holdings. This may be due to an illness in the family, the advanced pregnancy of the wife (or recent childbirth) or the husband taking temporary employment outside of the village. In the case of landowners who every season have a surplus of land beyond their own capacity or willingness to farm, tenancy relationships tend to be of longer duration and generally cease on the initiative of the tenant family.

Most tenancy arrangements are made between farmers of roughly

the same economic condition and in a bare majority of cases are concluded between kinsmen (twenty-five out of forty-nine recorded cases). During the off-season of 1977 a total of 92.5 acres was either sharecropped or rented. Both tenants and owner-tenants are included in this figure, which represents forty-nine households. The average acreage of such tenancy arrangements is 1.9 acres; with few exceptions the range was from one to three acres of rice land.

Tenancy Relationships

The conditions of tenancy relationships are controlled by accepted social norms and are regarded as fair by all concerned. All sharecropping and rental agreements are verbal, and there is no legal guarantee that the tenant will be allowed to farm on the same plot the next season. There is in fact considerable shifting around from season to season on the part of households who depend in part or in full on the land of others. This is understandable when a large proportion of rental or sharecropping arrangements are made to take advantage of short-term changes in the labor availability of a landowning family. The flexibility of the system allows the family which owns the land still to obtain some income while ensuring continued cultivation of the land.

Only in eleven cases were the tenancy arrangements based on a straight rental, with payments averaging approximately 80 gantang of paddy per season per acre. In cash terms this is the equivalent of from M\$72 - 80, depending on the rice variety planted and the date of marketing. In fact most of the rice obtained from such rentals is consumed by the owner. Older land owners who have small but fixed needs prefer the fixed rental system as it limits the risk element attendant

upon sharecropping arrangements.

Two forms of sharecropping arrangements exist, bagi dua and bagi tiga. There were thirty-six cases of bagi dua and six cases of bagi tiga recorded during the off-season of 1977 in the Gong Guncil area. Four cases were found where more than one tenancy arrangement had been made. Most commonly with bagi dua all expenses of production are shared evenly by tenant and owner, and the crop is divided evenly in the field. In cases where the tenant family does not have the cash on hand when fertilizers have to be purchased, the landowning family initially may pay for this input and be reimbursed at harvest time. Under bagi dua it is the responsibility of the landowning family to harvest their share of the crop, which they may do themselves. Alternatively, they may hire someone (more than likely the tenant family) to harvest for them at a rate of twenty gantang of rice for every hundred gantang harvested, or twenty-five gantang if the rice is delivered to the owner's store house. The tenant family is responsible for seeding, transplanting, and maintenance of the crop in the field, including water control, bund maintenance, fertilization, and pest control. Variations exist, as when a tenant will prepare the land by water buffalo and the owner will pay for the fertilizer. Sharecropping agreements are both informal and flexible and allow for the respective needs and capacities of the families involved.

The second sharecropping formula used in the Gong Guncil area is known as bagi tiga. In most cases the owner of the land supplies all inputs, prepares and seeds the seedbeds, and often maintains the crop once it is transplanted, while the tenant does all the trans-

Planting and his one-third share of the harvest (with the possibility of harvesting the owner's portion at the standard rates noted above). Tenants who lack sufficient working capital to provide their share of inputs often prefer this system. The second variation of bagi tiga most frequently occurs when a parcel of land is leased to a fellow villager who obtains rights to use of the land but in turn lets the land on bagi tiga to the legal owner, taking one-third of the crop without contributing to the production costs or labor, which are borne by the legal owner.

Lease arrangements, also made verbally in most cases, cover less than five percent of the total rice land in the study area. Leasing out land provides a landowning family with a means of mobilizing quick cash while allowing those who have managed to save up a quantity of cash to increase effective farm size.

Two forms of lease agreements are recognized locally, pajak and gadai. Pajak refers to an advance of money by which use of a piece of land is gained for a stipulated period of time (i.e., one to several years). This form of agreement approximates a straight rental of the land, though the "rent" is paid in advance rather than at the end of each season. Because payment in advance the rate is lower than a normal rental, often by at least fifty percent.

Gadai refers to loans for which the capital must be repaid, the the leaseholder retaining rights of usage over the land until the principle is repaid. Gadai is the most common lease arrangement in the Gong Guncil area, and seems to favor the leaseholder since many loans take years to repay. Unless there is a crop failure, the returns to the

leaseholder are potentially great. I calculate that the return on a M\$600 investment used to lease (gadai) one acre of double-cropped rice land is over twenty percent per annum. M\$600 is the largest sum recorded during the period of field study for leasing one acre of land; more commonly half this sum would be sufficient. This return to capital is not strictly speaking an "interest" rate, as there is an element of risk involved. (As Muslims, Malays are forbidden by their religion to earn interest on loans; since in this case there is the risk of crop failure, the money advanced to lease land can be regarded as a potential profitable investment.) Given average yields, and (as is usually the case) assuming the leaseholder will let the holding on a bagi tiga basis to the legal owner, and also hire them to harvest the leaseholder's portion of the rice, the following figures indicate the returns possible. One-third of an average yield of 300 gantang gives the leaseholder 100 gantang, which, if harvested and carried by the "tenant" to the leaseholder's store house, leaves a net of 75 gantang per season, without the leaseholder contributing any labor or production costs, or 150 gantang per year on an investment of M\$600. 150 gantang is approximately equivalent to M\$150, or a return of twenty-five percent.

As noted above, families who lease out part or all of their land under gadai often take several years to accumulate enough money to regain control of their land. In the absence of other sources of loans for consumption purposes, however, such lease agreements serve a valuable function. Recognizing the difficulty of repaying what is essentially a loan, the farm families of Gong Guncil are reluctant to lease their land out to others, but occasionally are forced by circumstances

to do so.

For example, one farm family's son was involved in an automobile accident, which simultaneously reduced this family's labor resource and added major expenses which they could afford only by leasing out part of their land. A neighboring family loaned them several hundred Malaysian dollars, taking over control of one acre of rice land. Over the next two years this neighboring family gave out loans totaling M\$1,800 in return for the lease of four acres of rice land under gadai. Rather than ask the owners to continue cultivating their land, the leaseholders farmed the land themselves. This was to their advantage as they owned only one acre of rice land, and through leasing the additional land they substantially increased their farm size without having to share the production with the owners. It was for this reason that the leaseholders, a young and exceptionally hard-working couple, had saved their money. The owners of the land were unable to repay the accumulated loan, and in order to reclaim their rice land they transferred six acres of partially cleared rubber land to the leaseholders. The land was worth at least three times the outstanding debt, but as the owners needed their rice land for their basic subsistence, the rubber land was given away.

The above example illustrates both an important means of economic advancement for a household able to accumulate a small fund of working capital, and the problems faced by a farm family in need of a quick source of money. The example provided is extreme; rarely does a farm family lease out more than one acre of land, and rarely is the outstanding debt more than several hundred Malaysian dollars. It is inter-

esting to note that even regarding this extreme example, neither the parties involved nor other members of the community felt that there was anything unfair in this gadai relationship.

The various leasing, renting, and sharecropping relationships formed between farm families in the Gong Guncil area are based on the fluctuating labor and capital resources available to these families, and serve to ensure that virtually all rice land is in continual production. All of these relationships are controlled by unwritten but socially approved codes and formulas designed to protect the interests of the parties involved.

The Basic Right to Subsistence

The rice farmers of Gong Guncil, whether owners or tenants, are concerned first and foremost with producing enough rice to meet their household needs. The assurance of this basic need is not only a major consideration of farm families, it is taken to be a right. This basic right is more powerful than, and has precedence over the distributional formulae of, existing tenancy relationships. (See Scott, 1976, for a discussion of this right to subsistence among farmers in Southeast Asia.) If part of a tenant family's rice crop is lost due to a natural calamity, they may request a modification of the agreed-upon distribution of the remaining harvest, or in the case of a straight cash rental, a reduction in the amount to be paid. In some cases (for example, a retired farm family owning a small parcel of land), the owners may be less able to weather a crop loss than their tenant, who may be requested to give a larger share of the harvest to the owners. The agreement between landowning families and their tenants is conditional and based

on the assumption of yields which are expected to provide an adequate supply of rice to the parties involved. Any threat to basic subsistence needs calls for a modification of the agreed-upon distribution of the harvest or rental payment. No modification is called for if the loss is limited to a failure to earn expected cash income from the sale of rice beyond consumption needs, or even failure to meet production costs beyond consumption needs. Rather, such modifications are expected only when a family's basic subsistence needs are threatened.

During four seasons of observation in the Gong Guncil area there were limited opportunities to observe the consequences of crop loss on tenancy relationships. During one season the field of Pulau Panjang was hard hit by an infestation of the rice bug (Leptocoris acuta), resulting in partial or complete loss to several farmers. The most damage was suffered by a family of owner-operators. The husband of this family left home for several months after transplanting to work in a logging operation some eighty miles away, and no insecticides were applied to the land.

Several other families, including owner-operators and tenants, also suffered major losses, but through repeated spraying of insecticides they were able to avert total loss. Two of these tenant families were landless and poor, and even a partial loss of their crop was enough to threaten their subsistence needs for rice. The family owning the land operated by these two families agreed to allow them to harvest the owner's share so that they could earn additional grain, even though the owners usually harvested their own share. The tenants also were asked to harvest the grain from two acres which the owners themselves had

planted. Though this was not an outright gift, it was considered by the parties involved to be a subsidy in that the owners received less than they would normally while the tenants were able to receive more. The owners in this case could more easily afford to absorb the season's loss than could their tenants, and by doing so demonstrated their willingness to assist their less wealthy neighbors through a difficult time.

The willingness of landowners to assist their tenants (or vice versa) through a crop loss is a widely accepted social norm for which empirical substantiation is limited. Fortunately for the farm families of Gong Guncil, there was only one significant crop loss during the four seasons of data collection. Widely accepted social norms do, however, have considerable impact on behavior. A number of practical considerations support the existence of this norm. A wealthy family which fails to consider the subsistence needs of a less fortunate family risks social ostracism. At the very least their tenants can be expected to seek out other land to work. The shortage of available rice land means that an owner will have little difficulty in attracting a new tenant, but this new tenant family will realize that little assistance can be expected from the landowner in time of need, and will themselves be looking for other land to work. It is to the benefit of an owner who has land beyond what his or her family can effectively operate to establish a long-term tenancy relationship with a diligent farm family which will maintain the buns, fertilize adequately, and in other ways maintain the quality of the land. A tenant family which knows it will work the owner's land for only one season may withhold the use of fertilizer,

thus depleting the soil of nutrients, and allow weeds to choke the bunds, providing convenient shelter to rats and insect pests which will plague future crops. There are, then, in addition to social pressures, practical reasons for landowners to encourage the maintenance of long-term relationships with their tenants.

For many families there is another factor to be added to this normative picture of landowner-tenant relations. It may be recalled that in Gong Guncil twenty-five out of forty-nine tenancy relationships recorded during field research were found to be between kinsmen. Kinsmen are expected to assist one another in times of difficulty, and the norm of generosity between owner and tenant easily fits under the rubric of such expectations. Because half of all tenancy relationships are between kinsmen, these relationships influence the nature of all others.

Deviation from the Norm

As with any social norm much can be learned from the study of deviation from the norm in question. The basic right to subsistence in rice developed during a period when rice was planted once a year. Before the introduction in the mid-1960's of irrigation facilities which allowed for double-cropping, rice was grown primarily as a subsistence crop. Double-cropping with fertilizer responsive rice varieties has encouraged the commercialization of rice production. For the first time, many farm families were able to produce a surplus for sale and were, in fact, forced to do so in order to meet the increased production costs of rice cultivation. The extent of the surplus available for sale is limited by the small acreages planted by individual families. The majority of farm families probably produce little surplus beyond their immediate

consumption needs after the costs of production are paid.

For some families, however, rice production is a major source of income. These families are the ones which most easily can afford to be generous to their hired help or their tenants. The commercial prospects of rice production in some cases have led to deviation from

the traditional norm of generosity to tenant families. Members of the local economic elite residing in Gong Tanah Merah are shifting away from letting their land out to local tenants in favor of managing their own holdings and using hired labor. It is significant that these families are unable to attract local labor for such work. This has less to do with a local shortage of labor than with the fact that local residents who regularly supplement their income by hiring themselves out to work on the fields of others refuse to work the lands of this local elite.

The effective labor boycott maintained against the local elite indicates the kind of social sanctions which can be invoked against deviation from socially accepted norms. This boycott did not seriously hurt production on the fields of the local elite, but it did make their recruitment of labor more difficult and served to further isolate this elite from significant local interaction.

Traditional Agricultural Practices

The Persistence of Traditional Varieties and Cultivation Practices

The Besut Agricultural Development Project was established to increase the productivity of Besut's farmers. The low yields were blamed on the use of traditional seed varieties, the failure to use chemical fertilizers and pesticides, and poor farm management practices. It was thought that the introduction of irrigation facilities would enable

farmers to plant two crops instead of one per year. No longer would farmers be dependent upon the vagaries of rainfall. Water control would be regularized by the timely release of water by the Department of Irrigation and Drainage to enable farmers to prepare their fields, plant their seedbeds, and transplant. As the crop neared maturity, the flow of water would be halted, hastening the drying of the grain and facilitating harvest. Careful control of water is a prerequisite for the use of fertilizer responsive rice varieties. Farmers were encouraged to use these new varieties through seed exchange programs that gave two gantang of seed for every one gantang of seed grain turned in by farmers. Extension agents were to advise farmers on the recommended practices for these new varieties. Credit facilities were provided to assist farmers in the purchase of chemical fertilizers and other inputs necessary for optimum yields.

The receptivity of farmers to the new set of agricultural practices has been mixed; some farmers became enthusiastic adopters while others continued using the varieties and methods of the past. The majority of farmers, however, have adopted a syncretic mix of traditional agricultural practices and those recommended by the Project's extension staff. The mix is a dynamic one, based on the needs and resources of each individual household. If a family is faced with a temporary shortage of funds with which to purchase chemical fertilizers, they may return for a season to the use of a traditional variety and associated cultivation technique, and then return again the next season to the use of high-yielding varieties. Alternatively, they may continue to plant the new variety but without using fertilizers.

Sometimes farmers will say that they are planting a traditional variety of rice for reasons of sentiment, as a crop planted by their ancestors ("bawa padi datuk-nenek"). They also will explain that if the traditional varieties were never planted, the knowledge of that variety, the practices associated with it, and the very seed itself would disappear forever. To some extension agents this would not be an altogether bad thing, but it is clear that farmers feel otherwise. It is significant that fourteen years after double-cropping was introduced to the Gong Gundil area, traditional varieties still retained their popularity.

To understand the continued popularity of traditional varieties and associated production practices it is necessary to comprehend from the farmers' perspective the advantages of these varieties. Any strategy of change must take into account these considerations, and ideally research and extension efforts should start from this basis. To do otherwise would be to assume that farmers are beginning with a "clean slate" upon which recommended practices may be written at will. As will be shown below, such is not the case.

Advantages of Traditional Agricultural Practices

Traditional rice varieties are typified by taller plants and larger, heavier grains, qualities that are considered positive attributes. They also appear to be quite tolerant not only of flooding during the Northeast Monsoon but of drought as well. Chemical fertilizers are rarely used with these varieties due to problems of lodging (i.e., the stalk will not support the increased weight of the grain, resulting in the entire plant falling over, especially after a strong wind, thus

Making harvest more difficult and if the fields are wet threatening the grain with rot). Traditional varieties are planted in either wet or dry seedbeds and may be pulled for transplanting at any time from four to eight weeks after seeding. This flexibility is a most important quality of these varieties and contrasts with the relatively more demanding regimen of the newer high-yielding varieties, which lose capacity for tillering when left in the seedbed longer than thirty days. Because the seedlings may be left in the seedbed for extended periods of time, there is less need for a rigid transplanting schedule, which allows the farmer increased flexibility in the timing of his land preparation and his mobilization of labor for transplanting itself.

The taller seedlings of the traditional varieties are more easily handled during transplanting. These seedlings grow quickly into taller plants, and plant height is still a quality to which farmers respond positively. Tall seedlings have a headstart over weeds in the fields, and the traditional varieties probably have less problem with competition from weeds than the shorter fertilizer responsive varieties. Even though most of the fields now are planted with fertilizer responsive varieties, few farmers bother to weed their fields. With traditional varieties this was probably an unnecessary task as the greater plant height allowed less sunlight to reach the weeds and hence stunted their growth.

Weed control is a greater problem with the newer varieties, partly due to differences in seedling and plant height, and partly due to changed methods of land preparation. In the past all plowing was done by water buffalo or teams of two oxen. First the land would be

plowed and allowed to lie for a week or more so that any seed from weeds would germinate. Then the farmer would harrow the land, knocking down any weeds that had survived the plowing and incorporating them into the puddled mud. The land would then be plowed and harrowed a second time. The first plowing generally was done in a clockwise direction, starting from a line down the center of the field, moving to an edge and following the edge of the bund. In this manner the ground immediately next to the bund was effectively worked and the soil thrown away from the bund. After harrowing and again leaving the land for a week or so (in the meantime moving on to plow or harrow another piece of land), the farmer would plow a second time in a counterclockwise direction, throwing the soil back against the bund. The first harrowing was done quickly, the primary purpose being to control weeds. The final harrowing was done more carefully and served to level the land so that the water standing in the field would be even throughout.

Land preparation using workstock may have stretched over a period of a month or more. The farmer would have worked his animal or animals for only four or five hours in the morning, and rested them in the afternoon. He also would have alternated working at plowing and harrowing for the sake of his animals. Harrowing was a much more strenuous activity for the animals, and farmers would time their schedule so as not to leave all of their harrowing to be done at one time.

The more leisurely pace of transplanting when rice was single-cropped permitted adequate rest for man and beast.

Diversity of traditional Rice Varieties

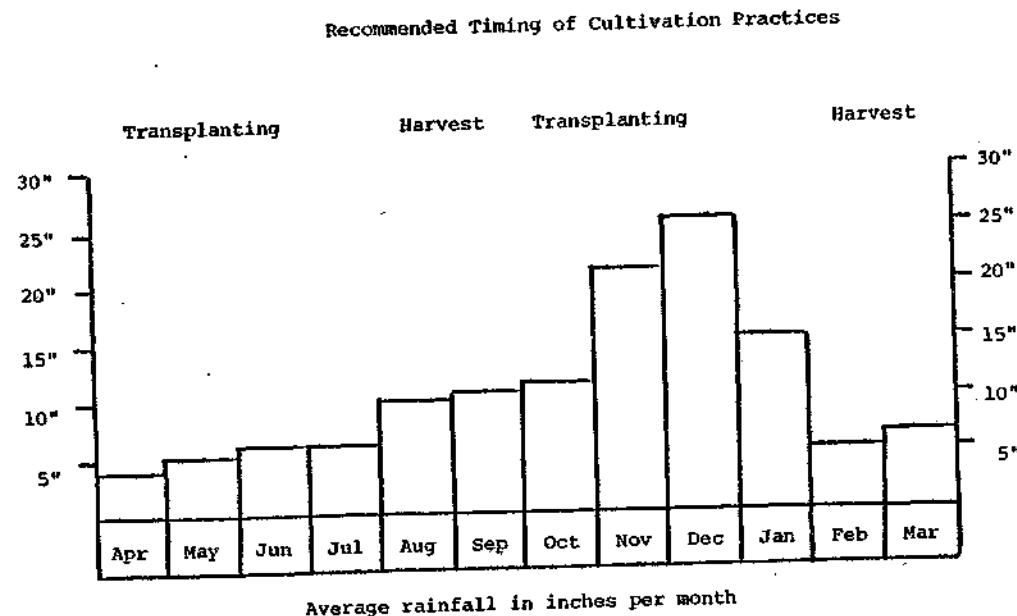
There were a number of traditional rice varieties each with

different rates of maturation. A nine-month variety known as Padi Saqupa was seeded in August, transplanted six to eight weeks later, and only harvested in April. Padi Pak Saka was a six-month variety which was sown in mid-September or October, transplanted in late October, and harvested in mid-March.

Typically a farm family would plant several different varieties during a single season for at least two good reasons. Different maturation rates allowed the farm family to extend the transplanting season over the months of September and October. Transplanting was (and is) a time-consuming process and the season of peak labor demand in rice cultivation. Secondly, different varieties have different capacities to withstand particular insect pests and diseases, and floods or drought. By planting different varieties, farmers hedged their bets and minimized the possibility of loss. This latter goal also was served by the common practice of planting in different fields. An insect infestation or disease may have hit one field, but another field separated by a stand of rubber or a cluster of houses may have been unaffected.

The timing of land preparation, transplanting, and harvesting of traditional varieties was tied directly to the annual rainfall pattern. As can be seen from Table 3.7, the period of greatest rainfall occurs during the Northeast Monsoon, when more than twenty-five inches of rain can be expected per month. By April precipitation has dropped off to less than five inches per month. With the decreased rainfall came a period of increased solar radiation, that coincided with the development of the grain itself. Decreased rainfall as harvest neared assisted in the ripening and drying of the grain in the fields. Drier conditions

Table 3.7
Rainfall Distribution and Recommended
Timing of Cultivation Stages in Besut District



Source: Besut Agricultural Development Project

also made for easier harvesting, as it was much less tiring to walk and work on solid, dry ground than in a field of wet mud that sucked at one's ankles and calves. Furthermore, as the grain was harvested it was possible to lay the bundles of grain on the dry ground. If there was standing water in the field, it would have been necessary to walk through the heavy mud to the bund and leave the bundles there, a time-consuming and tiring task.

Traditional varieties, some with a height of up to five feet, were harvested with a small hand knife called a ketam (also known as a tuai, and known in Indonesia as an ani-anji). The grains on each tiller were harvested by cutting the base of the panicle, and the rice was tied into bundles known as gembai. The bundles were tied onto a long carrying pole, carried off the field and the rice was stored with the grain still attached to the panicle. Harvesting with the ketam involved very little physically hard or stooping labor; one merely moved slowly through the field and plucked the ripe grain, and it was possible to come back through the same field a week later and harvest grain that previously was immature.

Before double-cropping was introduced, the remainder of the plant was left standing in the field as fodder for livestock, or in some instances may have been cut and burned, especially if there had been an insect or disease problem. In any event, after harvest in April the fields were given over to the grazing of livestock until August when the first seedbeds were prepared and seeded. These would be fenced to keep animals from feeding on the young seedlings. Only from September onwards were livestock restricted from grazing in the rice fields. At

that time the heavy rainfall encouraged the growth of vegetation within the orchards, rubber stands, and land around the houses. The advent of double-cropping has greatly reduced the availability of land for grazing livestock, and this together with the displacement of animal traction by tractors for land preparation has led to a decline in the number of livestock raised in the study area.

Double-Cropped Rice Production

Problems of Introducing a New Cropping System

When double-cropping was first introduced to the Gong Guncil area in the mid-1960's there were doubts as to the wisdom of accepting this regimen. In part these worries were based on an understandable reluctance to change production techniques that had provided for the basic subsistence needs of the village for generations. Some farmers were concerned that the land would be exhausted without an annual period of fallow, and all were concerned that the prospects of increased yields and higher standards of living were to be balanced against new risks and uncertainties.

Initial extension efforts were concentrated in the area of Kayu Kelat, a village two miles up the road from Gong Guncil. Progress initially was slow and opposition from a number of farmers limited the success of the few farmers who attempted to plant during the off season. When a given field is only partially planted the likelihood of crop failure due to insect pests and the depredations of birds is greatly increased. It is also likely that the initial efforts of both farmers and extension agents were hampered by inexperience. Subsequent extension efforts focused on the village of Pulau

Panjang, including one of the fields that came under close observation during my own study. This field of some fifty acres lies between the villages of Pulau Panjang and Gong Guncil and a number of farmers from Gong Guncil either own or sharecrop land there. Here the efforts of extension agents appear to have been more successful.

One reason for this may have been the influence of one man, a local "progressive farmer" who encouraged his neighbors and required that his sharecroppers follow the planting schedule necessary for double-cropping. This man had inherited seven acres of rice land, but farmed only three acres himself. On the basis of interviews with local farmers it would seem that the influence of this man, a local leader, had much to do with the successful experiment with double-cropping in this area, which in turn contributed to the gradual adoption of double-cropping in neighboring villages.

Traditional cultivation practices involved little cost other than labor and seed. Most of the labor was provided by the family itself, or supplemented by various cooperative labor exchanges. The relaxed pace of seedbed preparation and seeding without the worry of a fixed date for transplanting, the ability to prepare the land bit by bit as the transplanting progressed at a pace determined by labor availability, and harvest unhurried by the advent of a second season -- all of this was to be changed.

The new varieties require new methods. No longer could the seedbeds be planted on dry ground, so that now the women who pull the seedlings have no choice but to squat in the water and mud. The seedlings themselves now have to be pulled twenty-five to thirty days after

transplanting, an age when by local standards they are considered to be small and hard to handle. Instead of being able to prepare the land at leisure by water buffalo or oxen, the pace of land preparation must now be quickened and mechanical assistance sought at considerable expense. Cash also is necessary for new production inputs with which the farmers previously had little or no experience. Finally, the pace of the harvest itself was altered, from a gradual and unhurried movement through drying fields to a task that each household raced to complete so they could repeat the whole process again.

In sum, farmers adopting double-cropping rice cultivation were faced with a major break in their traditional production practices and, in addition, faced a whole series of new uncertainties and dependencies due to a more profound involvement in the cash economy. It should not be surprising that there was doubt on the part of some farmers about whether or not the change would benefit them. A promise of yields of double or more was balanced against unknown risks and major changes in the demands for labor and capital. Given the extent of the change involved in adopting double-cropped rice production, it is indeed remarkable that within a short time -- perhaps two or three half-year seasons -- the majority of Gong Guncil farmers had adopted many of the new varieties and cultivation practices.

The Continued Use of Workstock for Land Preparation

With the introduction of double-cropping the use of workstock has declined, but not disappeared. Some farmers continue to use only water buffalo, others use the water buffalo exclusively for some seasons but then mix tractor plowing and water buffalo at other times. Still

Other farmers depend on tractors for initial plowing but prefer to use a water buffalo for the final harrowing. The majority of farmers in Gong Guncil, however, are almost totally dependent upon tractors for plowing. Most hire privately owned four-wheel tractors at the rate of M\$50 per acre, though two-wheeled pedestrian tractors are also used. Only four of these two-wheel tractors are owned by residents of the study area, three by residents of Gong Tanah Merah and Baruh Kual. None of these locally-owned tractors are hired out to other farmers.

Although the majority of farmers are dependent upon tractors for plowing, it is unlikely that the water buffalo will cease to provide valuable and indeed irreplaceable service. When a farm family prepares a seedbed they probably will be unable to obtain the services of a tractor for such a small plot. Moreover, if their seedbed is in the middle of a field a tractor may be unable to reach it if other farmers in the area are still harvesting their crop. The alternative to a water buffalo in this case is to prepare the seedbed by hand, a laborious and time-consuming task that may well conflict with the labor demands of harvest. There are also some fields where tractors cannot be used at all due to the depth of water and mud, and here the water buffalo is the only practical means available for preparing seedbeds or the land onto which the seedlings are to be transplanted.

Water buffalo have other advantages over tractors: they eat grass and not petrol, and they have calves instead of mechanical breakdowns. But with the advent of double-cropping, the care and feeding of a water buffalo has become a time-consuming chore, and the numbers of such workstock have decreased markedly over the past fourteen years.

No data are available to compare accurately the population of water buffalo before double-cropping with that of today, either from the Veterinary Department or from local farmers. The Veterinary Department claims that for Besut District as a whole the population has not decreased, but farmers are unanimous in agreeing that in the Gong Guncil area the numbers have declined.

For the single village of Gong Guncil, in which fifty-four out of sixty-eight households are actively engaged in rice cultivation, a total of forty-one water buffalo are owned. At least five of these animals are less than three years old and cannot be used for plowing. Only sixteen households in Gong Guncil own usable workstock. Based only on an educated guess, it seems likely that twenty years ago at least two-thirds of all farming households might have owned their own workstock, primarily water buffalo. If this is so, it is likely that the number of workstock in this village would have been double that of the present. (Only one team of oxen was used in the study area during my stay. Oxen are said to be superior to water buffalo for plowing when the ground is not yet submerged, as was generally the case with rainfed traditional rice cultivation. Under irrigated conditions, use of oxen has been discontinued in favor of tractors and water buffalo.)

Farmers report that the cattle population of Gong Guncil also has declined since double-cropping was introduced, although there are no records available to confirm this. In 1978 there were 107 head of cattle owned or being raised by forty-two out of sixty-eight households in Gong Guncil. A major factor in the decline of the livestock population has been the lack of grazing land available since rice has been

double-cropped. With crops in the fields for so much of the year, it has become necessary to cut fodder for both water buffalo and cattle. During the plowing season those farmers using water buffalo are especially careful to provide adequate feed for their animals, and it would be reasonably accurate to include at least an hour of fodder cutting to the four or five hours spent in plowing for each day of work. Even after the plowing season, fodder must be cut to supplement the insufficient graze of the animals, a chore that may add three to five hours of work per week.

Because of the size and strength of water buffalo, and the uncertain disposition of many of them, the men of the household usually are responsible for their care. This will include moving the animals from their corral in the morning and tethering them. A nylon rope is inserted through the nose of each water buffalo while it is still young, and this rope is tied to another rope which is attached to a wood stake driven into the ground with the heel of the foot. The water buffalo will need to be moved at least once if not several times during the day due to the lack of adequate graze in any one spot. Raising a water buffalo is, in short, a great deal of bother, and ties someone in the family -- usually the man -- close to the village every day of the year. Cattle, on the other hand, are more tractable and much smaller, and a family's children are usually delegated the responsibility for their care.

With the advent of irrigation the amount of time necessary to prepare the land with a water buffalo has decreased. The soil in the fields never hardens during the dry season and consequently is more

easily worked. Instead of passing through the fields four times as was the case when rice was planted once a year, it is now generally sufficient to plow once and then to harrow and level the field. Farmers still wait a week to ten days between the initial plowing and harrowing to control the weed population, and sometimes harrow a second time immediately before transplanting, especially if transplanting has been delayed and weeds have again risen. Even with only two passes over the field a farmer needs to spend at least six days in preparing a single acre of land for transplanting.

Through a substantial investment in time and energy, a farmer preparing his fields with a water buffalo saves the M\$50 per acre cost of plowing and harrowing by a tractor.

There are few jobs locally that would pay a farmer over M\$8 per day, but this alone does not explain the preference of some farmers for using a water buffalo for plowing. Many claim that a water buffalo does a superior job to either two-wheel or four-wheel tractors. Tractors plow and harrow on a single day, resulting in poorer weed control. Tractors also tend to do a poorer job in puddling the soil because the tractor operator is often more interested in completing the job and moving on to the next field, which will increase his own income. Having spent a number of hours transplanting both in fields prepared by water buffalo and by tractor, I can confirm that fields prepared by the former are better; they contain fewer large lumps of clayey soil and fewer weeds, and are certainly more level than those plowed by tractors.

Levelness of the field is important in ensuring that the whole area is submerged without drowning the young seedlings; high spots in a field provide weeds with an opportunity to compete easily with the rice plants

for space and nutrients, while low spots increase the danger of drowned seedlings.

The water buffalo has other advantages over a tractor: when it is no longer able to plow it may be eaten or sold. A large water buffalo will weigh over 1000 pounds on the hoof and may sell for M\$1,000 or more. Unlike cattle, which are raised for sale, water buffalo are valued primarily for their use in land preparation and not for the price they will fetch on the butcher's block. But the high price that may be obtained from the sale of water buffalo, combined with the difficulty in raising these animals and the alternatives provided for land preparation, have led to a gradual selling off of the local stock. The sale of livestock provides an important source of cash for many families. A healthy four- or five-year-old cow may be sold for M\$500, representing a gain of over M\$100 per year per animal. Cash from the sale of live stock is often used to meet such major expenses as building or adding to the family's house. Occasionally the animals are slaughtered in conjunction with a wedding feast. During certain religious celebrations (as at the end of the fasting month) as many as thirty or forty families will buy shares in an animal to be slaughtered. The majority of the cattle, water buffalo and goats raised locally, however, find their way to slaughterhouses which serve urban markets.

One major disadvantage of plowing with a water buffalo is the time constraint involved in planting two crops per year. The most common high-yielding varieties planted in the Besut area are Mahsuri, Bahagia, and Sri Malaysia II. From seedbed to maturity these varieties take 135, 145, and 130 days respectively during the main season, and

several days less during the off-season due to increased solar radiation.

If we assume that a farm family will plant only these varieties and that on an average 280 days per year will be required to grow two crops, 84 days remain for land preparation, or 42 days per season. If a farmer needs to prepare three acres of land he would need perhaps only eighteen work days to complete this task.

Such simple calculations, however, may be misleading. When the harvest of one season is completed a man does not immediately begin to plow his fields for the following season. Several days, and more probably a week or more, are spent on other activities: resting from the strenuous harvest; doing repair work to the house or rice storage shed that had been put off during the harvest; repairing the plow itself; helping friends and neighbors with their harvest; or visiting friends and relatives in other villages and sometimes helping them with their harvest. There are also such factors as the uncertainty of the weather which may delay plowing. It is also likely that during the eighteen days of actual plowing, several days will be allowed for resting both man and beast. If seven days pass from the end of harvest until the beginning of plowing, eighteen days are spent in plowing and five days are given to rest, there would still be ten to twelve days of leeway per season, assuming that no inclement weather or illness to the water buffalo or to the man plowing interferes. The use of animal traction is, then, possible when double-cropping a farm of three acres.

Problems with the Planting Schedule

A major problem which has grown gradually more severe over the past five years or so is the lateness of planting by farmers in the

Stage I area of the Besut Project, of which Gong Guncil is a part. The planting schedule recommended by the Project staff calls for transplanting of the main season crop on or around the 10th of November. This would allow the transplanted seedlings to recover and grow tall enough to survive the winds and rains of the Northeast monsoon. By 1977 farmers in and around Gong Guncil were so far behind schedule that not only were their seedlings being planted during the monsoon rains, but the harvest of their off-season crop was threatened by the rains of the monsoon. Late harvest presents difficulties in drying grain for sale or for home storage, and late transplanting risks drowning of vulnerable seedlings. The situation had become so severe that halting the flow of water to the Stage I area for one season was considered by the head of the Besut Project to force farmers back on schedule. From the standpoint of the Project, major divergence from the recommended planting and harvest schedules makes it difficult to time the release and withholding of water. Were water to be withheld for one season the effect on farmers, many of whom in the Stage I area live near the margin of subsistence, would be close to disastrous. It is unlikely, in any event, that such action would produce a long-term solution.

Three interrelated factors contribute to the late planting by farmers in the Stage I area of the Besut Project: the continued use of animal traction for land preparation; the continued use of some long-term traditional varieties; and the tendency for farmers cultivating a given field to time their planting so that all of the rice in that field will mature at the same time.

We have seen that a diligent farmer using a water buffalo and cultivating three acres could manage to keep to the recommended planting schedule. But the fact remains that some farmers are less diligent than others. Moreover, some farmers attempt to use animal traction for more than three acres. Matters are further complicated by the continued planting of traditional varieties which take from 150 to 180 days to reach maturity. These varieties tend to be planted during the main season and typically are followed by a faster maturing fertilizer responsive variety during the off-season. The longer-term varieties are taller but combining a variety that takes 180 days with one that takes 140 days allows inadequate time to prepare the land by animal traction, and only barely enough time for plowing by tractor. Compounding these problems is the tendency for those farmers who plant long-standing varieties to prepare their land by water buffalo. In some cases the combination of land preparation by water buffalo and use of traditional varieties is due to a family's inability to pay for tractor plowing and chemical fertilizers. In other instances the farmers have no choice due to inadequate drainage which prohibits use of either tractors or short fertilizer responsive varieties. And in a few cases where neither of these constraints apply, it would appear that personal preference for working with a water buffalo and eating what is regarded as superior quality rice is the deciding factor. (Grain from traditional varieties is of premium quality and even extension agents, who are trying to convince farmers to plant new varieties, seek to purchase traditional varieties of rice for their own home consumption!)

When some of the farmers cultivating in a given field are late in completing one cycle and beginning another they influence the timing of operations of their neighbors, and if the number of these farmers and the amount of land they operate is a substantial proportion of a given field they will tend to dictate the schedule to be followed by the others. Farmers attempt to time their activities so that all of the rice planted in a given field attains maturity at approximately the same time. If they were to do otherwise crop losses due to insects and birds would be much higher. Simultaneous harvesting does not ensure total protection against these predators, but it does minimize the degree of loss suffered by individual farm families.

The most destructive insect pest in Besut is known locally as the kesin (*Leptocoris acuta*) which attacks grain at the soft milky stage and leaves the plant empty of grain. Within a limited area the kesin is migratory, whirling through the air from one plot to another as the grain ripens. If only one plot is at the milky stage the entire population of kesin is likely to be found there, and the spraying of insecticides on that plot alone will have only a temporary effect as the kesin will fly away to an adjoining plot, only to return when the insecticide has diminished in potency, as after a rain. Birds also tend to cause the greatest damage when they concentrate on individual plots which ripen ahead of others in a given field.

It became apparent that farmers cultivating a given field would tend to plant the same varieties, or varieties with similar maturation rates, to ensure uniform ripening, and that the farmers would consult with others operating in the same fields on the timing of their opera-

tions. When it is considered that most farmers operate plots in several different fields each season (see Map 4), one can appreciate the amount of consultation that takes place.

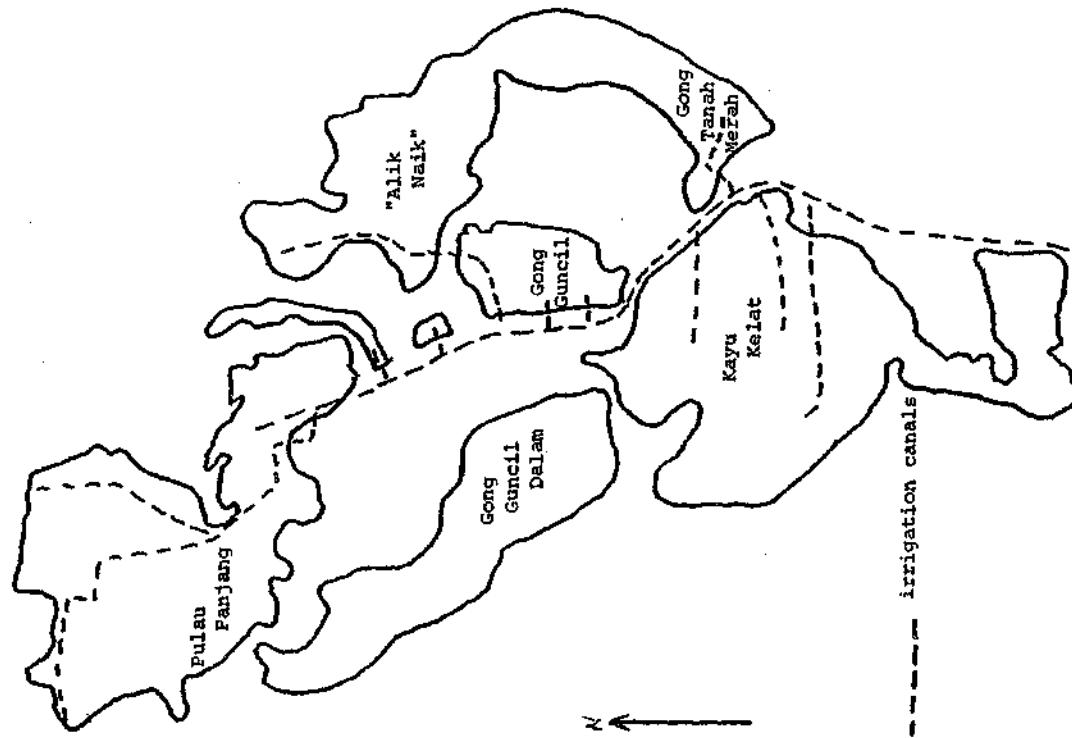
Where a number of farmers are late in their planting, the rest may decide to delay their own operations. Departure of only a week or two from the recommended planting schedule per season is enough to place farmers in the unenviable position of harvesting the off-season crop in the rain and transplanting the seedlings of the main season crop during a period threatened by flood. Farmers recognize this problem, and yet, seemingly inexorably, cultivation in some fields digresses further and further from the planting schedule.

Labor Demands of Rice Production

Most of the labor invested in rice production is provided by the individual farm family itself, though occasionally supplemental labor may be provided by friends, kinsmen, and neighbors either on the basis of cash payment (upah) or reciprocal labor exchanges. The labor necessary to cultivate one acre of rice per season will vary from family to family and depends upon their diligence and efficiency, upon such conditions as the depth of standing water in the fields, distance traveled from the home, and distance of the plot or plots from a road or irrigation canal. For the figures given below we will assume that land preparation (including seedbed) will be done by tractor and that the amount of time necessary for arranging for tractor services, directing the tractor to the farm family's plot or plots, and supervising the work of the tractor is valued at one man-day.

Table 3.8 illustrates in outline form the approximate labor

Map 4
Rice Fields in
Gong Guncil Study Area



required to cultivate one acre of rice on the basis of work-days.

TABLE 3.8

Labor Required per Acre per Season
for Rice Production

Task	Work Days
Repairing bunds and canals	1.5
Seeding seedbed and seedbed water control	2.5
Supervision of plowing	1.0
Pulling and transplanting seedlings	16.0
Fertilizing	1.0
Periodic visits to plot to check water and other conditions	1.0
Pest and weed control	1.0
Harvest and transport	10.0
Winnowing	5.0
Total:	39.0

If the farmer uses a water buffalo for land preparation at least six work days per acre must be added to this figure.

The amount of time required for repairing bunds and small irrigation and drainage canals will depend upon whether a water buffalo or a tractor is used for land preparation. If a tractor is used, the bunds across which it moves will require repair, and this may include bunds on the land of other farmers through which the tractor must pass. The amount of labor invested also varies considerably from family to family; some farm families keep their bunds completely clear of weeds and are careful to fill in any holes which may harbor rats and through which water may escape, while the bunds of others are less well kept.

The amount of time spent in seeding and seedbed maintenance also will vary. Some farm families plant only one seedbed and plant all of their seeds at one time; this practice minimizes the difficulty of maintaining the proper level of water in the nursery. Other farmers have multiple seedbeds, one for each plot of land operated. Occasionally

farmers will use only one seedbed but stagger their planting. This is relatively rare due to problems of maintaining the proper level of water in the nursery for seedlings at various stages of growth.

The labor involved in fertilization and pest and weed control also varies, but to a lesser extent. In any event, these inputs of labor generally do not conflict with other labor demands and can be assimilated into the mid-season schedule of a farmer without difficulty, unless the farmer has left the area for short-term wage employment.

Almost invariably the tasks of bund and canal maintenance, seedbed sowing and maintenance, fertilizer application, periodic visits to the plot to check on water level and general crop conditions, and pest and weed control are performed by male members of the household.

Transplanting

These tasks are relatively minor considering the over-all labor demands of rice cultivation and, because of their timing, present little difficulty for most farming households. However, during transplanting and to a somewhat lesser extent during harvesting, most farm families are busy constantly, and their resources of labor are fully exploited. This tends to be the case even though the farm families of Gong Guncil typically stagger their planting and harvest among several plots in different fields. This staggered planting schedule not only reduces the problem of labor supply during transplanting and harvest but, as discussed earlier, serves to reduce the risk of a total crop failure due to localized infestations of pests or diseases.

As noted, a farm family's seedbed often is sown at one time, with seed enough for all or most of their land. With traditional

varieties this presents no problem, since the seedlings may be pulled anywhere from forty to sixty days after sowing. With the newer fertilizer responsive varieties such flexibility is not possible; after thirty days the capacity of these varieties to produce tillers is seriously and adversely affected. Nonetheless, it is common to see farmers transplanting seedlings as old as forty days. Having begun their transplanting ten days previously, they pull their seedlings as they need them.

Once seedlings are ready to be pulled, the most critical period of labor demand begins. The pulling of seedlings (cabut semai) is exclusively a woman's task, though occasionally young boys will help their mothers. There is no particular taboo associated with this division of labor, but it is felt that women's fingers are more deft than those of the men, and women are said to be better suited to this important but rather monotonous task.

Seedlings are pulled from the nursery one or two at a time. The motion is towards the puller at approximately a 45 degree angle to minimize damage to the fragile roots. The women squat or sometimes sit on small benches in the mud and pull the seedlings with each hand, occasionally shaking a handful of seedlings in the water, striking them against their arms, and then running their fingers through the mass of roots to remove the remaining mud. Bunches of seedlings (unting) are tied together and attached to the ends of long poles and in this form transported -- usually by men -- to the plot being planted. The number of seedlings per unting will vary according to the size of the seedlings themselves, but typically the diameter of an unting at the point where

have been pulled and bundled, they may be left over-night or even for as long as two days in the wet mud of the rice field. To plant the seedlings, the unting is held in the crook of one arm and several seedlings are pulled loose. While standing in a stooped position, the roots are pushed into the mud by the thumb while the stalks are held by the first two fingers. A person quick at transplanting may be able to finish forty or fifty unting in a single day. This, however, is not the most accurate way to measure the efficiency of planting, as a person putting five or six seedlings in a hill will finish an unting faster than a person using only two. If we assume fifty unting per day, it would take one person at least eight days to transplant one acre.

Interdependence of Farm Families During Seasons of Peak Labor Demand

Most families rely upon their own labor to transplant their crop, but occasionally they must turn to others for help. This may be the result of an illness in the family, a woman's advanced pregnancy, or the recent birth of a child, all of which would reduce the family's available labor. Over time virtually all farm families are likely to experience these or other reductions in their productive capacity and find themselves dependent upon their neighbors to get the crop into or out of the ground.

There are a number of ways in which this can be done. If the needs are limited, a family may ask a fellow kinsmen to contribute one or more days of work to complete a task, with the implicit understanding that in future need this assistance will be reciprocated. In many cases the need for help will be anticipated, and if kin and close friends have

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completed their work they may volunteer their assistance to another family. It is also common to see members of two or more families working together, timing their activities so that each will help the other in turn. The reason for this may have something to do with efficient use of labor, but it often seems that the primary goal is simply social. Work is more enjoyable and seems to go more quickly when people work together.

Tolong-menolong

Such informal assistance, whether based on pressing need or sociability, is known locally by the term tolong-menolong. The root word tolong translates as "help" or "assistance" and the verb form menolong in this context carries the implication of mutuality and reciprocity. Generally the numbers of people mobilized through tolong-menolong are small, from one to perhaps three or four people, and the duration of their assistance is limited. It is unlikely that a family will be able to depend upon tolong-menolong for a major part of their labor needs, but the ability to call upon such assistance is sometimes crucial to timely transplanting or harvest activities.

Pinjam Orang

A second way in which a household can mobilize supplementary labor is called pinjam orang, literally "borrow people." Through pinjam orang a large number of people can be mobilized for a single afternoon of work, primarily for transplanting. As noted previously, many farmers sow all of the seeds in one seedbed, resulting in a large number of seedlings ready for transplanting at one time. As a result of this practice, it is often necessary to call upon additional labor beyond

the immediate family. This additional labor may be provided by hired help, by a few friends and relatives on the basis of tolong-menolong, or by a call upon a larger number of people through pinjam orang.

The number of people to be called out by a family for an afternoon's work will depend upon the amount of labor required, an estimation of how pressed other villagers are in their own planting, and how many other people the family has helped in similar circumstances in the past. The number of people may vary from ten to over sixty on a given afternoon. No direct payment is expected by the helpers, but the family which has called the workers is expected to provide tobacco, together with tea, coffee, and local sweets (for example, a rice and bean gruel cooked in coconut cream and sweetened with coconut sugar).

Ketua Pinjam Orang

The manner in which a labor force is mobilized through pinjam orang varies according to how many people are required. If a family only requests ten or fifteen helpers, they are likely to visit the other households and invite their participation on the morrow, or perhaps the day after. But if a family expects to call out a larger number of workers, they will depend upon either one or both of the men in the village who act as labor mobilizers.

The influence of these men appears to be great, and they operate not only in the realm of pinjam orang for rice production, but whenever there is a need to mobilize large numbers of people for other sorts of activities (such as a house moving, the construction or repair of a small bridge, the maintenance of village paths, or the periodic cleaning of the village mosque). These men are referred to as ketua pinjam orang.

where ketus means head or headman. The position is not so formal as this may imply; it is a position occupied through self-selection by a man who over a long period of time has involved himself in activities that bring together the labor of a village or even several villages to a single task. Through manifest leadership qualities, such a man comes to be recognized as the person to see when a task requiring the mobilization of large numbers of people is at hand.

Ketus pinjam orang can be found in most of the villages in Besut's rice plain, and it is significant that they form a local network through which large numbers of workers from neighboring villages can be mobilized. The most common need for such intervillage mobilization is when a house is to be moved. This may occur when the owner of a house buys a new piece of land, when he wishes to utilize the present house site for another purpose, when the present house site is deemed unsuitable (prone to flooding or dampness during the rainy season), or if there has been a quarrel with an in-law or neighbor. When a house is to be moved, long poles (often from a split betel nut palm, Pinang) are first lashed to the stilts and floor supports. The whole house is then lifted by these poles upon the shoulders of as many as three hundred men, and with much shouting, groaning, and laughter, carried to the new site. The men are compensated for this hard work by being fed local cakes and delicacies and by the air of festive sociability that always seems to accompany large congregations of Malays. A certain amount of intervillage rivalry occasionally adds to the interest, but such gatherings mainly provide an opportunity for friends from different villages to meet and exchange news.

To mobilize the large number of men needed to move a house requires the assistance of several ketus pinjam orang from different villages. The owner of the house will contact such a leader in his village, telling him when and to where the house is to be moved, and together they will estimate the number of men required for the task. The local ketus pinjam orang will then call upon his counterparts in surrounding villages for the necessary assistance on the appointed day.

Only rarely would such an activity occur during transplanting or harvest seasons or during the period of monsoon rains. But during other seasons, house moving occurs quite frequently. The two men who act as ketus pinjam orang in Gong Guncil mobilize the men of Gong Guncil at least two or three times a month during such seasons for house moving, either within Gong Guncil or in other neighboring villages.

Because of their pivotal role in mobilizing labor, the ketus pinjam orang are men whose call for assistance cannot be ignored lightly. If a man repeatedly fails to turn out when called upon for a house moving, he will be unable to depend upon the help of others if he is subsequently in need of assistance, be it a house moving or transplanting. This threat also holds for a family who fails to assist others in transplanting; when a request is made to help a neighbor it is expected that at least one member of the family will turn out on the appointed day. If the father is unavoidably engaged elsewhere, his wife or one of his older children may take his place. Absence due to a family emergency is, of course, excused, but repeated absences are remembered and will result in the absentee family being unable to call upon the pinjam orang assistance for transplanting, house moving, or any other purpose. No

ketua pinjam orang would bother to help a family that did not turn out to help others. Even families who prefer not to use pinjam orang labor in transplanting often continue to help their neighbors, partly to ensure that in an emergency they will have recourse to this assistance. More is involved than self-interest, however. The shared experience of pinjam orang is valued in its own right as a means of fostering a sense of community solidarity. Through pinjam orang the mutual interdependence of rice farming families is made manifest, and reciprocal labor obligations are incurred which serve to bind the community together.

During the off-season of 1977 there appears to have been an inordinate amount of reliance upon pinjam orang labor for transplanting. Between April and May, the period of transplanting, over thirty families used pinjam orang to supplement family labor. These figures are reported by farmers to be higher than average. During both the main season of 1977/78 and the main season of 1978/79 fewer than ten cases per season were noted. (Data for 1978/79 were sent through the mail by a Farmer of Gong Guncil. No data are available for the off-season of 1978.) These lower figures are probably more representative of the average use of pinjam orang labor. During the main season, many farmers plant traditional varieties for which timely transplanting is less important than is the case with the newer high-yielding varieties. During the off-season a higher proportion of farmers plant high-yielding varieties for which timely transplanting is crucial.

One reason for the increased use of pinjam orang during the off-season of 1977 was the intensive extension effort in the Pulau

Panjang area by MARDI in which farm families were given free seed and fertilizers for one season on the condition that they follow MARDI's recommendations. Since one of the key features of this production package was the timely planting of seedlings, the farmers operating in this field had need to call upon the help of their neighbors.

Of the more than thirty cases of pinjam orang during this season, eight took place in Pulau Panjang. This created a snowball effect (a curious phenomenon in a tropical setting) whereby other farm families found their own work delayed after helping so many of their neighbors, and they in turn were forced to call upon help through pinjam orang.

Pinjam orang is perhaps the single most important factor binding farm families together into a conscious community, one defined by more than mere arbitrary geographical boundaries. Yet not everyone is bound up in these ties of recurrent reciprocal obligations. The nine families of Gong Tansah Merah who comprise the local economic elite are effectively outside of the pinjam orang network. They neither participate in nor request the assistance of their neighbors through pinjam orang, but instead depend upon hired workers to work their lands.

Agricultural Wage Labor

The elite are not the only families to utilize hired help to meet labor requirements beyond their capacity, however. There are several households in Gong Guncil that claim they have never called upon the labor provided by pinjam orang for work in their fields, and they advance reasonable arguments to explain why. These households prefer to supplement family labor by hiring people, claiming that the

quality of a hired helper's work can be more easily controlled and is superior to that of a worker obtained through pinjam orang. If a person has come out to help in the fields under pinjam orang, the farm family cannot easily complain if the work is done in a slipshod fashion without appearing ungrateful. With a large number of people transplanting it is almost impossible to produce even rows of seedlings, uniform distance between hills, or a consistent number of seedlings per hill. Each of these factors may reduce the productivity of a given plot of land.

As "progressive farmers", these households do in fact achieve higher yields per acre than their neighbors. They typically sow their seedbeds at intervals, and thus rarely face the problem of large quantities of seedlings which need immediate attention. These families also point out that with pinjam orang people arrive at 3 p.m. and are ready to leave the fields at 5 p.m. Though their labor is free, tobacco, food, and drinks must be provided to the workers, and when the amount of work accomplished by a crew of pinjam orang workers is considered, there is little or no savings over the cost of hired help. There is also the trouble involved in mobilizing the work force and preparing the food and drink for their refreshment. Although these families willingly assist their friends and kinsman who call upon their help in pinjam orang, they pride themselves in the quality of their crop management, and for the reasons outlined above prefer not to use pinjam orang labor on their own land.

There is reason to suppose that the introduction of modern high-yielding varieties and the practices associated with them will gradually

erode reciprocal labor exchange. In some ways the demands of double-cropping increase the interdependence of farmers due to the need for timely transplanting. But, over time, the higher yields of the "progressive farmers" may have some influence, particularly with younger farmers whose level of education and general disposition make them more receptive to the advice of extension agents. By staggering the sowing of seedbeds the demand for labor in transplanting can be spread out over a longer period of time, reducing the need for mobilizing large numbers of people. Indeed, unless there are many seedlings ready for transplanting at the same time, there is no need for the large-scale mobilization of labor represented by pinjam orang. There are clear agronomic reasons for the staggering of sowing operations and the timely transplanting of seedlings in an orderly manner.

Even if most farmers adopt staggered sowing of seedbeds, there will be continued demand for labor beyond the resources of a single household. As at present, this periodic demand may be met in part through tolong-menolong between neighbors and kinsmen. It is likely, however, that as rice production becomes increasingly commercialized through increased use of cash inputs (fertilizers and tractor plowing) and increased marketing due to a larger surplus of grain produced by each household, extra labor demands will be met by recourse to hired labor.

During 1977 and 1978 the costs of hired labor were fixed at MS7 for pulling 100 untung and MS8 for planting 100 untung. If 400 untung are required per acre of land, the total labor cost per acre is MS60. In the Gong Guncil area hired help is enlisted primarily from

among local residents. Those people willing to work for a cash wage tend to be landless tenant farmers who supplement their income by working for others. Owner-operators or owner-tenants operating small farms may also work for others if such work does not conflict with their own cultivation schedule.

A Labor Boycott

Unlike their neighbors, who look to local residents when hiring help, the local economic elite of Gong Tanah Merah rely on agricultural laborers from villages five or more miles away, villages where rice is either single-cropped or not planted at all. These landowners claim that there is not sufficient local labor to work their land. But other local residents tell a different story. Until perhaps 1976 several families from Gong Guncil helped to work the lands of these wealthy landowners. Since then, however, an effective labor boycott forced several of these wealthy families to find other sources of labor. This boycott was instituted after several such owners delayed payment for work done by their less wealthy neighbors, even after repeated attempts to collect the sums due. One of these landowners is the formal headman (*ketua kampung*) of the area encompassing Gong Tanah Merah, Baruh Kual, and Gong Guncil. Now most of the labor required to cultivate his lands (and the lands of several of his relatives living in Gong Tanah Merah) is obtained from other villages. Three families from those villages are now full time residents of Gong Tanah Merah, sharecropping land of local landowners. Other workers come into the area during periods of transplanting and harvest, either returning to their home villages on bicycles in the evening or staying in some small huts on the land of

the landowners. One family spent their nights in the rice and fertilizer storage shed attached to the house of the headman.

For the more wealthy landowners, hired workers provide a large proportion of the labor utilized in their fields. For most farmers of Gong Guncil and the surrounding areas, wage labor tends to be supplementary to the labor of the family itself.

The majority of those using hired help to supplement family labor are farmers operating larger than average holdings (e.g. four acres) who see themselves as providing needed employment and income for a few of their kinsmen, friends, and neighbors. There is certainly no question of superordinate/subordinate roles involved in such relationships. Negative social sanctions such as the boycott are likely to exert a strong influence towards maintaining friendly and non-exploitative labor relationships among the small farmers of Gong Guncil for the foreseeable future.

Labor For Harvest

Pinjam orang is utilized almost exclusively for transplanting; there was only one case of pintjam orang for harvest during the period of my residence in Gong Guncil. This is explainable by the difference in the nature of transplanting and harvest activities. During transplanting, there may be a large number of seedlings that have to be planted in a short period of time. Timely harvest is also important, but in this case a matter of a few days is not so crucial, and under most circumstances ripened grain may be left in the field a week or more without problems. People work hard during harvest, but the pace is not as frantic as it is during transplanting.

In addition to the more flexible nature of harvest operations,

farmers typically plant different varieties with slightly different maturation rates. As a consequence, there is no need to mobilize a large number of workers on any one day. The labor resources of farm families is more likely to be adequate for harvest operations. When it is not, families may turn to their friends and neighbors for tolong-menolong assistance, or they may hire a fellow villager.

If anything, tolong-menolong is more prevalent during harvest than during transplanting. The work of harvesting is more enjoyable and people are more likely to volunteer their help. Moreover, during harvest the range of volunteers is expanded to include kinsmen from other villages, especially non-rice producing villages. In such cases the effect of tolong-menolong is to decrease the amount of grain the cultivating household obtains from their farm as it is expected that such help will be rewarded by a gift of grain. Even if relatives from such villages do not come and help with the harvest, they may still be given rice when they come to visit or when a family from Gong Guncil goes to visit them after the harvest. Such gift giving is not strictly unidirectional, however, as the rice is likely to be greeted with a reciprocal gift from the other family's efforts (fish, fruits, coconuts, etc.). Unless one or the other family is materially better off, it seems from my experience that the value of gifts is roughly comparable, although the exchange may not occur simultaneously. Gifts of rice also are made to children of local farmers who have found wage employment in the urban sector or in the military. In such cases reciprocal gifts are likely to be made in the form of cash, and in value may represent a net gain in income to rice farming families.

Labor for harvest beyond that provided by members of a household may also be obtained by hired help, and for many tenant farmers this is an important source of rice. Unlike payment for transplanting, men and women hired to help with the harvest are paid in grain, at the rate of twenty gantang for every hundred gantang harvested. If the rice is transported to the store house of the owner, the rate is twenty-five gantang per hundred. The same proportion is used whether or not the grain is winnowed, though generally those hired prefer to winnow as it increases their share of grain. In those few cases where there is no female labor available in a farm family (due to illness, etc.) a woman from another family may be hired to winnow the rice before it is stored or sold. There does not seem to be any clear formula, but it appears that this labor is generally paid in cash rather than in kind.

Adoption of Threshing

When rice was planted once a year, there was less pressure to complete the harvest in a short period of time. There was no second crop which followed immediately, and the grain could more safely be left in the fields since there was no danger of flood during the dry months following the Northeast monsoon. Today timeliness has become a major factor.

The traditional tool used for harvesting rice is known as the ketam, a small hand scythe. As noted previously in this Chapter, harvesting with the ketam is a slow process. At present it is rarely used even where traditional varieties are planted. Harvesting now is done by cutting the stalk near the ground and threshing sheaves of grain into an oblong or square wooden tub which measures three feet per side.

Within the tub is the threshing board, a ladder-like frame of wood slats.

Most threshing tubs are built by the men of a farming household, though they may be purchased in some shops in Jerteh, or built to order by a fellow villager. The tub is surrounded on three sides by some sort of fabric or woven mat held up by thin wooden poles about four feet high. This curtain serves to trap the grains as they are shaken loose. Threshing (known locally as zukul padi, literally striking rice) was introduced in the last fifteen years by local farmers who learned the practice as migrant workers in Kedah during the harvest there. When asked why they prefer to thresh rather than use the ketam, the immediate response of farmers is that threshing is much quicker than harvesting with the small hand knife. Because the ketam was so infrequently used during my stay in the village I was not able to collect comparable time-budget data on harvest with this tool. While threshing is more efficient in terms of time, it is less efficient in terms of yield. Despite the use of the curtain around the threshing tub, some grain is scattered and lost on the ground. Moreover, both mature and immature grain is harvested simultaneously as it is not practical while reaping to leave an individual plant (much less an individual tiller) standing. When harvesting with the ketam this is possible, and two or three passes through the field can be made to ensure harvest of only mature grains.

The adoption of threshing coincided with the introduction of double-cropping and the use of shorter-stalked high-yielding plant varieties. The panicles of these new varieties are prone to breakage and it is impossible to tie such grain into the small bundles known as

gemi. Farmers in Gong Guncil report that when rice was harvested with the ketam, grain from plants least affected by disease and insects, and which had the greatest number of filled grains were kept aside as seed for the next crop. With the introduction of threshing, however, this is no longer done, and seed is simply chosen at random from the rice store house.

Threshing is a quicker method of harvest than cutting with a ketam, but it is also more strenuous. Reaping of the grain is done with a hand scythe and is almost purely stoop labor and very hard on the back. Ideally, if the weather and fields are dry, the rice is reaped and allowed to lie in the field or along the bund for several hours or even overnight, as this speeds the drying of the grain and facilitates threshing by making the rice shake free more easily. Men, women, and even younger children can easily manage reaping, but threshing of the grain requires a certain amount of strength. Though women also thresh, one usually finds the men doing most of the threshing and the women and children doing the reaping. Each sheaf, measuring perhaps eighteen inches in diameter at the base of the stalk, will require a variable number of blows on the threshing board, depending on the rice variety and on the dryness of the stalk and grain. More easily threshed varieties may release all of their grains after three or four strong blows, while others may require ten or twelve. Obviously, farmers take this matter into consideration when deciding which variety to plant.

Harvesting one variety may take as little as eight work-days per acre, while another may take half again as long.

It is evident that the labor demands of the two methods of

harvest vary in important ways. Harvesting with the ketam is time-consuming, but the number of people within a household and a community who are able to work with a ketam is larger than that available for threshing for which the physical demands are greater. Only physically vigorous men and women can contribute their labor in threshing, whereas the limited exertion of harvesting with the ketam allows older men and older women to take part.

No matter which method of harvest is used, the rice must be transported back to the house of the farming family for storage in the store house (rumah padi), usually a separate structure near the home. Wherever possible, sacks of grain are transported from the fields on the back of a bicycle. The sacks used for this purpose are readily available, having originally contained fertilizer. With very few exceptions the men of the household do the transporting of rice from the fields to the home. Many of the bunds along which people move in the field are too narrow for riding or pushing a bicycle, and the grain must be carried several hundred yards to a point where a bicycle may be used. Almost all households own bicycles, and those that do not are able to borrow one from a neighbor. Occasionally, however, the grain must be carried home from a distant field on a person's shoulders.

Cleaning and Storing Rice

What happens to the grain after harvest depends on a number of different factors. The grain may need further drying before storage, in which case it is spread out on woven mats in the sun. If the grain needs no further drying, as is generally the case with the main season crop harvested in April, the grain may be placed directly into the

store house. Those families which sell the rice immediately after harvest need to clean the grain of chaff before the sale.

Cleaning of the unmilled rice is a job for the women, and there are a number of different methods utilized. If there is a good breeze winnowing is done by simply pouring grain into a pile on a woven mat while the wind carries off the lighter chaff. Assuming a good breeze, a woman could clean 100 gantang in a day. If there is no breeze, however, winnowing is slower, and perhaps only 40 gantang can be cleaned in one day. In this latter case, the grain is placed in a shallow round basket and a vigorous swirling motion sends the heavier grain to the edge. After scooping out the bulk of the chaff, the grain is cleaned again by flipping the furthest edge of the basket in a rapid up and down motion combined with a slight pulling back of the basket on the down stroke, which has the effect of spilling the remaining chaff (and a few grains for the ever-present chickens) off the end.

Most of the grain consumed by the family is stored chaff and all and is cleaned just before it is to be milled. Before rice was double-cropped in the Gong Guncil area, milling was done by hand in a large mortar using a heavy wooden pestle. This also was the work of women, and only done in quantities sufficient to last a family several days. Since the mid-1960's, however, women have been relieved of this task. A rice mill powered by a small diesel engine was built in Gong Tanah Merah by a group of local residents who formed a Cooperative Society. More recently another privately owned mill was established in Gong Guncil.

The polished rice produced by these mills is deemed superior

in quality to pounded rice due to its fine white color, even though it is nutritionally inferior because all the bran is removed. Almost all of the rice consumed locally now is polished, and a sack of cleaned grain is taken to the mill every week or two. Rice now is pounded by hand only when the local mills are temporarily out of operation due to mechanical breakdowns. The existence of these small mills has taken a burden off the women of the household, but it has also added a current expense to the family budget. The cost of milling ten gantang of grain is M\$0.50, and this will produce four gantang of polished rice. If we take as an average the consumption of one gantang of polished rice (beras) per family per day, the annual cost would be over M\$45. Even the poorest families are willing to pay this price. It is just one of a number of small incidental costs that have gradually crept into the local economy and which make earning money an unquestioned necessity. Traditional agricultural practices required virtually no cash investment from planting to consumption. As we will see in the section which follows, such is not the case today.

Costs of Production

Accurate data upon which to base a discussion of the relative merits of single- and double-cropping rice regimens are hard to come by. Villagers who wish to justify planting only a single crop may overestimate the yields of traditional varieties, while those who argue the advantages of double-cropping may overestimate the potential yields obtainable by farmers under existing field conditions. Farmers who in the past planted traditional varieties and continue to do so today claim that in a good year as much as 450 gantang per acre is possible.

Figures published by various government agencies (e.g., Yap and Dixon, 1972) say that average yields in Besut were only 270 gantang per acre with traditional varieties and practices. When the Besut Project was first envisioned, it was claimed that yields of 800 gantang per acre per season were possible with double-cropping of new varieties. This, however, was based on the results of double-cropping in Kedah rather than on field trials in Besut. More recent data indicate that yield potentials are in the range of 500 to 550 gantang per acre per season due to the poorer soils of Besut. Even this is considerably higher than actual average yields reported by villagers, which range from 300 to 350 gantang per acre per season.

In the Gong Guncil area, yields of 550 gantang per acre per season would represent a substantial increase in productivity. Attempting to get such yields, however, would mean accepting certain economic risks and devoting greater effort to crop management and practices associated with new varieties of fertilizer responsive rice. This in turn may be balanced against certain opportunity costs, since farmers would be tied more closely to their fields and less able to seek alternative employment, especially far from the home village.

Traditional agricultural practices cost the farm family only seed and labor. No chemical fertilizers were used, and land preparation was done by water buffalo or teams of oxen. A family with their own workstock which planted a traditional variety with their own labor would incur no cash costs to obtain from 300 to 400 gantang of rice per acre per year. Let us assume an effective farm size of two acres and a yield of 300 gantang per acre, giving the family 600 gantang or

approximately M\$600 per year from rice cultivation.

If a farming family were to follow the Project's recommendations and obtained 550 gantang per acre per season for a two acre farm, they would have a gross yield of 2,200 gantang or M\$2,200 for the year. From this must be subtracted costs of production of just over M\$100 per acre per season (tractor plowing M\$50, compounded fertilizer M\$35, urea M\$11, plus weedicides, pesticides, and seedbed fertilizers). At least double the amount of labor is also required. The net income per year for a family farming two acres at optimum yields is, then, close to M\$1,800, three times the income level from traditional agricultural practices. In both cases there is a certain amount of risk involved. If the crop is lost in the former case, the family has lost seed and labor and may have trouble meeting subsistence requirements. In the latter case they risk losing not only rice for home consumption but working capital as well. There are also opportunity costs for both land and labor associated with double-cropping which cannot be given an exact dollar amount. The land could be used for such cash crops as tobacco, or at the very least to provide graze for the family's livestock. Though the local opportunities for off-season employment are limited, men not tied to the land by double-cropping could find work elsewhere (see below) or engage in carpentry or other local trades and services. The difference in income of \$1,200 between traditional and recommended varieties and practices for a farm of two acres is indeed substantial but has to be seen in light of the above.

Estimated yields using traditional rice varieties and cultivation practices can be compared to both the average yields and costs

obtained by farmers during the period of field research and with the government agronomic field trial data. Average yields reported by farmers were between 300 and 350 gantang per acre per season; thus for a two acre farm over one year, gross yields would be between 1,200 and 1,400 gantang. Production costs vary among farm families. Some farm families use mixed or compounded fertilizers together with urea, while others use only urea. An educated guess would be than an average of M\$25 per acre per season currently is expended on production inputs ranging from zero to almost M\$50. Add to this figure M\$50 for contract plowing and average production costs are in the neighborhood of M\$75 per acre per season, or M\$300 per year for a two acre farm. Net income would be within the range of M\$900 to M\$1,000.

Actual costs of land preparation vary depending upon whether private contract tractors are hired, the Besut Project's tractor service is utilized (at M\$34 per acre), or animal traction is employed. Although the Project's tractor service is less expensive, most farmers in the Gong Guncil area use private contractors. Scheduling a tractor from the Project must be done and paid for weeks in advance of the actual plowing, and often the tractor does not arrive on the appointed day. This presents major difficulties to farmers with seedlings ready to transplant. Private tractors remain in the area while there is work to be done, and plowing usually can be arranged on short notice.

If a farm family uses animal traction for land preparation, production costs are substantially reduced, although there is the factor of labor to be considered. A family not owning a water buffalo may need to hire workstock, paying at the end of the season either in cash or in

grain. Though the amount of rent varies, an average cost is M\$50 per season. If the crop were to fail, local farmers say that this rent would be reduced or waived; such would not be the case with contract by either private operators or the Besut Project's plowing. If a family owns a water buffalo and prepares their land with this animal, they would save as much as M\$200 over the course of a year for a two acre farm.

Summarizing the above data, net income for a family using traditional single-crop varieties and methods and farming two acres would be M\$600 per year; using recommended varieties and practices net income would be M\$1,800 per year; with current practices the net income is in the approximate range of M\$900 to M\$1,000 per year. If land preparation is done with the family's water buffalo in either of the latter two cases, the figures would be adjusted upward by M\$200.

From net yields must be subtracted approximately 900 gantang (M\$900) of unmilled rice, the amount necessary to meet annual consumption needs of a family of six. A family consisting of two adults, two adolescent and two pre-adolescent children will likely consume one gantang of milled rice (equivalent in volume to 2.5 gantang of unmilled rice) per day. In a given year this family will consume at least 900 gantang of unmilled rice, and the actual figure for a family's needs probably is closer to 1,000 gantang when social obligations, such as contributions to local feasts, are taken into consideration. Some households will have lower consumption needs due to having fewer household members or younger children. Other households may find one gantang of unmilled rice insufficient. For our present purposes, however, let

us take 900 gantang of unmilled rice as the consumption needs of a family. A two acre farm cultivated using traditional varieties and methods would not provide such a family with their basic consumption requirements. Optimum yields using recommended varieties and practices would give a family with a two acre farm an annual cash income of M\$900, less than M\$75 per month (under U.S. \$32). In practice few farm families obtain such yields. Using the figures suggested above for production costs and yields of current production practices (assuming tractor plowing), we find that after subtracting 900 gantang for consumption requirements, a farm family cultivating two acres of land is likely to have at most a surplus valued at M\$200 available for sale. This income works out to less than M\$17 (about U.S. \$7) per month. Table 3.9 summarizes these data.

TABLE 3.9

Comparison of Three Rice Production Regimens for
a Two Acre Owner-Operated Farm per Year
(in Malaysian dollars)

	Traditional Practices (1 crop)	Optimal Practices (2 crops)	Current Practices (2 crops) (2 crops)
Gross yield	600	2,200	1,400
Production costs	9	400	300
Net yield	600	1,800	1,100
Consumption	300	900	900
Surplus (deficit)	(300)	900	200

These figures are rough approximations of production costs and yields for rice farmers in the Gong Guncil area. They assume ownership of two acres of rice land; obviously some families have more land and some families have less. Yet other families are sharecroppers who share both the costs and the yields of the land they work. The assumption of a two acre farm used in these figures is for illustration pur-

poses and may be compared with Tables 3.2, 3.5, and 3.6 which provide data on land ownership and farm size.

No detailed family budgets were collected, but absolutely minimal consumption needs of a family (a bit of fish, cooking oil, kerosene for light, tea, sugar, and the like) come to at least M\$1.50 per day, or M\$45 per month. This figure may be doubled without extravagance, and it does not take into consideration regular and recurring expenses: children in school who need books and uniforms and a few cents for a snack; tools, utensils, clothing, etc. At present, rice farming alone does not provide an adequate income for most families, and even at optimum yields a cash income of M\$75 per month is only one-third of the income obtained by the lowest paid government laborer. Alternative sources of income are an absolute necessity for almost all rice farming families in the study area.

Production Constraints

According to the Project staff, farmers of Besut obtain below optimum yields due to three factors: the use of rice varieties other than those recommended by the Project; inadequate use of chemical fertilizers, weedicides and pesticides; and poor management practices in general. This section will focus on the different selection criteria used by farmers and government agronomists in choosing rice varieties and on constraints on the use of recommended levels of chemical inputs. Rice farmers are inveterate experimenters, constantly willing to try a new variety, whether it be one recommended by extension agents or one that they have seen grown in another area. Farmers visiting relatives in the neighboring state of Kelantan may bring home with them

seed of a variety planted there for trial on their own land. Even Kedah and Perlis have been sources of new varieties, especially in the past when men from Besut and Kelantan traveled to those States to take part in the harvest.

Virtually no farm family in the Gong Guncil area plants only one variety of rice, a practice that may be justified by the spreading of risks associated with disease and insect susceptibility. It is not altogether clear that reducing the number of varieties to the three or four recommended by the Project would be in the best interests of the farmers themselves. Varietal diversification and experimentation by farmers are likely to persist, and future agronomic research and extension efforts should recognize this reality rather than try to develop a more simplified (and hence more vulnerable) varietal pattern.

Farmers select or reject rice varieties on the basis not only of yield potential or resistance to damage by insects and diseases, but also for cooking quality, ease of harvest, and suitability to their individual plots. Agronomic research conducted by government experiment stations also takes these considerations into account insofar as possible, yet there is a tendency to concentrate effort on those varieties which are responsive to high levels of chemical fertilization. But unless farmers can afford to buy adequate amounts of fertilizer, these varieties may produce no better than those selected by farmers on the basis of a wider range of criteria.

Production Credit

Use of fertilizer below optimum levels can be attributed chiefly to insufficient working capital and reluctance to go into debt. Even

though credit facilities are available, many farmers (especially those close to the margin of subsistence) are reluctant to borrow money for production inputs. If they lose a single crop, such a debt (and the mounting interest payments on this debt) would be nearly impossible to repay.

Production credit is available to farmers from Farmers' Cooperatives (previously known as Farmers' Associations) at four percent interest per season. The funds for this loan program in Besut come primarily from the Agriculture Bank. Not all farmers are members of the Farmers' Cooperatives, however, and the Agriculture Bank has established other Local Credit Centers to increase the availability of production credit. Beginning in 1977, a number of local notables (village headmen, religious leaders, etc.) were asked to administer loan applications and the distribution of fertilizer to farm families in their areas which, as non-members of the Farmers' Cooperatives, previously were ineligible to receive production credit. This program was hastily conceived and applied in Besut as a result of pressures from the Ministry of Agriculture and certain politicians to increase production. It became apparent that these Local Credit Centers were improperly used to obtain credit for farm families which not only were members of the local Farmers' Cooperative, but which had failed to repay previous loans (and hence were ineligible to receive further production credit). In the Gong Guncil area the records of the Farmers' Cooperative show that the most wealthy farm families had the worst repayment records from previous loans. These same families, however, were the first to take advantage of this new source of credit. The local village headman,

as head of the Local Credit Center, knew that many applicants were members of the Farmers' Cooperatives and therefore ineligible. This problem was circumvented by the simple expedient of registering the loan in the name of whichever spouse was not recorded on the membership roles of the Farmers' Cooperatives. As the Agriculture Bank made no attempt to ensure only non-members obtained loans through the Local Credit Centers, however, even this subterfuge was unnecessary.

Since production credit was first offered to Besut's farmers in the off-season of 1971, there have been serious repayment problems. Including the off-season of 1976 (the last season for which figures were available) total production credit given to farmers totaled M\$183,752, of which M\$53,553 (29.1%) remained unpaid. The bulk of these loans (M\$140,913.48) were advanced to members of the Farmers' Cooperative serving the Stage I area. Of this, 25.8% remains unpaid. The apparent inability or unwillingness on the part of the Farmers' Cooperative and the Agriculture Bank to press for repayment when loans begin to fall in arrears has had much to do with the appalling repayment record. Loan repayment rates for the first two seasons were quite acceptable, but after that the situation deteriorated dramatically, as demonstrated by Table 3.10.

During the main season of 1975 there were widespread crop losses due to insect damage by the rice bug (Leptocoris acuta). Some portion of the outstanding debts from other seasons may also be due to crop losses, but it is more likely that simple disregard has been a large factor. The Agriculture Bank is willing to waive interest penalties on outstanding loans when the crop has been lost due to natural causes, but

Many farmers appear to be unaware of this policy and, in any event, the principle must be repaid. If there is a major crop loss, in the absence of any crop insurance scheme, farmers near the level of subsistence would find themselves with a debt which would take many seasons to repay. The logic of the Department of Agriculture, the Project Staff, and the Agriculture Bank is that farmers should accept this risk and increase their usage of fertilizer to optimum levels since the increase in production would allow farmers to repay their loans and leave a healthy surplus for their own use or sale. Many farmers, particularly the more vulnerable small farmers, adopt a more conservative approach which minimizes risk. Minimizing risk, from the standpoint of the government agencies involved, is virtually synonymous with a subsistence orientation to farming, a traditional value they feel a duty to counter.

TABLE 3.10
Repayment of Production Credit
(in Malaysian dollars)

Season	Total Loan Outstanding	Percent of Loans Outstanding in 1977
II 1971	\$ 29,013	nil
I 1972	\$ 18,669	\$ 288
II 1972	\$ 14,968	\$ 2,997
I 1973	\$ 11,414	\$ 1,651
II 1973	\$ 7,529	\$ 1,404
I 1974	\$ 28,643	\$ 11,804
II 1974	\$ 4,421	\$ 1,985
I 1975	\$ 13,435	\$ 6,376
II 1975	\$ 12,798	\$ 10,760
I 1976	\$ 6,214	\$ 1,006
		82.5
		16.2

Note: The off-season is represented by the Roman numeral I and the main season by the Roman numeral II.

Secondary Economic Activities

The application of increased chemical fertilizers can be shown to increase productivity in the Besut area, but only with appropriate attention to crop management. It is at this point that the approach of the government agencies and the farmers diverge. The agencies involved in agricultural development in the Besut Project area begin with the assumption that the farmers are full-time rice farmers, and ignore important sources of off-farm employment upon which farmers depend for their cash income. This may include rubber tapping, animal husbandry, petty trading activities, or wage employment in distant cities. Men who leave the area to find employment after transplanting and before the harvest are unable to check on their fields, see to the application of fertilizer at the proper times, weed, or adjust the water level in the fields. They may ask a friend to keep an eye on their land, but if an insect infestation occurs, this friend cannot be expected to do anything about it. Farmers engaged in other economic activities in the immediate area at least are available for crop maintenance, but the amount of time devoted to the rice crop may not be worth the added yield if such labor were to detract from their other employment. For both the government and the farmers the question ultimately seems to come down to economics. The various government agencies see farmers as planters of rice who need to improve management practices. Farmers, however, see themselves as engaged in a multitude of other time- and energy-consuming activities which diversify their sources of income and decrease their dependency upon any single source. As was clearly shown in Table 3.9, the majority of households in the

Gong Guncil area cannot earn adequate incomes from rice farming alone, even under optimal conditions.

Almost all families in the Gong Guncil area have some source of income other than that provided by rice cultivation. The relative importance of these other sources of income varies from household to household, but with very few exceptions the cycle of rice production dictates the timing and extent of such secondary activities, and not the other way around.

A number of other residents of Gong Guncil are involved in full-time or part-time trading. Two families are engaged in full-time trading, regularly traveling to local weekly markets in their small pick-up trucks to sell rice, fruits and vegetables. Once a week these two families are joined by three women from Gong Guncil who together go to the weekly market in the village of Penarek, two miles from the fishing community of Mangkok. In addition to these traders, several women in Gong Guncil buy seasonal fruits, especially durian, acting as primary bulking agents for fruit dealers who transport the fruits to urban markets hundreds of miles away. Also resident in the Gong Guncil area are part-time barbers, carpenters, and owners of three sundry goods shops. Four men own and operate pedicabs when not busy with transplanting or harvest. Another four men have found employment with the Department of Drainage and Irrigation as laborers, and one man has a job as laborer for the Project itself. Yet another man rides a motorcycle to Kuala Besut (11 miles away) to buy fish which he peddles in Gong Guncil and the surrounding villages. One family processes and bottles budu, a sauce made of anchovies, salt, and spices which is

eaten with rice.

In addition to this wide range of local enterprises, a large number of married and unmarried men between seventeen and forty years of age regularly work in Singapore in the construction industry. When I first arrived in Gong Guncil, close to twenty men from the study area were working in Singapore, earning from M\$10 to M\$12 per day for six weeks. This is a much higher wage than could be earned locally, even if regular wage labor were available. Once transplanting has been completed, these men travel in small groups of three or four by bus to Singapore, and they return when the crop is ready for harvest. Once harvest is completed and the next crop planted, they are ready to repeat the cycle. While in Singapore the men live rent-free in barracks provided at the construction site, and cook their own meals. Estimates of their daily expenses range from M\$3.00 to M\$5.00, which should leave them at least M\$30 to M\$40 per week over a period of perhaps ten weeks. Transportation costs amount to less than M\$40 for a round-trip ticket. Some men send home postal money orders to their families; others keep the money and bring home what is left after buying clothing, radios, and cassette tape recorders in Singapore (where prices for these goods are much lower due to Singapore's free port status). A few of the younger unmarried men manage to bring home next to nothing, having succumbed to the various charms of life in the big city.

Rubber Tapping

Alternative sources of income provide the cash necessary for contemporary existence. The single most important source of cash for rice farming households of Gong Guncil is rubber tapping. Forty out

of 134 households are directly involved in rubber production, and another twenty households earn income from rubber land they own but which they do not tap themselves.

TABLE 3.11
Ownership of Rubber Land in Study Area
by Household

Acres	Gong Guncil	Baruh Kual	Pulau Panjang	Gong Tanah Merah	Totals
Under 1	4	1	nil	nil	5
1 - 1.99	4	3	2	5	14
2 - 2.99	5	1	2	2	10
3 - 3.99	1	nil	nil	1	2
4 - 4.99	nil	nil	1	nil	1
5 - 5.99	nil	nil	2	nil	2
6 - 6.99	1	1	nil	nil	2
7 - 7.99	nil	nil	nil	nil	nil
8 - 8.99	1	nil	nil	nil	1
9 - 9.99	nil	nil	nil	1	1
Over 10	nil	nil	nil	4	4
Totals	16	6	7	13	42

Table 3.11 provides data on the ownership of rubber land in the study area. It is readily apparent that, as with ownership of rice land, the largest acreages are controlled by residents of Gong Tanah Merah. Similar problems of verifying the extent of land holdings apply for rubber holdings as for rice land, and if anything the problems are worse, since in many cases rubber land owned by local residents may be located further into the interior and may have escaped my attention altogether. Of the four households owning more than ten acres, it appears that two own twenty acres, one owns fifteen acres, and another owns sixteen acres. In each of these cases, the land is worked by others on a bagi dua basis whereby the production is divided equally between the owner and the tapper.

Of the forty-two households owning rubber land, six own land that recently has been replanted with new higher-yielding rubber varieties. Sixteen households own rubber land but hire sharecroppers, including owners of small as well as large holdings. Twenty-four households which own no rubber land earn a cash income by tapping the trees of others, and in all of these cases bagi dua is used.

The income to be earned tapping rubber tends to be irregular and varies depending upon the prevailing market price. During peak labor periods in rice cultivation tapping ceases altogether. There is also the monsoon season to contend with; when it rains heavily in the late afternoon or evening, tappers are unable to work the following morning because the water dripping off the leaves and down the trunk will cause the latex to spill out of the grooves tapped into the bark of the tree. Tapping in wet conditions also increases the trees' susceptibility to fungus diseases.) During the two months of almost constant rains little tapping takes place. When the perhaps three months of transplanting and harvest over the course of a year are added, only six or seven months are left for tapping. Income from tapping is also limited by the quality of trees found in the area. Many rubber stands are composed of old trees, some planted before World War II, which provide a poor yield.

The Rubber Industry Smallholders Development Authority (RISDA), the government agency responsible for the marketing and production needs of the smallholder sector in the rubber industry, provides materials for the building of processing sheds and the heavy mangles used for pressing the latex into suitably thin sheets. RISDA also assists

the tappers in selling their product by accepting tenders from private buyers and acts as buyer of last resort if the preferred price is deemed too low. In 1975 such a Smallholders Processing Center was established at Pulau Panjang.

As of 1978 there were twenty-three members of the Smallholders Processing Center in Pulau Panjang who, in return for being able to use the Center, pay M\$1.00 for every Pikul (133.3 pounds) of rubber sold. Part of this money is to be used for maintenance and cleaning of the facility, and the remaining money may be used for any other purpose that the members choose.

Some of the twenty-three members are residents of villages outside of the study area itself, and only approximately one-third of the forty tapping families enumerated in this study process their rubber at the Center. Nonetheless, in terms of acreages tapped and yields obtained, the data from the Center may be taken as representative of the area as a whole. The local RISDA office in Besut was kind enough to provide figures for total sales at the Center in Pulau Panjang for the years 1975, 1976, and 1977. The total amount of rubber marketed by this Center in the three year period was just over 600 Pikul. Table 3.12 indicates the distribution in terms of quantity sold per household.

The sellers who produced less than five Pikul include three members who joined in September 1977. The other two are members who have stopped tapping rubber, or who tap infrequently. Those members selling the most rubber are owner-tappers who also sell the rubber produced by sharecroppers who tap part of their holdings.

TABLE 3.12

Pikul of Rubber Sold per Household
at RISDA Processing Center
1975-1977

<u>Pikul</u>	Families
1-5	5
5-10	3
10-20	4
20-30	4
30-40	1
40-50	1
50-60	1
60-70	2
70-80	2

Sharecroppers are not eligible to become members of such Processing Centers. As the price paid for rubber sold through these Centers is slightly higher than that obtainable through local rubber shops, these sharecroppers prefer to allow the owners of the land they work to sell their share of the production. Hence, the households selling the most rubber actually share part of the proceeds with their tenants.

Taking these adjustments into consideration, it can be estimated that most households engaged in rubber tapping obtained less than thirty Pikul of rubber over this three year period. Among the eight cases from Table 3.12 in the ten to thirty Pikul range there was a total production of 163.33 Pikul, just over 20 Pikul per household for the period, or almost seven Pikul a year. This may be a close approximation of average production for many households that tap rubber on a regular basis. The income from this rubber can only be approximated due to the extreme variations in price. (A more detailed discussion of rubber production, marketing, and price variations will be given in

Chapter Five.) Taking M\$70 per Pikul as an average price, each of these families would have earned M\$490 annually. This figure would represent the income of a family which owned their own trees, not that of a sharecropper, which would be half that amount. Average figures should not mask the wide variations between households. Some families tap a small number of relatively unproductive trees and may only produce two Pikul annually, while others will produce or earn from their investment in land ten times or more this figure. Whatever the yields and incomes from rubber tapping, this and other alternative economic activities provide the main sources of regular cash income to the majority of households in Gong Guncil.

Marketing of Rice

The combination of small farm size and low yields per acre means that most of the rice harvested by farm families in and around Gong Guncil is consumed by these families. What surplus is available for sale beyond household needs often is sold immediately after harvest. Rice prices usually are lower at this time, but farm families need the cash to purchase fertilizer for the following season, or to repay production loans. If possible, families sell only enough rice to cover these production costs and store whatever additional grain is not needed for their own consumption until just before the following harvest. This marketing strategy is preferred not only because the price is higher at that time, but because grain in storage provides a hedge against crop failure. Once the success of the next harvest is assured, the store of grain safely may be sold.

Rice may be sold either in large or small quantities. To meet

production costs or repay production loans, relatively large quantities of rice are marketed in gunny sacks which hold more than twenty gantang of unmilled rice. Most rice marketed is sold in this fashion. Rice also is sold in quantities as small as ten gantang at a time. Often this will be done when a household runs short of cash and makes a small withdrawal upon what is essentially the family's savings.

In many villages there are two or three regular buyers of rice who operate out of their homes or sundry goods shops. In addition, a number of other people in the village occasionally buy small quantities of rice to be sold along with the fruits and vegetables they offer at various weekly markets. The regular buyers also purchase rice in small quantities throughout the year, but the bulk of their purchasing comes immediately after harvest. Some of this grain is sold by the buyers directly to the National Rice Board, the government agency which regulates the marketing and distribution of rice in Malaysia. Alternatively, the rice is sold at one of the numerous weekly markets held throughout the State of Trengganu.

Many of the regular rice buyers in Besut also own and operate small vans and use these vehicles to travel between different parts of the District and State. Rice may be sold at a good price in a fishing community such as Penarek, where it will receive a premium of between M\$0.20 and M\$0.40 per gantang of milled rice over the price obtainable in Gong Guncil. Further into the interior, the mountainous rubber-producing areas of the District also need to be supplied with rice.

In Besut, the supply of rice to areas where rice is not grown is accomplished primarily through these small-scale entrepreneurs. The

buyers follow a regular circuit of weekly markets from the mountains of the interior, to the rice plain, and down to the coastal villages. Each area specializes in different kinds of produce which are needed by the others. The flexibility of the small vans allows these traders to move quickly when a shortage of a particular commodity occurs, and provides an important marketing outlet for the surplus production of each of the three zones. The staple item of this trade is rice, but rice alone probably would not be sufficiently profitable. Seasonal and non-seasonal fruits from the interior, and coconuts and nipah roofing material from the coast, are important supplementary trade items. Local petty traders effectively integrate the three zones of Besut's economy. The two families in Gong Guncil who engage in full-time trading typically work long hours and by local standards are deemed prosperous. Their life-styles are not noticeably different from their fellow villagers, however, and they continue to cultivate rice together with their neighbors and to participate in tolong-menolong and piniang orang exchanges of labor. They are able to do so because rice cultivation is essentially a seasonal endeavor which allows ample opportunity for alternative employment.

The price of rice in Gong Guncil and the surrounding area is relatively stable and in essence is controlled by the National Rice Board. Occasionally there are differences of opinion between buyers and sellers as to the deductions taken from the gross weight of the rice for chaff, moisture content, and percentage of immature grains. Though these deductions are made based on the judgment of the buyers, the sellers are sufficiently knowledgeable to understand the reasons for

and the reasonable limits of these deductions. The ability of the buyers to treat the sellers in an unfair manner is limited by this, and by the effective competition maintained among the buyers. As will be seen in the following chapter, marketing relationships in the fishing village of Mangtikok tend to be fraught with conflict. Tensions between boat owners, captains, and crewmen also characterize production relations in Mangtikok, in contrast to the much more harmonious relationships between rice farmers. These differences are directly related to relationships formed in production activities. While rice farmers have a clear need to cooperate in the scheduling of planting and in the exchange of labor, fisherman operate more independently and form smaller and more short-lived cooperative associations -- the fishing crews. Gong Guncil and Mangtikok represent distinctly different economic and environmental adaptations, and these differences shape and condition a wide range of economic and non-economic social relationships.

CHAPTER FOUR

MANGKOK:

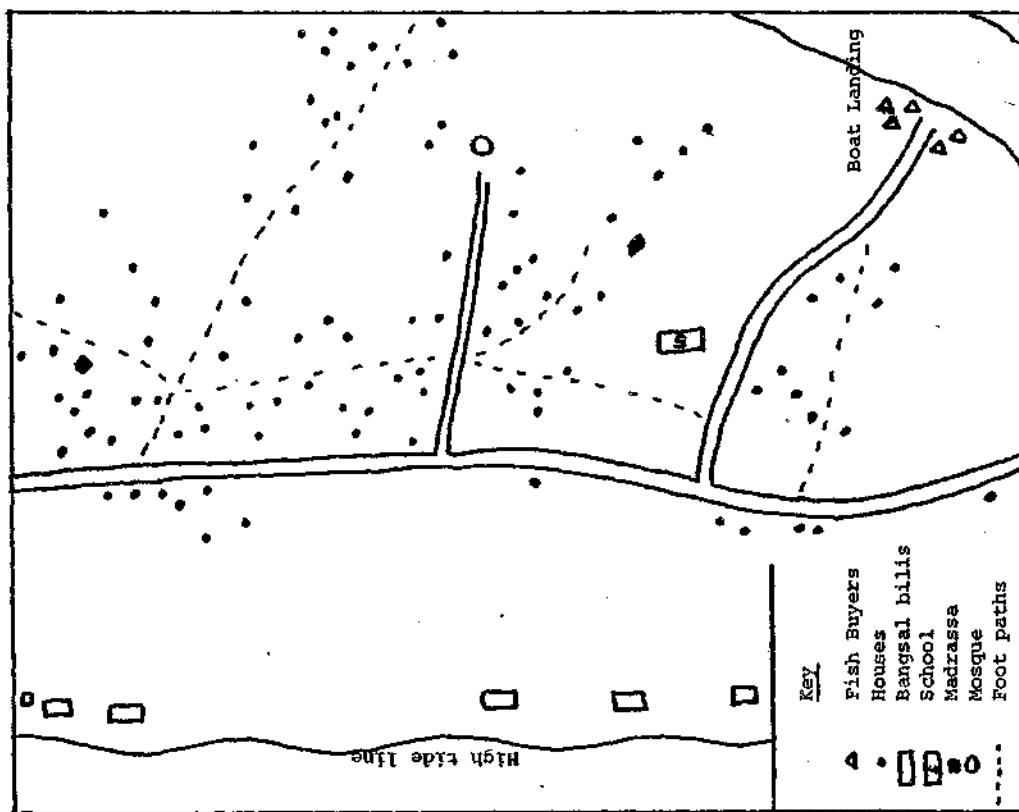
A FISHING VILLAGE IN TRENGGANU

The Setting

Kampung Mangkok is a village of 121 households situated on a spit of sand between the South China Sea and the Setiu River. The houses of Mangkok are spread over approximately one mile of what is essentially a stabilized sand bar which is nowhere wider than one-half mile. Mangkok is reached by a dirt road through the neighboring village of Penarek, which is served by a paved road and regular bus service. This bus makes seven round trips daily along the nine miles connecting Penarek and Kampung Buluh, a village straddling the main East Coast Highway.

From Penarek the traveler may walk the two miles to Mangkok, or for a small fee he may have someone with a small Honda motorcycle carry him to Mangkok as a pillion passenger. The traveler may also time his arrival to coincide with the school bus schedule. Adult passengers regularly ride the school bus in and out of Mangkok, leaving in the early morning and returning in the late afternoon. Another means of transportation is the legally licensed taxi which is supposed to be based in Mangkok. Such licenses are valuable and in rural areas usually are granted with the stipulation that the taxi be available to provide emergency transportation to the villagers. In fact the taxi that bears the name of Mangkok rarely is seen in the village, though a taxi registered elsewhere began to come to Mangkok on a regular basis during the

Map 5
Mangkok



period of field work. This taxi is available during the night for emergencies, and for transporting people out of the community early in the morning and bringing them home at dusk. But during the day the driver generally plies the major highways and is not available for local transport.

A somewhat more flexible means of transportation available to the people of Mangkok is provided by a resident "pirate taxi," an unlicensed vehicle hired out on a charter basis by its owner. Such unlicensed vehicles are common in rural areas and provide valuable services to the community, allowing families to travel to areas not served by regular taxis or buses, or allowing a fisherman in need of a spare part for his boat to make the trip to Kuala Trengganu and back quickly. If the fisherman has to wait for other means of transport he might miss a day at sea.

In addition to the "pirate taxi" there also are a number of small Japanese built pick-up trucks, known locally as "vans," which transport fish and other local products to the markets in Kuala Trengganu and Kota Baru. These vans also are available for charter work, though they are more suited to carrying goods than passengers.

Until recently Mangkok was physically isolated. The road that connects Penarek with the East Coast Highway has been paved only since the mid-1960's, and the bridge which crosses the Setiu River (a single-lane Bailey bridge) is less than ten years old. The dirt road into Mangkok itself is of even more recent origin, and four-wheeled vehicles have been able to enter the village only during the last five years. Before that only small motorcycles and bicycles were able to enter the

village along sandy paths across which coconut fronds were strewn to provide some traction.

Despite the building of this dirt road Mangkok in many respects remains quite isolated. The nearest secondary school and the nearest place to buy a newspaper is in Kampung Buluh, eleven miles away.

Though the road opened the possibility that more children from Mangkok could attend secondary school, the cost is either prohibitive or a major expense for most families. The daily fare, plus a few cents for the student's snack, will cost a family at least M\$1.00, or M\$5.00 per week. Attending to business with a government agency or visiting a sick friend in the hospital involves a major investment in time and money. A visit to the state capital of Kuala Trengganu, fifty miles away, is likely to require several hours each way. Such trips are not only time-consuming but expensive: a trip to Kuala Trengganu by taxi would cost M\$4.50 each way. By the time a villager returned home he would have spent perhaps another M\$5.00 beyond transportation in buying lunch in a small shop and picking up a few "treats" for the family (such as vegetables, oranges or other fruits) unavailable in the Mangkok area.

In addition to travel by road, people and goods may be moved by fishing boats along the Setiu River and its tributaries. A boat may travel on these in-land waterways over ten miles either up or down the coast and, were it not for the recent construction of small bridges, as far inland as Kampung Buluh. Boats are used to visit relatives in other villages, to obtain lumber from sawmills, and firewood for cooking. In some cases the river provides the only suitable thoroughfare between

villages. The large neighboring village of Fikri is about twenty-five miles by road but can be reached in only half an hour by even the slowest of boats.

The importance of river travel can be seen on Fridays when there is a weekly market in Penarek. Such weekly markets bring traders from the cities of Kuala Trengganu and Kota Baru as well as from certain villages in the interior -- including the rice farming community of Gong Guncil. Traveling by boat, most families within a five-mile radius of Penarek regularly visit this weekly market and purchase fruits and vegetables which cannot be grown locally. Cloth, clothing, kitchen utensils and tools also are available in greater variety than is possible in the small local shops. Many families purchase their rice at the weekly market. The prices are cheaper than in the local shops because it is sold by traders like those from Gong Guncil who sell some rice they have grown themselves, or have purchased from their neighbors. This rice also is of better quality than that sold locally.

The Sea

Fishermen know the sea in a manner analogous to the knowledge that inland villagers have of their fields. The predominately sandy sea bottom off the Trengganu coast is shallow and is marked by a number of natural and man-made points of interest to fishermen. Submerged rock formations and even a small freighter, victim of an American submarine during World War II, act as natural reefs harboring certain species of fish. These points are located while at sea by a simple geometry, using various landmarks (mountains, estuaries, and islands) as bearings. Fishermen also are keen observers of the behavior of marine life, their

habitats and breeding grounds. They know when the fish will be found near the surface, or at the bottom, and when it is best to fish during the day or at night. Fishermen use a wide variety of gears to exploit the fishing grounds under the various conditions which prevail during different seasons.

Fishing on the East Coast of Peninsular Malaysia is a seasonal activity. The Northeast monsoon, which begins in November and continues into January, is accompanied by heavy seas and high winds which make the operation of the local fishermen's typically small and shallow-draughted boats quite hazardous. Unable to put to sea, the fishermen of Mangkok (and of course the fish buyers, shop-keepers, and others dependent upon fishermen as primary producers) must cope with a period of minimal income. It is a time for net mending, boat and engine repairs, visiting friends and relatives, repairing or adding on to the house, hiring out as casual laborers or, for some families, working in the rice fields. The monsoon period is one of privation, when accumulated savings are consumed, debts and obligations assumed, and fishermen and non-fishermen alike are reduced to eating dried salt fish.

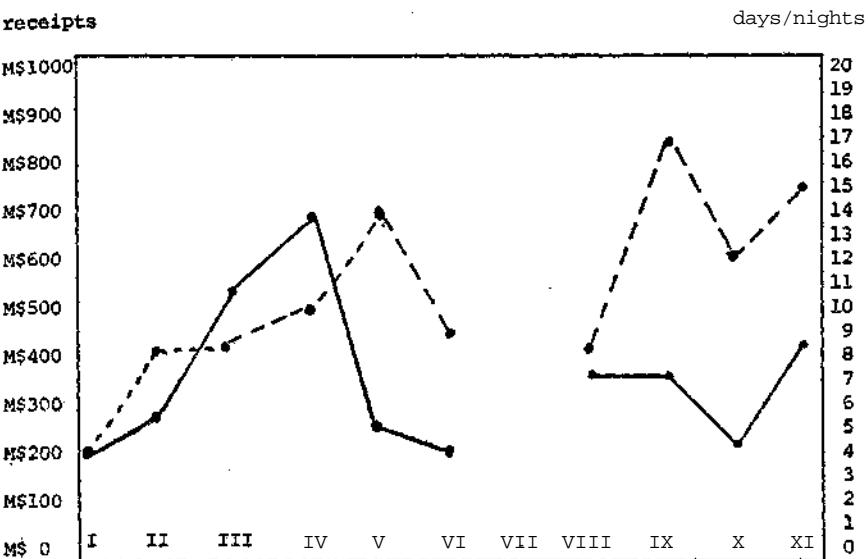
Yet it is the Northeast monsoon which brings the most productive fishing. During the monsoon, stormy seas combine with the increased run-off from rivers to produce a nutrient-rich environment in which plankton thrive, and this in turn supports a wide variety of marine life. Most importantly for the fishermen of Mangkok, carnivorous fish species such as Spanish mackerel, wolf herring and tuna are attracted towards the coast. These fish are among the most highly prized and priced fish in Malaysia. As soon as the boats can put to

sea, including short lulls during the monsoon itself, very good catches are landed by the fishermen of Mangkok. The period from January through March is one of great activity as a number of different fishing gears are employed to exploit this opportunity.

This seasonal variation is illustrated by Tables 4.1 and 4.2. Dahat and Yahya are fishermen of Mangkok operating drift nets. I left Mangkok in late April, and an assistant hired to continue data collection left in mid-May. No data are available for the period of late May through mid-June, at which point Yahya began to provide me with data through the mail.

By April the catch is already declining, and during May and June the catch is so poor that fishermen often do not even bother putting to sea. The slack season does not really end until August or September. This is the season of ayer jernih, or clear water. The fishermen of Mangkok know that when the turbidity of the water (ayer keroh) is reduced, so is their catch. The fishermen do not realize that the murky conditions signify greater organic content in the water and hence more marine life. Rather, on the basis of numerous informal discussions, the most common understanding seems to be that with ayer keroh the fish are unable to see the net of the fishermen and therefore are more easily caught. They claim that during the calm period (which coincides with the Southwest monsoon) the fish are in fact present, but because they are able to see they escape the nets. During the months from May to August, some fishermen of Mangkok turn to the rice fields in villages five miles or so inland, or set off for fishing grounds to the south near Kuala Dungun or Kuantan, as far as twenty hours away by

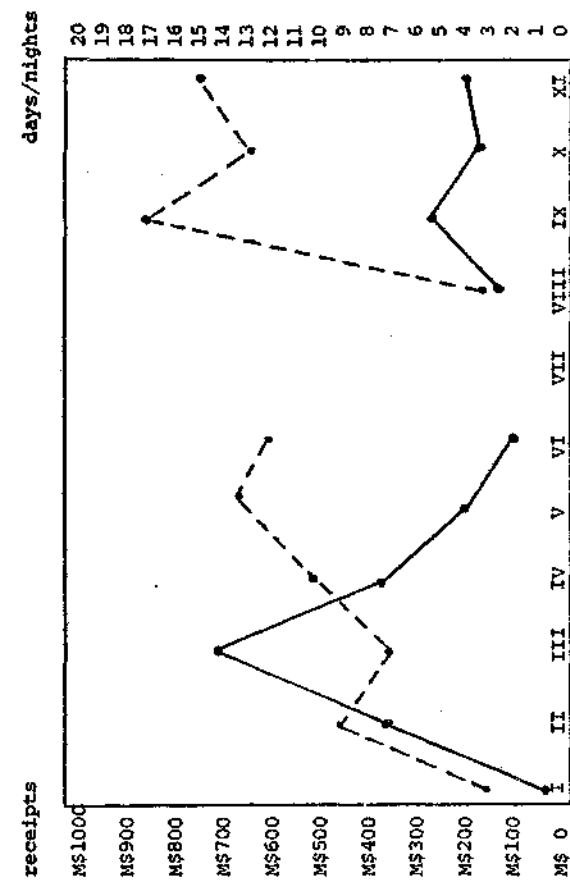
TABLE 4.1
Seasonality of Catch, 1978
(Yahya)



— gross receipts - - - nights/days of fishing
Note: Roman numerals refer to the following fishing periods:

I	January 14 - January 19
II	January 24 - February 2
III	February 7 - February 15
IV	March 3 - March 15
V	March 29 - April 18
VI	April 20 - May 12
VII	May 30 - June 16
VIII	June 28 - July 7
IX	July 21 - August 8
X	August 21 - September 2
XI	September 20 - October 5

TABLE 4.2
Seasonality of Catch, 1978
(Dahat)



— gross receipts — — — nights/days of fishing

Note: Roman numerals refer to the following fishing periods:

- I January 14 - January 19
- II January 24 - February 2
- III February 7 - February 15
- IV March 3 - March 15
- V March 29 - April 18
- VI April 20 - May 12
- VII May 30 - June 16
- VIII June 28 - July 7
- IX July 21 - August 8
- X August 21 - September 2
- XI September 20 - October 5

In the Village

The primary economic resource of Mangkok has always been the sea, but there are important resources on land as well. Within the confines of the village itself the soil is almost exclusively sand,

with little organic content. Yet coconuts do grow, and in some places even thrive. Most families grow enough coconuts for household consumption. Fourteen households (out of 121) reported regular sales of coco-nuts either dried (copra) or as fresh nuts. Approximately the same number of households claimed their coconut production was insufficient even for their household needs. Coconut is used in the cooking of many local dishes, and also is used to make coconut oil for cooking.

Coconut trees located near a house tend to do much better than trees further away. Villagers frequently explained that coconut trees "like" people and the sounds of human habitation. Whether or not one gives credence to such beliefs, it is true that trees planted near a home are more productive than others. There are practical reasons for this difference. Trees nearer a house have the benefit of refuse and sweepings from the house and grounds, perhaps some ash from the cooking fire, wash water and bathing water from the well, animal droppings and the more or less random droppings of small children. Coconut trees in the vicinity of fish processing and drying sheds also tend to do better than others, probably because the water used to cook the fish, rich in nutrients, is dumped at the base of the trees.

Most coconut stands in Mangkok are old and poorly maintained, and consequently are not highly productive. The sandy soil precludes profitable application of chemical fertilizers. Irregular rainfall -- periods of heavy rain followed by drought -- also reduces productivity. Also, during the high winds and heavy rains of the Northeast monsoon, many of the new buds are blown off. The time from budding to harvest is one year, so there is an annual shortage of coconuts during the

monsoon season. Only in the months of May and June is there sufficient quantity for copra production. Before that it is almost always more profitable to sell coconuts fresh.

Cashew nut trees (*iambu golok*) grow wild in the village, but they are not very productive and are economically unimportant, even though a good price is paid for the cashew nut. Other fruits and vegetables rarely are found due to soil constraints: very heavy manuring and constant watering are required. Manure itself is in short supply due to the small numbers of livestock that the available ground cover, a tough, wiry grass, will support. From July or August through January there is adequate rainfall to encourage this grass to grow (see Table 3.7), but during the dry season even this minimal vegetation withers. Virtually all households in Mangkok raise chickens¹, yet less than half of the households in Mangkok engage in any other forms of animal husbandry. Not a single water buffalo is raised locally, and there are only a few hungry-looking cows to be found in the village. Goats, however, appear to thrive on the tough grass of Mangkok. They are allowed to roam freely during the day, but at night are returned to their small corrals and shelters. Voracious scavengers, the goat population of Mangkok has forced those who wish to plant new coconut trees or any small patch of vegetables to protect their efforts with elaborate and (because the materials are not locally available) expensive fencing. At one time, informants report, it was decided at a community-wide meeting called for this purpose, that all goats had to

¹In 1978 Mangkok's chicken population twice was decimated by a fowl disease.

be tethered so as not to interfere with such planting. But this scheme quickly collapsed. Due to the sparseness of vegetation the goats would have starved unless moved every half hour. The goats in this area need to be allowed freedom of movement. As long as the goat is not tethered, it is a trouble-free creature which in three-years time may be sold for as much as M\$70 (about U.S.\$30). Some of these goats are consumed locally during feasts associated with weddings; others are sold to people from neighboring villages for similar purposes. Only rarely do city people enter Mangkok in search of goats, and there is no marketing relationship with urban abattoirs.

Across the River

Across the river the land is low-lying and swampish, the primary vegetation being gelam trees (*Melaleuca leucadendron*), nipah palm (*Nipa fruticans*), and various grasses and sedges. The most important of the latter is a sedge called kercut (*Scirpus mucronatus*) which is used to weave baskets and mats for fish drying.

Weaving these baskets and mats is an important activity during the monsoon period when there is no other gainful employment to be found. Both men and women cross the river in a fishing boat and walk through the low-lying, often swampy land. The kercut is cut by a small hand scythe and bundled into sheaves perhaps eight feet long with a diameter of some two feet. It is then soaked overnight in a watery mud. This soaking softens the fibers and makes pounding of the kercut, the next step, easier. Pounding is done by women using a large wooden pestle about four feet long. Each sheaf is pounded for approximately one hour on a hard platform. Finally the kercut is ready to be woven, also the

work of women. Weaving mats and baskets may be done at a woman's convenience while caring for children, cooking, etc.. In a day a woman will probably manage to weave the equivalent of four small mats, measuring about two by three feet, the most common item produced. These are used for drying fish and prawns, and local fish processors assure a steady market. Each mat brings fifty Malaysian cents. Calculating the amount of time taken in each step, from gathering to final weaving, something like fifteen to twenty Malaysian cents is earned per hour of effort. Though minimal, this income is crucial during the monsoon when the seas are too rough for the boats to go out.

The nipah palm is exploited in a number of ways. The mature leaves are collected and used for roofing materials, either for personal use or for sale. The long, slender leaves are folded over a three foot strip of bamboo and stitched into place, and the sections are then placed on the roof and stitched down. Nipah palm roofs may last seven years or more if closely spaced. If they are not overlapped, they may last less than three years as the ends give way. The tender young shoots of the palm also are collected and dried, becoming the wrapper for hand rolled cigarettes, again either for use or for sale. And finally, the nipah palm produces a small fruit which children enjoy.

The gelam tree is an important source of firewood for cooking, as is the pine-like ru tree (*Casuarina equisetifolia*). The gelam tree is found across the river in swampy or semi-swampy areas while the ru tree prefers the sandy conditions found in the village itself. The wood of the gelam tree is most valuable for making charcoal, and there are several kilns within a five mile radius of Mangkok. The soft bark of

the gelam tree also is used in boat building as gasket material between planks to give a water-tight joint. The bark is impervious to marine worms and lasts as long as the wood itself.

Cultivation of Rice

Also across the river and two or three miles by foot is land that the government alienated to residents of Mangkok and other neighboring villages for rice production. The suitability of this land for the cultivation of rice is questionable. After two good years production dropped and wild boar, insect pests, and rats took a heavy toll of the remaining crop. Because of the swampish soil, tractors could not operate in the area, and land preparation was accomplished by hand with a tajak, a scythe-like instrument. This work may take upwards of a month for a two-acre holding. When yields were high it was considered a worthwhile activity, especially in light of the fact that the month of land preparation -- May -- coincided with a sharp drop in fishing activity. But when increasingly heavy depredations by predators and pests coincided with declining soil fertility (no chemical fertilizers appear to have been used), most people of Mangkok gave up working those fields.

As of 1973 approximately one quarter of the households in Mangkok continue to grow some rice, but this is generally on a sharecropped basis on more established rice growing land along the road to Kampung Buluh. Less than half of these families produced enough rice for a whole year of consumption, and only one family produced a modest surplus for sale. Rice grown by the family is often stored away for consumption during the monsoon or other slack period. When a steady

income is earned from fishing, milled rice will be purchased and consumed, leaving the family-grown rice as a hedge against difficult times in the future.

River and Beach

The river itself provides important, though to most families supplementary, sources of food and income. River crabs, shrimp and fish are plentiful, and they are exploited particularly when ocean fishing is poor. Six households within Mangkok derive a substantial portion of their income from netting and trapping on the river, an activity particularly suited to the efforts of older men who prefer to work at their own pace in the solitude of their own small boats (perahu). The river also is the home of two kinds of edible shellfish and a large river turtle (tuntong) whose eggs are greatly enjoyed and may be preserved for many months in salt. Many years ago the river was infested by crocodiles, but there have been no attacks in at least fifteen years.

The shallow water right off the beach of Mangkok is a valuable natural resource for the villagers. During the monsoon and other lulus in fishing activity, it is common to see people catching small fish with either a small throw net (lala) or with a scoop-net (sauk). Edible bivalve shellfish (remis) also are plentiful. These all are important sources of protein in the local diet when other sources of fish are unavailable.

Family Structure

Mangkok's 121 households contain a total population of 541 people, or an average of 4.5 per household. The range of household size is from one to fifteen, but the most commonly found are households

containing a nuclear family of five (26 cases). There are only three cases of extended families, where an adult offspring has brought his or her spouse to live in the parents' home. In one of these households separate kitchens are maintained, and expenditures on such items as food and clothing are reckoned separately.

The local pattern of endogamous marriages is an indication of the relative isolation of Mangkok. In general for rural Malay society there is no clearly stated preference for endogamous or exogamous marriage, and the evidence from the other two communities studied shows a significantly higher proportion of exogamous marriages than in Mangkok, where forty-eight out of one hundred married couples are comprised of people born in Mangkok. If we include villages in the immediate surrounding area (within five miles), the proportion is even higher (74 out of 100). It also is interesting to note that only in six cases neither spouse was locally born, and even then in four cases one or both partners have been resident in Mangkok for a decade or more.

Another demographic feature of Mangkok that seems to stand out, certainly in comparison to the other two communities studied, is the large number of single individual households (eleven) comprised of either widowed or divorced older women. These women typically are semi-independent economically, earning small incomes from a variety of occupations such as making mats, serving as a seamstress, or cleaning and drying fish on a piece-rate wage. They are dependent to some extent on their children for regular supplies of fresh fish and sometimes rice, cash or other essentials, to supplement their own earnings.

Several factors account for the large number of households of

single women in Mangkok. Availability of land is no problem as the land itself has such a low productive value that there is no question of economic cost for such use. The expense of constructing a modest house also is small, and if the materials are procured across the river or further up river, the house may cost virtually nothing but the time it took to build (and obligatory refreshments given to the work crew).

These factors, however, would also hold for the other two communities studied, and yet the proportion of single individual households is nowhere near ten per cent as in Mangkok.

The most plausible explanation may be that the village economy of Mangkok allows an elderly individual to remain materially independent or semi-independent longer than the economies of rice farming or rubber tapping. Though it is true that in any village an elderly person may weave mats and baskets, in a fishing community such as Mangkok there is a ready market and fixed prices for such endeavors. Collection and processing of the raw materials is physically demanding, but it is common to see a woman's sons and daughters involved in the more arduous tasks of collecting, soaking, and pounding the kercut. The mother will then weave and sell the mats, the effort of her offspring being essentially a subsidy which costs them time and effort but no money. Though the earnings are small in mat making, if your son or son-in-law is a fisherman and gives you free fresh fish whenever he has been to sea, and if your other wants are modest, such employment gives the option of substantial self-sufficiency.

The obvious question, at least in the context of rural Malay society, is why an aging woman would want to live alone. The answer

given by each of the eleven women is that they do not want to be bothered by the noise and fuss of their grandchildren. At first glance this answer is surprising, as everyone in the village apparently enjoys babies and toddlers and showers them with affection. These grandmothers are, in fact, no different, but prefer to have their own abode and retreat, and their sleep undisturbed.

It is interesting that while there are eleven cases of women living alone there is only one case of a widower living alone. His situation is quite different. Since the death of his wife he has been listless, lethargic and unable to care for himself, and is so irascible that even his siblings -- who presently care for him -- finally had to build a small separate dwelling for him. But other than this one case, elderly men separated by death or divorce from their wives do not form separate households but reside in the same house with one of their children. The reason for this seems to be simply that men in rural Malay society are unaccustomed to the necessary domestic duties which would enable them to function independently. There is only one other household in Mangkok where an adult male has no sister, daughter or other woman to cook and wash for him; he has instead a fourteen year-old son to help him with such chores.

Most fishermen do possess rudimentary culinary skills, and many have cooked for themselves when fishing beyond the home village; but no rural Malay man I have met ever has claimed to enjoy cooking. The division of labor within a family is such that the man is discouraged from involvement in the skills and inclinations necessary for an independent existence.

Fishing Boats, Gears and Methods

Of the 121 households in Mangkok, forty-one are not directly engaged in fishing activities. These include the twelve single-occupancy households, shop keepars, fish buyers, and households comprised of the aged and infirm. Within the remaining eighty households there are 103 active fishermen. Of these, seven men concentrate their efforts on river fishing. Nine men work on the large purse seiners which operate out of Kuala Trengganu.

Boat Designs

Most fishermen in Mangkok use boats twenty-five to thirty-five feet in length with a beam of six or seven feet. These boats displace from three to six tons and are powered by six to eight horsepower diesel engines. The boats are moored along the river bank within the village and there are protected from storms. They are far too heavy to drag up onto the beach as was done with the small boats (perahu) that were used before the introduction of diesel engines in the early 1960's. The boats are of shallow draft, typically three feet, which enables them to pass over the sandbars that lie before the river mouth. Even so, at low tides the boats must be skillfully guided so as not to run aground. This shallow draft, however, makes these boats bob like corks with even moderate swells, and in heavy seas they are most uncomfortable, and even dangerous.

The traditional boat designs and gear types used in the Mangkok area were much the same as described by Raymond Firth (1966) in Bachok, Kelantan (about forty miles north of Mangkok). In Mangkok the pukat tangkol was the dominant gear, and the graceful kueh and kolek were used.

The operation of the pukat tangkol is discussed at length in Raymond Firth's Malay Fishermen (1966), which also includes sketches of the kueh, kolek, and several other traditional boat types which no longer are common (*ibid.*, Figure 7, pg. 42).

When diesel engines were first introduced, the powered boats were used to tow the smaller boats out to the fishing grounds and to transport the catch back to the beach. But in Mangkok the adoption of diesel power led to increased popularity of the drift net, and this has led to the introduction of a new boat design.

The new "square butted" boats (pantat potong) are not picturesque or attractive, but they are functional. The bow is shaped and raised so as to cut through waves at the river mouth and at sea. There is an engine compartment amidships which also affords some protection for the crew from the elements or the cold when fishing at night, but it has only headroom enough for sitting. There is ample room for two men to lie down or for three men if well placed around the engine. It is an unpleasant place to be in if one is not used to inhaling diesel fumes, but the deck in a cold rain at night is no fun either. The space behind the engine compartment (maybe eight feet long by six or seven wide) is used for carrying and storing the drift net. There also is deck space in front of the engine compartment, and it is here that the catch is displayed when the boat returns from the sea. Often meals are eaten and prayers offered on the roof of the engine compartment or on the foredeck, but not in the work area of the aft-deck. Shoes never are worn on board a boat, just as they never are worn in a Malay home. The "square butted" design allows the drift net to be played

out over the stern as the boat chugs slowly forward until the full length of the net (perhaps over 1000 yards) is in the water.

The square stern is even more important when the net is pulled in. When fisherman pull in the drift net they essentially are pulling the boat back along the course of the net, the net acting as a kind of sea anchor. This task is physically taxing with a square sterned boat, but if the net had to be hauled over the side, as it would be with the traditional boat designs, the boat would be hauled sideways, a much more strenuous task which also would present the danger of swamping the gunwales.

The Drift Net.

There are various kinds of drift nets in use, with mesh sizes ranging from 2½ to four inches. The most common mesh sizes are between 2½ and three inches. This net, called a pukat hanvut, is made out of nylon, typically light brown in color. Quite often local fishermen will mix mesh sizes. During the peak season from January through March and into April the three inch net is more productive, while at other times the finer mesh will catch the smaller fish that are available.

The larger mesh of four inches is restricted in season to the period immediately after the Northeast monsoon (roughly November through January), and is known locally as a pukat hijau after its characteristic green color (hijau = green). Because the pukat hijau is expensive and only can be used for two or three months of the year, and because the seas are too rough for the small local boats when these nets are at their most productive, no fishermen in Mangkok own the pukat hijau. But they are familiar with it as fishermen from the village of Batu Rakit,

almost thirty miles down the coast, use the pukat hijau and sell their catch in Mangkok. Not only is the mesh size larger, but the net itself is heavier and more suitable for the relatively heavy seas during and immediately after the monsoon period. The six boats using these nets and selling their catch in Mangkok also are larger (about forty feet with twenty-two horsepower diesel engines) than those used by the fishermen of Mangkok, enabling them to operate in heavier seas and to operate further from shore than is possible for the smaller boats found in Mangkok. The pukat hijau is particularly effective in capturing large Spanish mackerel (ikan tenggiri); this net also is known as the pukat tenggiri. Since it is used in conditions where most other boats are unable to put to sea, the prices obtained by fishermen using the pukat hijau are likely to be at annual high levels.

Both the pukat hanyut and the pukat hijau are used at night, the net being let off the stern as the boat moves slowly away from the coast. The fishermen of Mangkok typically operate from one-half mile to three miles off the coast. The prevailing currents move up and down the coast, depending on the tides, and so the fish -- which generally swim against the current -- find themselves trapped in the nets which run perpendicularly. A small kerosene hurricane lamp fixed on a wooden floating platform is attached to one end of the net. Another lantern is placed on the boat itself, and these two lights mark the location of the net so that other boats passing in the night will not cross it. The net itself is attached to a string of plastic floats by nylon rope which allows the net to hang about one yard below the surface; the netting runs thirty feet deep and is of variable length.

The fishing boats of Mangkok typically leave the village around four in the afternoon and reach the river mouth by four-thirty. Some times the boats cast their nets near the river mouth, but generally they will move either up or down the coast, depending on the judgment of the captain (lteragang) and crew. This decision is crucial and is in part determined by the success of the previous night's fishing for that boat and the other boats from Mangkok. There is a free exchange of such "intelligence" among fishermen. On arrival at the selected spot the net will be lowered, this task being completed by sunset. The religious will say their evening prayers, the hungry will eat their evening rice, and all will settle in to wait, talking, smoking, and napping in the engine compartment until around midnight. At this time the net will be pulled in, a process that takes forty-five minutes to an hour or more, depending on how many fish need to be cleared from the net. This must be done carefully so as not to damage the fish, which would lower their value. When species such as wolf herring, sting rays, and sharks are brought on-board still alive, clearing the nets can be a dangerous job. After the net has been pulled in and cleared, the net will probably be cast again, unless the moon has risen. In this case the boats will begin to return, arriving in Mangkok at two or three in the morning.

Fishing with the drift net is done only during the darker phases of the moon as it is said that when the moon is out the fish can see the shadow of the net, and will avoid it. It also is said that during the bright phase of the moon fish will not rise to the surface where the bukat hanyut hangs. This is understandable as any fish swimming near the surface when the moon is bright would cast a shadow

and be an easy target for predators such as the shark and dolphin. This is another reason why fishermen do not go out during the bright phase of the moon; fish trapped in the nets will be taken by sharks and dolphins, leaving only gaping holes where the fish had been. Consequently, fishing activity usually stops from the eighth, ninth, or tenth day of the lunar calendar and is only resumed again on the seventeenth to twentieth day. The exact day will depend on weather conditions and the catch of the few boats that may still venture out when their fellows either have ceased or not yet begun fishing. Each fishing period is called a kelam, from the Malay word meaning dark or obscure, and sekelam (one kelam) usually refers to a period of eighteen to twenty-two nights of fishing.

In many ways, night fishing is a pleasant experience. The men put to sea after the heat of the day has been relieved, watch the sun set after casting the net, and enter the river again at sunrise. At the landing area in Mangkok there is a small shop operated by the fishermen's cooperative where a hungry fisherman can buy a cup of hot tea with milk and maybe a dish of local cakes or glutinous rice. But fishing at night has its drawbacks as well. If boats venture out in the afternoon, a storm may build up later in the darkness of the night and catch them unawares. At the least they will spend an uneasy evening at sea, and they will find their passage back into the rivermouth treacherous. In 1976 two boats capsized while attempting to enter the river at dawn in such circumstances. The boats and nets were recovered, and the fishermen reached shore safely by hanging onto plastic floats, but what catch they had and such incidental equipment as lamps, poles, fuel

cans, and personal effects were lost. Fear of such an eventuality keeps many fishermen from venturing out even if there has been a calm spell during the monsoon period. But the attraction of putting to sea is great, as it is during the monsoon season that fishing is often the most profitable.

Other Nets Used in Mangkok

In December 1977 a new type of drift net came into use. This net, the pukat tansi, is made of clear mono-filament nylon and is used during the day. The lower edge of the net is weighted with lead sinkers which carry the net to the bottom which is where the fish are found during the turbulence of the monsoon season. The upper edge of the pukat tansi is attached to small plastic floats which hold the body of the net up. The pukat tansi used in Mangkok has a mesh size of 2½ inches. Because the nylon is clear it is not readily detected by the fish in the murky conditions during the monsoon. When the monsoon has passed and the water again clears this net is no longer used as fishermen say the fish would be able to see even the clear netting. During the period subsequent to the monsoon season the pukat hanjut is used. In the years preceding 1977 there only had been two such nets in Mangkok, and they had attained indifferent success. But in 1977 the catch obtained by the pukat tansi suddenly increased dramatically and, sensing opportunity, many people in Mangkok began to invest in the new net. By mid-January there were seventeen pukat tansi operating out of Mangkok.

Because the pukat tansi is used during the day the fishermen are less likely to be caught unawares by a storm. Not only does this

contribute to the peace of mind of the fisherman and his family, but it increases his productivity during the monsoon season, in the past a period of inactivity. Unlike the pukat hanyut, which is cast only once or twice during a night, the pukat tansi is cast and hauled in as many as eight times during a single day. Fishermen explain that this is necessary so that shark and dolphin, who see more clearly during the day than at night, will not destroy their nets. The pukat tansi is weighted to the bottom with lead sinkers, which makes fishing with this net a very laborious task. While a pukat hanyut easily can be operated by two men, a minimum crew for the pukat tansi would be three men. In fact, crews often number four or five men, a "feathering-bedding" situation caused by the large number of available fishermen, many of whom are able to call upon ties of kinship or friendship to secure a place with the limited number of boats using this gear.

In addition to the drift nets there are other nets owned and operated by fishermen in Mangkok, as shown in Table 4.3.

TABLE 4.3

Nets Used in Mangkok

Net Type	Number	Months Used
Pukat hanyut	28	Year long, weather permitting
Pukat tansi	17	November through March, weather permitting
Pukat hijau	1	Year long, weather permitting
Pukat jerut udang		
baring	3	January through March
Pukat dalam	2	May through August
Pukat kokoh	2	May through August
Pukat tiga lapis	2	January through March
Pukat jerut bilis	1	March through October

The pukat dalam in use in Mangkok is essentially a purse seine using the materials from a drift net, and is a much smaller version of the pukat dalam in use further down the coast. This net is used from May through August when the drift net is locally unproductive. Tuna and other schooling fish are the main catch. The pukat dalam is used either by day or by night and once the school of fish is sighted it is encircled. Chumming is not used.

The pukat kokoh is a trawl net. The size of the net is dependent upon the size of the boat which pulls it, and in local terminology the pukat kokoh refers to the trawl net pulled by the small boats found in Mangkok. The pukat kokoh is used primarily to catch non-commercial fish species, or "trash fish." The catch is sold at a low price and used for fertilizer and poultry feed. The pukat kokoh in Mangkok is used only during the slack period from May through August as a means of earning a small income. Use of a trawl net within twelve miles of the shoreline is prohibited during these months, but in the absence of any effective patrolling this is ignored both by a few local fishermen and by the larger trawlers out of the major fishing ports of Kuala Trengganu and Kuala Besut.

The pukat tiga lapis is a small net used by a single individual from a small boat (perahu) to catch large prawns which are in season immediately after the monsoon period. This net is not common in Mangkok, but is common in Penarek and in several other villages down the coast from Penarek. The prawns fetch a very high price (over US\$.00 per pound), and a lucky fisherman may be able to recoup the cost of his net (about MS450, or approximately U.S.\$190) in a single day of fishing. More

usually it will take an entire season to recover the initial cost and the net itself, due to the fineness of the nylon used, will need to be replaced after two or at most three seasons, even with diligent repair work.

In Mangkok the most important net other than the pukat hanayut is a type of purse seine used for catching a small translucent prawn called the udang baring. This is a fine mesh nylon net approximately two hundred yards long and thirty yards deep, and a crew of ten to fifteen men is required to handle it. Typically two boats are used. The first is a standard local diesel in-board boat which tows a second boat. The second boat usually is an older boat without an engine and it carries the net. The udang baring season also comes after the Northeast monsoon, in Mangkok peaking in March. Only when the sea is glassy smooth will this fishing be successful, for otherwise the udang baring will not school. The fishing takes place during the day close to shore and the schools are spotted when the udang baring hop along the surface when disturbed by a passing boat. The boats encircle the prawns in a clockwise direction, the trailing boat laying out the net over the right side. The two ends of the net are then joined, completing the circle. At the bottom of the net are lead weights and large brass rings through which a nylon rope is threaded. This rope is manually hauled in, causing a pursing of the net from which the name purse seine is taken. Once this arduous work has been completed, the net will be hauled in from both boats simultaneously, the prawns being shaken back into the portion of the net still in the water until at last the catch is trapped in a small pocket of netting. This is then lifted onto the rear deck of the

lead boat. The work is hard, but there is often a good deal of good-natured joking and laughter as one person or another loses his footing on the prawn-covered and slippery deck.

Pukat Kilat versus Pukat Hanayut

Many fishermen of the neighboring villages of Penarek and Kuala Baru work on boats which use a gear type which requires a crew of up to twenty men. There are at least eight such boats crewed exclusively by fishermen of one or the other village. Known locally as the pukat kilat, this gear is a large purse sein in which the pursing net is hauled in by a power winch. In Malay kilat means lightning, and the name of the gear refers to the speed at which the power winch tightens the bottom rope of the net. It is, I believe, significant that only nine men out of over one hundred active fishermen in Mangkok work with these boats, even though it would appear that the annual personal income from such employment is higher. Good reasons for preferring to work with the drift net are given by the fishermen of Mangkok. Their opinions concerning the pros and cons of this or that style of fishing are illuminating as to what are considered to be the important aspects of employment. In simplified form the debate centers around a possible trade-off between increased personal income and other, less tangible, but no less important social and personal costs.

The boats using the pukat kilat, including those operated by fishermen of Penarek or Kuala Baru, operate out of Kuala Trengganu, putting to sea in the afternoon and only returning to market the catch in the early morning. Only during the bright phase of the moon do the boats return to Penarek and Kuala Baru, which means that for three weeks

out of the month many of the men are absent from the village. Kuala Baru is especially affected as over eighty per cent of the fishermen, which includes most of the able-bodied men over age fifteen, are gone during this period. The crew members themselves have no say in the marketing arrangements and often have no idea of the value of their catch. Their income is based on a complex share arrangement and they have no way to check the accuracy of the calculations as they know neither the proceeds from the catch nor the expenses (fuel, food, etc.) incurred during the fishing period. Moreover, the owners of the boats and nets (which together may cost M\$70,000, or U.S.\$30,000) are not from the village, but rather are wealthy merchants including merchants engaged in fish marketing. The crew captain is a fellow villager but he too is quite at the mercy of the person who keeps the accounts. Although there are no indications at present that the owners of the boats operated out of Penarek and Kuala Baru have been cheating their crews, it is said by local fishermen that incidents of this nature are common occurrences. It is easy to see how this could happen, or could be perceived to happen. When the boat arrives the catch may be removed directly to the van of the boat owner without weighing or setting a price. And if, as is often the case, the owner is Chinese, the accounts of income and expenditure may be kept in Chinese characters.

As will be seen, in Mangkok this uncertainty and the possibility of wholesale cheating on the part of the owners is quite impossible. This is one important factor that fishermen mention in explaining their preference for working on the smaller boats using the drift net. They fear being cheated by non-villagers, who are not amenable to traditional

social controls.

There are other tensions involved in working with the pukat kilat which are just as significant and, in fact, are more often mentioned by the fishermen of Mangkok. With the pukat kilat a large number of men are confined for long periods of time on a single boat. Though these boats are sometimes over sixty feet in length, the amount of available space is quite limited by the netting, the power winch, the light lures, and other equipment. This crowding, it is said, often leads to strife and even violence. Added to this, there are certain functional specializations involved in this style of fishing, specializations which in most cases take no particular skill but which are rewarded by extra shares. These may produce jealousies and hard feelings among the fishermen, especially if one man is passed over for a particularly choice assignment. It is not that there are no tensions on the small boats of Mangkok, or even that there are no accusations of unfairness. But in Mangkok the problems are on a smaller scale and occur when one is at home and hence less vulnerable. It is much easier to quit fishing with one boat and take up with another in Mangkok; with the large purse seiners operating out of Kuala Trengganu, a person who is dissatisfied may not be able to switch boats in the middle of a fishing period unless a timely opening occurs, and even then the dissatisfied fisherman may be refused by a captain who doesn't want "troublemakers" on his crew.

The majority of fishermen from Mangkok prefer to operate out of their home village, to work with boats and gears that are locally owned, and to sell to buyers who are local residents and with whom they have regular social or even kinship relationships. There is ample

opportunity for fishermen of Mangkok to be boat captains, and at one time or another most of them have been jeraqang. Even as ordinary crewmen many fishermen of Mangkok take part in such important decisions as where and how often to cast the nets. But with the large purse seiners there is no room for individual initiative; all that is required is simple regimented labor. Involvement with the large purse seiners is said also to result in feelings of resentment towards those who are perceived to be gaining an unfairly large share of the income. The owner of the boat and net, in this case, has a much higher capital investment than is the case with smaller boats and less expensive gears. Consequently, the owner will demand a larger proportion of the total catch.

To fishermen accustomed to operating on a much smaller scale, the share accruing to the owner may appear excessive. It is not that the fishermen do not recognize capital as a factor of production, but rather that the sums earned by the owner of a large purse seiner are so much greater than those earned by the average crewman that their sense of fairness is outraged. The formula used in Mangkok for distribution of the proceeds of the drift net catch is simple and provides us with an understanding of the relative values placed on labor and capital.

Distribution of the Catch

Fish are marketed daily in Mangkok, but the buyers do not hand over cash on the day of the sale. Instead, at the end of a given fishing period (tsalam), or when there is a break in fishing caused by a storm, the captains of the individual boats will inform their buyer or buyers that they are ready to distribute the proceeds to their crews. Generally on the following day the boat captain again will visit the house of the

buyer or buyers and collect the money. That afternoon or evening the crew will assemble at the house of the captain. The captain, with a pile of money before him, will proceed to distribute the earnings according to an established formula. The formula itself is simple enough, but the calculations become complex if for one reason or another a crew member had not joined the boat for a given evening, or if perhaps another fisherman had joined for part of the fishing period. As such is often the case, instead of going through the calculations once for a twenty day fishing period, there may be five or more separate calculations to be made.

As the men sit on the floor in the front room, the wife of the captain and quite possibly the wives of the other crewmen will be in the kitchen, preparing tea or coffee and snacks. Quite often rather than actually figuring out the distribution with pencil and paper, money will be physically taken from the middle of the floor and set aside into different piles. The women are quite attentive to the proceedings in the front room, and I observed that they are not at all adverse to correcting the math of their husbands or voicing an opinion on the interpretation of a particular distribution formula. It should be kept in mind that many of the fishermen are either non-literate or close to it. In some cases younger fishermen with primary school education, even from other crews, are asked to help with the calculations. I have watched several distributions and offered no comment when an error in calculation was made. Errors invariably were caught, and more often than not it was one of the women in the kitchen who supplied the correct answers.

After calculations are completed, drinks and snacks are served. At this point, or possibly later in their own homes, the fishermen will hand over their income to their wives, keeping back only a few dollars for personal expenses. Young unmarried men living at home also will turn over most of their money to their mothers, keeping some cash aside for the more flashy clothes of a young man.

Calculation of the Distribution

The first call on the gross total of each boat's earnings are the operating expenses. These include fuel and cylinder oil, which may total M\$5.00 per outing, and the tea, snacks, and cigarettes the crew consumed upon their return. Once these have been set aside from the pile of cash on the floor the basic formula calls for twenty per cent to be paid to the owner of the boat as the boat share. The remainder is divided into three equal parts, with one share going to the owner of the net (often also the owner of the boat). The remaining two shares are then divided equally among the crew, including the captain. The captain may also be the owner of the boat and net. Regardless of ownership, a further calculation is made. Charged against the shares given "operating share," This share, twenty per cent, is to recompense the captain for his added responsibility in looking after and maintaining the equipment. It is expected that the captain will distribute some of the bahagian bawa among his crew, especially if they have assisted in maintaining the net (a continual, almost daily task) and boat in operating order. The engine should receive routine maintenance, and the hull requires at least annual painting in addition to periodic scraping

of barnacles and general cleaning. There is no formula to guide the captain, and no formal requirement that he give away any of the bahagian bawa. There is, however, a general standard of generosity and fairness by which captains are judged. The existence of this standard is evident from the number of complaints made by fishermen. Failure to distribute a satisfactory share of the bahagian bawa is claimed to be the cause of many crew members leaving one captain and joining another. It would seem that the captain of a boat who owns no part of either boat or net may keep a larger than equal share of the bahagian bawa for himself. Not only is he ultimately responsible for the boat and net, he is responsible for dealing with the fish buyers at the time of sale and when collecting money. During the actual distribution of earnings to the crew he also is expected to provide tea and snacks. But if any of his crew helped to clean the boat, mend the net, or work on the engine they would still expect adequate recompense from the bahagian bawa. If, on the other hand, the captain also owned the boat and net, he may be expected to share the greater part of the bahagian bawa with his crew members. It is considered that he needs little or no recompense for looking after his own equipment. In addition to his crew share he also will be receiving the boat and net shares, which are close to half of the total earnings.

If a crew of three men using a pukat hanyut earned M\$100 after expenses had been met, the owner(s) and crewmen would receive the following income (assuming equal division of the bahagian bawa among the three crewmen):

Owner of boat	M\$16.00
Owner of net	M\$21.33
Crewman's share	M\$17.78

The total share earned by the owner(s) is M\$37.33, while the

share earned by the fishermen is M\$62.67. (In contrast, the owners of the Phukat kilat take an even \$50.00 of each M\$100.00 earned, after expenses.) If the captain of the boat also is the owner of the boat and net he would take home approximately M\$58.22 for every M\$100.00.

Income From Fishing

The incomes earned by fishermen vary considerably from season to season. Table 4.4 graphically depicts the seasonality of fishing in the Mangkok area. Data for this Table (and the other Tables in

this Chapter as well) were collected by a locally-born field assistant under my supervision. After I left Mangkok on April 20, this assistant continued to collect data until May 12, at which time he left to take a job elsewhere. May 12 was the sixth day of the lunar month, meaning that there were still probably at least four if not six nights of possible fishing. However it is clear from the data that, due to the poor catch of the nights immediately preceding May 12, a major change in the figures was unlikely.

Data on the value of fish landed and approximate distributions are provided in Table 4.5 for five cases from Mangkok. This table includes data from January 14 to March 15, 1978, the peak fishing season of the year. An estimate is taken for operating costs using the figure of M\$5.00 per day or night of fishing. This figure includes fuel, engine oil, and refreshments for the crew after a day or night at sea. Not

TABLE 4.4

Total Fresh Fish Landings
in the Mangkok area
January 14 to May 12, 1978

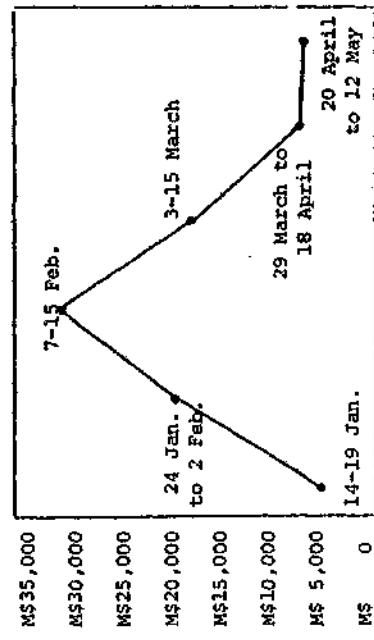


TABLE 4.5

Total Catch, Distribution, and Income
for Five Cases
(January 14 to March 15, 1978)

Case	Total Catch (M\$)	Boat Costs (M\$)	Net Share (M\$)	Crew Share (M\$)	Number of Crew	Approximate Crewman's Income (M\$)
I	964	105	137	183	538	3
II	2236	140	335	447	1314	3-4
III	1356	145	194	258	759	3
IV	2268	140	340	454	1333	3-4
V	1810	125	270	359	1056	3

included are major expenses (e.g., engine repairs) which are paid for by the owner of the boat. The bahodian bawa has been subtracted from both the "Boat Share" and the "Net Share", and added to the "Crew Share."

Table 4.5 indicates that there is considerable variation in the success of the fisherman of Mangkok. This has affected the ability of some boats and captains to attract crewmen, as can be seen in the column "Number of Crew." This figure is an average derived from dividing the total number of man-days spent fishing by the number of days fishing. These figures are used here to obtain approximate figures for fishermen's incomes. Case II shows by far the highest average earnings per day (or night) at sea. This was accomplished in part by the captain actively discouraging extra hands from joining his crew, though this was an unpopular action. Although the boat in Case V brought in a little more in total catch than Case II, the captain allowed more crewmen to join his boat, and as a consequence the average crew share was reduced. Due to the high variability of the catch, these average figures should only be regarded as approximate crew incomes.

The captain of Case I, the least successful of the five Cases presented in Table 4.5 and one of the least successful captains in Mangkok, suffered not only below average income but had great difficulty attracting an adequate crew. Early in the season his average crew consisted of three men. By April, however, these crewmen had left him to work on other boats, and on nine separate occasions in April this captain had to go to sea alone. It is possible to operate the pukat hanyut alone, but the work is lonely and arduous, and not particularly efficient as

the net is likely to be cast only once per night (instead of twice), and this increases the likelihood of captured fish being taken by sharks and dolphins. If this occurs the catch is diminished and the net damaged. With no other crewmen to help, the increased work of mending the net is left to only one man.

Success in fishing is partly a matter of the skill and luck of the captain and crew, but the condition of the nets is perhaps a more important element. The pukat hanyut is rarely if ever purchased new, but it is constantly being repaired and renewed section by section as funds are available. Netting in a poor state of repair may have gaping holes and thread so weakened by age that even a small fish may be able to break free. Fishermen operating nets in poor repair will find it most difficult to meet depreciation and maintenance costs associated with the net precisely when the need is greatest.

In Case I the captain (Dahat, see Table 4.2) is part owner of the boat and both the pukat hanyut and pukat tansi. The boat and nets are in poor condition. The pukat tansi was purchased second hand and is too short to be effective; moreover, the mesh size of 2½ inches seems to be too small for the larger Spanish mackerel and wolf herring which predominate during and immediately after the monsoon.

In Case II the captain operates the boat of the only Chinese family in Mangkok but is partner with this family in both the pukat hanyut and pukat tansi. The boat is in good condition as is the pukat hanyut, but the pukat tansi has begun to yellow with age. This captain was the first to use the pukat tansi in Mangkok, and while he was successful with it in early 1978, others with newer nets had markedly

greater success.

The captain of Case III (Yahya, see Table 4.1) also operates the boat of another, but unlike Case II, he does not own shares in the nets, which are in only fair condition. In Case IV the captain owns his own boat and nets, the boat is new and the nets are in fair condition. This boat brought in the year's single largest catch, valued at over M\$636 (U.S.\$265) or almost a full third of his total catch for the four-month period.

Finally, in Case V the captain is owner of his new boat and nets which are in good repair. Having a new boat does not directly contribute to the catch -- nets capture fish, not boats. But a boat is appreciated for its seaworthiness, especially when the seas are rough. This captain will take his boat out with confidence when others will worry about older planks and joints and may not go to sea. A fast boat also is an asset, and never boats tend to be faster. Never boats also require less general maintenance, and for this reason, plus the greater speed, fishermen prefer to work on such boats.

It is my impression that the Cases chosen are representative of boats and nets in differing conditions. The most significant variable in terms of increased catch appears to be the relative condition of the nets used. Chance and luck also are factors in the success of fishing, as are skill and perseverance. But without a decent net of suitable size, even the best fisherman of Mangkok will have difficulty earning a decent living.

We see from Table 4.5 that over a three-month period (mid-January to mid-March, the best fishing of the year) a crewman on the boat of Case

II may earn almost M\$375 (assuming three crew members), or M\$125 per month. In addition to this he will bring home enough fish to feed his family, at least M\$1.00 worth per day of fishing (perhaps M\$2-3.00 at retail price levels). But if we take the case of Yahya, Case III, to be closer to the average, as I believe is true, the average cash income for this period is less than M\$85 (U.S.\$36) per month. Comparing Tables 4.1 and 4.4 it is obvious that the average income is not maintained throughout the year. In the absence of adequate data it is only possible to offer an educated guess that average monthly incomes from fishing based on a twelve month year are close to half the average from mid-January through mid-March. It should be noted here that fishing with the drift nets in 1978 was reported to be as good or better than average compared to recent years. Price levels also have been maintained although, as we will see in the next section, there was some turbulence in the field of marketing. (Based on letters from Yahya it appears that the price for fish in early 1979 had declined as much as thirty per cent, for reasons that are unclear.)

Marketing

The Fish Market

Marketing of fresh fish in Mangkok takes place along a sandy beach on the bank of the Setiu River. Here the shallow-drafted boats simply pull up as close as possible. Gently grounded on the sand, they often do not require further anchoring. By coming in bow first rather than completely parallel as many as twenty-five boats can be accommodated at one time. Though as many as forty-five boats may come in during a single morning, they tend to be staggered over a period of two hours or

more. When a boat comes in the crew will disembark for a short time to sell the catch and to drink tea at the small coffee shop owned by the local fishermen's Cooperative. In addition to tea and coffee, various snacks and cigarettes are offered for sale, and fishermen spend some time discussing the night's fishing, where they cast their nets, where the fish seem to be most plentiful, and where they will fish that evening.

The landing area itself is dotted with the open pole sheds of the various buyers which contain the insulated boxes (approximately four feet by three feet by four feet high) in which ice is stored. Also in or near these sheds are the packing boxes in which the fish are packed in crushed ice and sent to Kuala Trengganu. A fuel tank owned by the fishermen's Cooperative sells diesel fuel and cylinder oil. Plans are being made to operate a store to provide supplies and spars parts for nets and boats. During the period of research such materials could only be obtained from Kuala Trengganu or Kota Baru. In June 1978, the government built a small dock at the landing beach presumably to facilitate loading and unloading the boats; however, at best only three boats can use the dock at the same time, so its utility is limited. Moreover, as the dock seems to have been built high enough to prevent being submerged in a flood, during normal conditions it is quite difficult to climb up to it from the small local boats, especially as no steps were provided. It is much easier simply to wade a few feet in knee deep water to reach the boats. At the landing area also may be found two structures known as wakaf, open raised platforms with tiled roofs which are commonly used by people on the East Coast as places to rest or wait. Finally, there

is a fresh water well at the landing area used for bathing and for the water needed by the coffee shop.

Marketing Arrangements of the Past

Until the dirt road was extended from Penarek to Mangkok five years ago there was no marketing of fresh fish in Mangkok, the bulk of the fish being sold after drying. Greater profits tended to be earned in the processing than in the catching of fish. To be a successful processor of dried fish, however, required a constant source of materials without which a steady supply of labor and a good return to the investment in drying mats and other equipment would have been impossible.

In Mangkok, fish drying tended to be concentrated in the hands of a few men and in an effort to achieve a certain supply of fish these men also invested in fishing boats. At one time at least half of the boats operating out of Mangkok were owned by three or four fish processors. The catch was automatically sold to the owner of the boat, who set the price. Those fishermen who owned their own boats could either sell their catch to these processors, process the fish themselves, or sell to small-scale fish vendors who would enter the village on bicycles or small Hondas. For independent fishermen drying their own fish was not a viable alternative partly due to certain fixed costs, partly due to the uncertainty of an individual boat's catch, and partly due to the lack of regular marketing outlets. The small-scale vendors provided important outlets only during periods of relatively poor fishing. When the catch was substantial there was no way they could handle the quantity landed in Mangkok, and the bulk of the fish had to be sold to the local fish processors.

It is not necessarily true that the fish processors took

unfair advantage of their position, cheated their fellow villagers, or made unreasonable profits on their investments of energy and capital. But it is clear from their present economic condition that they prospered.

New Marketing Arrangements

Once the road into Mangkok was completed, however, small vans were able to enter and fresh fish could be sent to the market in Kuala Trengganu, only fifty miles away. The opening of Mangkok to fresh fish marketing produced a major structural change in the local fishing economy. The most immediate effect was to raise the price received for the fish. In 1972 the price obtained for spotted Spanish mackerel (tenggiri papan) was M\$0.53 per pound. When this popular fish could be sold fresh the price jumped to M\$0.80 per pound and gradually increased to present levels. The price for other varieties commonly caught by fishermen of Mangkok also increased. As of early 1978 fishermen of Mangkok were receiving the prices indicated in Table 4.6.

TABLE 4.6

1978 Prices for Commercially Important Species of Fish

Species	Price Per Pound
Spotted Spanish Mackerel	M\$1.20 ~ 1.35
Spanish Mackerel	.90 ~ 1.05
Large wolf herring	.95 ~ 1.09
Small wolf herring	.53 ~ .60
Bonito	.19
Bluefin tuna	.26 ~ .30
Scabbard fish	.23 ~ .26

Building of the road and the consequent changes in the price structure and marketing relationships had a positive effect on the

incomes of local fishermen. Instead of selling their catch to processors of dried fish at prices over which they had no control, fishermen, including fishermen operating the boats of the fish processors, began to sell to the highest bidder. As owners of boats and nets, these processors received a larger income from the boat and net shares, but their profitable trade in dried fish itself dried up. The rationale for maintaining a small fleet of fishing boats to supply fish for processing no longer existed. With their increased incomes, fishermen were in a position to buy used boats and nets, which the erstwhile fish processors no longer found as profitable.

The owner of several boats and nets can earn a reasonably good income from the boat and net shares alone, but only if he can find captains and crews to operate the boats. As the fishermen themselves increasingly have sought to purchase their own equipment it has become more and more difficult for the owners of boats to man them. In most cases the processors of dried fish sold their boats, but in some cases they have entered into a partnership with their captains. Known locally as a kongsi, such partnerships are formed by the original owner giving a half share of the boat and sometimes of the net as well to the captain. This may be done outright, but typically the owner proposes to his captain that the boat is worth, for example, M\$2,000. If the captain will continue to operate the boat until M\$2,000 is earned for the boat share, then the captain will be given half ownership in the boat itself, and one half of the boat share thereafter. This effectively ties the captain to the particular boat, reducing the risk to the owner of having a boat for which he can find no captain and which consequently produces

no income. The owner also appears to be generous though at the same time he is sharing not only the profits from the boat but the expenses as well. An inactive boat also incurs expenses and, in fact, depreciates in value more rapidly than an active boat. During the period of field research there were always at least two boats inactive due to lack of a captain.

The New Fish Buyers

The processors of dried fish seem to have been unable to adapt to the new marketing situation. The marketing of fresh fish today requires the establishment of trade relationships with other middlemen in either the State capital or in the major urban centers in Singapore or on the West Coast of Peninsular Malaysia. The work tends to be hard and involves long hours and, significantly, requires a level of literacy which few people born before World War II possess. Marketing of fresh fish requires record keeping at multiple stages. There are the daily records of purchases from fishermen and records of the sales to the buyers of their fish consignments. There also are costs for ice, packing materials, and transportation which need to be accounted for and controlled. In some cases these may involve credit relationships.

As a consequence of these factors, today's fish buyers tend to be men in their twenties and thirties. Older men are less prepared by education, experience, or desire to adapt to these changed circumstances. Previously the only expenses that a processor of dried fish incurred were for locally produced materials and labor from their neighbors. Other than this the only other relationship that was necessary was with the Chinese buyer of the dried fish, who paid for his purchases

with cash. It was difficult for these older fish processors to adapt themselves to the new marketing pattern, though one of them tried. Instead of being able to conclude sales from the comfort and security of his own village, he had to travel to a city on a daily basis and deal with buyers on the buyers' home turf, accept payment by check, and deal with banks, ice factories and even automobile dealerships and mechanics.

The one older fish processor who did try to adapt to fresh fish marketing said he found the experience both physically and financially exhausting. To move the fresh fish quickly he purchased a small van and hired a driver. An older man who is functionally non-literate, he found the long days were too much of a strain on his constitution. Possibly because he was inexperienced in fresh fish marketing, and possibly because he also was involved in a number of other merchandising activities which distracted his attention and energy, he lost money and finally sold the van and stopped buying fresh fish.

During the peak fishing seasons, a fish buyer in Mangkok may be working eighteen hours per day. He will need to be at the marketing place by six a.m. at the latest. Sometimes the boats will come in starting at two a.m., continuing until seven a.m. or later. As the fish is purchased it is packed into crates with crushed ice and the crates are loaded onto the vans. Between nine and ten a.m. the vans are ready and are driven to Kuala Trengganu, approximately one and one half hours away by road. The sale of the fish to the dealers in Kuala Trengganu typically takes little time. The buyers of Mangkok have established relationships, sometimes involving credit, with certain dealers in Kuala Trengganu. The various dealers generally offer the

same prices, and there is no need for a daily checking of prices among each of the dealers. The buyers of Mangkok each sell to different dealers anyway, and they know what their fellows received for their consignments. More often the buyers will switch dealers for reasons of real or imagined personal slights, disagreements on the grading of the fish delivered, or if one dealer is willing to provide needed credit when another is not.

The dealers in Kuala Trengganu pay the buyers of Mangkok on the basis of price per unit of weight for the given species of fish. Generally the fish are not unpacked from their crates but are sent off directly to the urban centers of the West Coast. If there is any problem in the quality of the fish, the dealer will hear of it when the fish reaches its destination. Trucks leave Kuala Trengganu with the fish between noon and three p.m., arriving in Kuala Lumpur, Singapore, or Johore Baru by three a.m. There the major urban buyers accept the consignments and distribute them among retail sellers.

Once the fish buyers of Mangkok have delivered their fish they will need to buy ice for the next day's catch. It is at this point that the buyers often extend their working day and their costs. At the fish marketing center in Kuala Trengganu there is an ice factory, but during the peak fishing seasons there is a serious shortage of ice. Ice is sometimes trucked up from Kuantan, over 200 miles away. To the initial cost of this ice is added the transportation costs and the "depreciation" caused by melting in the unrefrigerated trucks. The buyers often wait for hours to obtain their ice, and sometimes in desperation drive eighty miles north to Kuala Besut in hopes of buying ice there. But as there

also is a shortage of ice at this port, and because they cannot place a telephone order for the ice they require, they usually face a long wait there as well and may even have to return to Kuala Trengganu once again. Many nights while up late typing field notes I saw fish buyers returning to Mangkok after midnight with their precious cargo of ice. Without ice they could not purchase fish on the morrow, and if there is not ice immediately available then wait they must. When the shortness of the peak seasons are taken into consideration, such exertions are placed in proper perspective. A buyer of fish in Mangkok will earn a substantial proportion of his annual income during a two or three month period, and while it is exhausting, he knows that a season of relative idleness or alternative employment will follow. But in calculating costs and margins, the extra expenditures for fuel and meals for both buyer and driver in this seasonal search for ice must be considered substantial.

It often has been claimed in government and academic circles that "middlemen," the buyers of fish, are largely responsible for the impoverishment of Malaysia's coastal fishermen. As with most sweeping statements there are important exceptions to be made, and my data indicate that an exception could be made in the case of the buyers in Mangkok. It is beyond the scope of the present study to attempt an analysis of marketing relationships from producer to consumer. There may be good cause for claims that other middlemen are cheating the fishermen while robbing the consumer. It is true that some varieties of fish, such as the Spanish Mackerel, double in price from Mangkok to Kuala Lumpur, and that even considering costs and risk there is a lot of profit being made.

But if unfair market practices are taking place they would appear to be at a different level than I am prepared to discuss on the basis of field data from Mangkok.

Neither am I willing to argue that the buyers of fish in Mangkok are unconcerned with their profit margins or are unwilling to take advantage of superior market information in their dealings with fellow villagers. There is, in fact, considerable room for conflict among fishermen and fish buyers, and it would appear to be a regular feature of life in the village. This was graphically illustrated soon after I arrived in the village when the fish buyers attempted to impose a new method of fish marketing on the fishermen of Mangkok.

The Manner of Selling Fish

When fresh fish marketing came to the Mangkok area the system adopted was that of borong (wholesale) whereby the captain of the fishing boat would quote a figure for the whole of the catch displayed neatly on the foredeck of the boat. While various onlookers crowd around, the fish buyers climb up on the boat and wait for the captain to start lowering his quoted price, in the meantime quickly calculating the approximate weight of the different species of fish displayed and the price they are likely to fetch in Kuala Trengganu. The boat captain, having originally asked a price he knows no buyer would pay, will begin to lower his asking price in increments of MS5 or MS10. The buyers meanwhile likely will be making disparaging comments on the quality of the fish presented for sale, noting how this one was damaged while being removed from the net, or that one had been nibbled at by another fish while in the net. Several minutes later when the price has reached a

level that a buyer feels he can afford and still turn a profit, he will say (or often shout) "beli!" (buy!).

Sometimes if a price asked by the captain (e.g. MS140) is close to a buyer's estimation of the catch's value but no other buyer has committed himself, he will anticipate the next price level and shout an offer to buy at MS120. This is a reflection of the competition under borong, the buyer feeling that one or more of his fellows would want the catch at that price. No buyer could use such anticipatory bids regularly without endangering necessary working relationships with his fellow buyers, but it is considered fair to use this strategy upon occasion, especially when the buyer has been unsuccessful in purchasing a catch on that day, or when purchase of another catch will give the buyer enough fish to make a trip to Kuala Trengganu worthwhile. The process is quite public, with six or more buyers competing for the catch and with sundry other villagers listening in.

The Buyers Force a Change

In December 1977, the various fish buyers of Mangkok met and decided they would begin to buy fish on the basis of weight instead of buying by borong. They argued that they sold their purchases on the basis of weight and that if they misjudged the catch they stood to lose money. They also pointed out that miscalculations went the other way as well and that to sell by weight would be fairer to all concerned. They promised to offer a fair market price to the fishermen. No large public meeting was held, but rather the individual buyers talked with a few fishermen and the word spread quickly from there.

The fishermen were not happy with this suggestion, fearing that

the buyers would establish a price cartel and that their interests would not be served by the new system. In public the fish buyers of Mangkok adopted the position that the fishermen owned the fish they caught and it was up to them how they chose to dispose of their catch. Giving way to the desire of the fishermen, the buyers continued to buy the fish on the basis of borong, but with a difference. Deals which previously would have been concluded in two or three minutes now took twenty minutes or a half hour as the buyers would not accept the prices asked by the fishermen. It happened that this confrontation coincided with the pukat tansi season, and these protracted negotiations were carried out under a sun still hot at four p.m. after the fishermen had been out on the boats in the sun all day. The un-iced fish on the foredeck were not improving with age. Tempers began to flare as buyers suggested that the fish be weighed as a solution to the deadlock, and moved on to another boat if the captain refused. Previous locally accepted procedure held that the buyers would conclude a deal with the boat which came in first and only would move on to succeeding boats after the earlier boat's catch had been sold. By their delaying tactics the buyers effectively tied up most of the boats as they came in, and then went from boat to boat without concluding any sales. Some fishermen gave in to the pressure and had their fish weighed, but others held out this first day and finally sold by borong. The second and third day the confrontation was repeated, but with increasing numbers of fishermen shifting to selling by weight. This was encouraged by the fish buyers who would tell the arriving fishermen that everyone before them had sold by weight (though this was untrue). By the end of five

days all fish landed at Mangkok was sold by weight; the buyers had been successful in imposing their goal.

The Buyers' United Front Breaks Down

The confrontation seemed to solidify two opposing groups with different interests. It was obvious at first glance that the buyers and sellers of fish had opposing interests, but what became clear as time passed was that among the buyers themselves there were competing interests, and that buying fish on the basis of weight favored some buyers more than others. Under the new marketing arrangement the element of competition was reduced. Initially the prices offered by the different buyers were the same. Some fishermen decided which buyer to deal with on the basis of convenience. The shed of Tenaga Baru, a partnership of three men, was advantageously located on the landing beach, and with three men there were extra hands to help carry and weigh the fish, and to write out the receipts. At first fishermen appeared to take their catch to this partnership out of convenience. Soon I realized that this partnership was treating the crews to tea, snacks and cigarettes at the local coffee shop, a practice quickly picked up by the other buyers.

While convenience may have directed some fishermen to certain buyers, most sold their catch on the basis of more important considerations and relationships. During this period as many as forty-three boats were selling in Mangkok. Twenty-nine boats sold their fish exclusively to one or another of the local buyers. Table 4.7 illustrates the type and extent of the ties which came to bind particular boats to certain buyers.

center, the only one between Kuala Besut and Batu Rakit. Although the new jetty built at Mangkok was recognized by the fishermen to be a waste of money, it also was seen as a symbol of the government's recognition of Mangkok's place as a fishing center. Indeed, it was the local Fishermen's Cooperative which requested this project, a request that won out over the simultaneous request for a jetty by fishermen in Kuala Baru.

This competition between the villages, combined with the removal of the price differential between Osman and first one and then several buyers in Mangkok, convinced the fishermen who had strayed to return to the fold. Some buyers attempted to raise their prices, if not across the board than for selected species, in an effort to attract more of the total catch. But most of the buyers were clearly unhappy buying fish by weight, and whereas previously I had been told in public (and loudly for all to hear -- a case of fieldworker as sounding board) that buying fish by weight was fairer to all concerned, now buyers told me privately that buying on borong was more advantageous to them. A clever buyer, it was said, could make a better profit with borong than was possible with the fixed margins of buying by weight.

It seemed to be true that buying the fish by weight limited the profit margins of the buyers. I have seen, and more to the point, the fishermen have seen the buyers' receipts with the prices they obtained in Kuala Trengganu. I also verified these receipts by traveling to Kuala Trengganu with the buyers. Compared to the prices actually paid to the fishermen, the buyers were receiving a margin of between M\$10 and M\$15 per pikul (133-1/3 pounds) of fish. Fish are transported in crates which when full hold 1.4 pikul (about 190 pounds) of fish.

TABLE 4.7

Reasons for Preferential Relationships
Between Fish Buyers and Fishermen

Buyer	No. of Boats	Reason for the Relationship		
		Economic	Kinship	Friend/Neighbor
Tenaga Baru	6	5	0	1
Aziz	5	0	2	3
Tok Su	4	3	1	0
Osman	5	5	0	0
Rashid	3	2	1	0
Rokid	3	2	1	0
Jabfar	2	1	0	1
Pak Wang	1	1	0	0
Totals:	29	19	5	5

Under the heading of "Economic" would be included loans for the purchase of nets and other gear, personal loans for consumption at some time in the past (which may or may not have been repaid), or even outright ownership of or partnership in the boats and nets being used by the fishermen. The category of "Kinship" should need little explanation. While a fisherman may be able to trace ties of kinship to several buyers, in some cases the tie is so close (e.g. brother) that a fisherman under the new system felt obliged to sell to this particular buyer. Under the category "Friend/Neighbor" are included fishermen whose immediate neighbor was a buyer and who felt obliged to sell to this neighbor if there was no stronger reason to be linked to any other buyer. Similarly, a fisherman would sell to a close personal friend in the absence of a more compelling bond. All of the buyers listed in Table 4.7 operated in Mangkok, with the exception of Osman, who bought fish in Kuala Baru.

One of the buyers, Tok Su, had not previously engaged in fresh

fish marketing. He is an old man, a shopkeeper who owns two boats and a half interest in a third. These are what remains of a small fleet of boats which he owned when the local production of fish was dried. When fish was sold by borong he did not buy. Wading out to the boats and then climbing up onto them, a physically strenuous activity, was too difficult for Tok Su. But when the marketing of fish was done by weight Tok Su could stay on the beach and let the fish be brought to him. In essence Tok Su was acting as a dagangan, an intermediate fish buyer who guaranteed a market to the fishermen (though this service met no pressing need) and who in turn sold the fish to another buyer. Tok Su entered into a working relationship with a regular buyer who owned a van. Through him Tok Su sent his fish to market and they jointly shared the profit that came with the added volume. The packing, transporting and selling were done by the regular buyer, and what Tok Su did was to interpose himself between the buyer and the fishermen, taking part of the buyer's added profit for himself. The price paid to the fishermen was unaffected, but Tok Su was able to make a small profit in addition to his regular income from boat and net shares.

Although each of the buyers was able to form at least one firm relationship to a boat, it was clear that these marketing links introduced some disequilibrium into a situation that had been totally open. Some buyers began to complain publicly that their business had slackened so much that they could not even put together a viable consignment of fish, and that the new marketing system was threatening their livelihood. This latter point is a particularly strong one in rural Malay society. Where the right to earn a living is held to be pre-eminent, a basic

right. The complaints of these buyers grew louder as the partnership of Tenaga Baru began to offer higher prices than their competitors, attracting the boats which were not firmly linked to other buyers. At this point the complaining buyers claimed that the original agreement among the buyers was to offer a uniform price, vindicating the fears of the fishermen that the new method of marketing would lead to a price cartel (though the fairness of the prices offered is a separate question). The partnership of Tenaga Baru (literally "new strength"), however, claimed that they were able to offer higher prices because they marketed their fish directly to the urban centers on the West Coast. In fact, it seemed that the real reason they raised their prices was to meet the competition offered by Osman, the sole buyer of fish in the neighboring village of Kuala Baru.

Osman also sells his fish directly to buyers on the West Coast and in Singapore, the only other buyer to do so. Osman is an interesting character, a hard-nosed trader who publicly proclaims his disdain for public opinion. He has managed to alienate virtually the entire population of his own village by being proud and aloof and for reneging on a promised gift to the local mosque. During anchovy season he must recruit labor from Mangkok to dry the little beauties because not one individual from his own village will work for him. His personality is abrasive, and he views his fellow villagers with ill-disguised scorn, which they return in equal measure. His relationships with fellow buyers of fish are as bad or worse as with his neighbors. His willingness to engage in cut-throat business practices once elicited fistcuffs from a buyer in Mangkok, and Osman, who had briefly moved his buying operations to

Mangkok, moved back to Kuala Baru. There he bought the fish from the five boats owned by his wife and from any other boats that cared to sell to him. He purchased fish on the basis of weight long before the buyers in Mangkok.

When the buyers at Mangkok began to buy fish by weight they found that Osman was outbidding them by M\$0.10 per kati (about 7.5 Malaysian cents per pound) on some of the more important varieties and even more on others. Several fishermen from Mangkok, now that everyone was buying by weight, compared the prices and began selling their catch to Osman, whose business flourished. It was this competition that forced the partnership of Tenaga Baru to raise their own prices. At the same time pressure was put on those fishermen who were selling to Osman to sell their fish to one of the dealers in Mangkok. On this latter point all of Mangkok's buyers were agreed, and a considerable number of Mangkok's fishermen also spoke to the "mavericks" on this issue. Besides the personal antipathy that many buyers and fishermen of Mangkok felt towards Osman, they also were interested in maintaining Mangkok's control over fresh fish marketing.

When the road was built connecting Mangkok and Penarek, the road was extended to Kuala Baru, and initially the fresh fish marketing was carried out in that village. Most of the fishermen selling fish were from Mangkok, however, and they wanted to land in their own village. Informants recall that those seeking to move the landing site to Mangkok were mindful of the government aid to the fisheries sector which would tend to be attracted to marketing centers. The fishermen of Mangkok wanted to maintain Mangkok's place as the local fresh fish marketing

It costs at least M\$11.50 per crate to market the fish in Kuala

Trengganu, including M\$5 for transportation, M\$4 for ice, and M\$2.50 for the crate itself. In addition a few dollars may be paid to a casual helper who assists in packing the fish and ice. At a margin

of M\$15 per pikul there would be approximately M\$20 of margin per crate, or a profit of maybe M\$8.50 (U.S.\$3.60). If the margin drops to M\$10 per pikul, the profit per crate of fish is only about M\$3. It should be noted that the M\$5 transportation charge is the cost which van owners themselves have calculated as sufficient to cover maintenance and depreciation costs plus fuel. If a single buyer is unable to purchase enough fish to justify sending his own van to Kuala Trengganu, he may join with another buyer to send his consignment at this rate.

During the peak fishing period between January and March a fish buyer may manage to purchase six crates or more in a day, in which case his daily profit is substantial. But when fishing is poor it is often difficult to accumulate even one crate, and sometimes the sum of fish marketed in Mangkok only will amount to three crates. When the catch is this poor it may not be worthwhile to send the fish to Kuala Trengganu, and the fish may instead be stored in the large wooden insulated ice chests of the buyers. Buyers say that fish stored in ice instead of immediately marketed loses between ten and fifteen per cent of its value, which wipes out any margins for the buyers. It is in fact disadvantageous for the buyers to participate in buying during periods of poor fishing, but they are held, and hold themselves, responsible for buying the fishermens' catch.

Even during periods of good fishing the buyers may suffer

losses. The peak post-monsoon season is prone to stormy periods when fishermen may not be able to go to sea for a week or more at a time. If a buyer has filled his ice chest with ice in anticipation of the next day's buying, he will stand to lose his store of ice (worth M\$36) if a storm halts fishing for even four or five days. This happens regularly and means that the buyer must make a special trip to purchase ice. Normally ice is purchased on the return from delivering fish to Kuala Trengganu and the transportation costs are not a major factor. But these costs must be included when the trip is made only for purchasing ice. M\$40 is the commonly agreed upon cost of a round trip to Kuala Trengganu, including the M\$5 paid to the driver.

Added to these risks are uncertainties within the market itself. The price of fish is effectively set in the urban markets, which transmit the prices back to the major dealers in Kuala Trengganu by telephone. The fish buyers from Bangkok arrive in Kuala Trengganu in the mid-morning, and only then learn what price they will receive. Their dealers in fact do cushion any major fluctuations in price so that the small buyers rarely have to absorb an outright loss. The dealer, however, also takes any windfall profits that result from suddenly higher prices paid in the urban markets. The dealer in Kuala Trengganu will advise local buyers on what the following day's prices are likely to be, but they cannot be sure.

The profits and earnings of Bangkok's fish buyers are closely tied to the success of the local fishermen. The buyers are all locally born men resident in the immediate area and, with the exception of Osman noted above, they are subject to a certain amount of social control.

Their standard of living is not noticeably higher than that of a successful fisherman. When fishing is good their income can be quite substantial, as of course is that of the fishermen themselves, but this period is quite limited. When the catch is poor the price margins no longer match the risks or the effort involved in buying and selling. For several months of the year they must seek alternative employment, such as hiring out their small vans to haul locally produced coconuts, copra, or dried fish. In sum, it does not appear that the local fish buyers are making unreasonable incomes at the expense of the fishermen. Even the effort to influence fishermen to sell their catch on the basis of weight was not so much an effort to increase their profits as an effort to remove a source of risk.

When the peak fishing season ends in late March the importance of local fish buyers who operate vans gradually decreases, while the importance of the more numerous small-scale buyers using Honda 70's increases. This latter group are known as prah moto (motorcycle traders), while the fish buyers who operate vans are known as prah van. As many as twenty-two prah moto buy fish directly from the boats as they come in, before the bidding under borong is completed. (When fish was sold on the basis of weight the prah moto also had access to the chase off the boat.) Until a deal is concluded between a boat captain and a particular prah van the fish displayed on the deck of the boat is literally up for grabs. Individual consumers from the village or from other villages may simply walk up to the boat and remove whatever fish they want from the foredeck, paying the captain after the bulk of

the fish is purchased. Once a praih van has concluded his deal with the boat captain the praih moto will approach this captain asking the price for the fish that he has removed from the boat and placed on the beach. Generally the captain will set a price that will be accepted, but occasionally there is a minor amount of haggling and the price may drop.

The fish removed by the various praih moto and other individuals generally are species of lower price (scads and sardines) than the Spanish mackerel or occasional pomphret landed in Mangkok. The praih moto sell their purchases in the surrounding villages, as far as twenty miles into the interior, but their customers are almost exclusively villagers. Spanish mackerel and other high quality species of fish caught in the drift nets of Mangkok generally are sold to the wealthier urban markets, and local fishermen rarely eat these fish. Other lower priced fish from the nets are kept for the home consumption of the fishermen themselves and generally are to be found on the rear deck when the boat lands. If fishing has been good, there will be enough fish there for the consumption not only of the immediate families of the fishermen, but also probably one or more related households (aged parents or non-fishing families). Sometimes some of this fish will be sold or more often shared with friends who have come down to watch the boats land, hoping perhaps to bring a few small fish home. A fisherman who was unable to go to sea (e.g. mechanical breakdown), or the wife of a fisherman who has gone fishing elsewhere for a period of time, or the non-fishing owner of a boat captained by another man, will be able to obtain free fish for home consumption. In times of plenty the fishermen are generous, but when

less successful the fishermen themselves may not have caught even enough for their own immediate families.

When the peak fishing period ends in late March and April the praih moto begin to dominate fish marketing in Mangkok. During the peak season most boats will land over M\$100 of fish per outing, and occasionally M\$200 or more. But in April some boats are able to land only M\$10 of fish in an outing and many arrive with nothing at all for sale. In this situation the praih van gradually withdraw, leaving the market to the praih moto. The larger, higher priced fish become conspicuous by their absence after March, leaving a few of the smaller, less expensive fish to be trapped in the nets. These are the fish (lamban and kembong) that the praih moto find most easy to sell in the villages.

Each praih moto follows a regular circuit of villages, and his customers come to depend upon him for their daily fish. These customers may require occasional credit for a day's purchase. The praih moto will probably grant this request; if he did not he might lose a customer as well as the particular sale. But his capacity to give credit generally is limited by his limited working capital and by the fact that he must pay cash for the fish he buys from the boat captains. The occupation is one that a man may move in and out of easily and quickly, and it would be unwise for a captain to sell his fish to the praih moto without immediate cash payment. This is especially so as the majority of the praih moto are not residents of Mangkok itself. Most are younger men who own Honda 70's and pick up this occupation as a side line to other occupations such as rice farming or rubber tapping simply by adding a basket made by local tinsmiths to their motorcycles. A praih moto may

be able to carry M\$20 of fish on his rounds, from which he may be able to realize a profit of from M\$5 to M\$15. The profit margins of the prah moto are necessarily high due to his limited carrying capacity and his need to make enough money to maintain both his family and his motorcycle.

TABLE 4.8

Value of Fish Purchased at Mangkok
(figures rounded to nearest whole Malaysian dollar)

Buyer	I	II	III	IV	V	VI	Totals
Tenaga Baru	915	3,191	4,021	2,297	335	137	10,896
Osman	1,629	4,582	4,412	4,476	516	nil	15,615
Rashid	432	2,518	5,996	2,061	316	8	11,331
Aziz	1,003	3,012	3,937	2,447	750	505	11,554
Rokid	115	2,332	3,592	1,507	1,342	1,651	10,539
Jasfar	332	1,547	1,751	1,154	319	nil	5,103
Pak Weng	nil	1,034	3,674	2,160	1,408	65	8,341
Tok Su	nil	760	1,667	1,882	22	nil	4,331
Others	78	705	1,920	1,118	1,662	3,985	9,468
TOTALS:	4,504	19,681	30,970	19,102	6,670	6,351	87,278

Note: Roman numerals refer to the following fishing periods:

- I January 14 - January 19, 1978
- II January 24 - February 2, 1978
- III February 7 - February 15, 1978
- IV March 3 " March 15, 1978
- V March 29 - April 18, 1978
- VI April 20 - May 12, 1978

The Beach Economy

As one enters the village of Mangkok, a number of shelters and sheds may be seen nestled among the coconut trees just above the high tide line. These structures, made with nipah palm roofing and either milled lumber or split bamboo siding, are rough and weathered looking and usually deserted. But when the anchovy (ikan bilis) and a species of small prawn known as the udang baring are in season these shelters and sheds are hives of activity. It is here that many of the women of Mangkok work, and it is here that some of the most profitable business within the community occurs.

Mangkok and the surrounding villages of Penaresk and Kuala Baru are advantageously situated to engage in the processing of anchovies and prawns. To the north, there are only a few small and scattered villages until one reaches Merang, twelve miles away. Because the anchovies and small prawns spoil very rapidly, they must be landed and processed as quickly as possible to receive a good price. Consequently, boats cannot return to their home villages or ports with their catch and must sell to processing sheds along the beach wherever they are fishing. On the West Coast, especially around Pangkor and Langkawi Islands, anchovies are processed on boats specially designed for this which follow the actual fishing boats. There are no such processing boats in the area of Mangkok, or for that matter on the East Coast, as far as I am aware.

The small prawns have a short local season of only one month.

Some fishermen of Mangkok and other villages extend this season by

following their migration down the coast as far as Kuala Trengganu. The anchovy season is longer, running from approximately March through September or October, when the seas begin to run heavy. The anchovy season is variable within the year and from year to year. Local fishermen claim that the catch of both anchovy and prawn is declining rapidly. Men catching the udang baring claim that previously they could fill a boat after only a few hours work, and that a crew of fifteen men working hard could land over eighty baskets (*raga*) of prawns in one day. In early 1978 the best catch recorded was forty *raga*, but more often the catch would be only ten or less. Villagers living along the coast also report that they used to be able to wade out into shallow water redidened by prawns and using a scoop net gather enough of the prawns to make their own belachan, a rather pungent but tasty and nutritious paste of prawns mixed with salt. People still catch the udang baring with scoop nets, but the activity is more rewarding in entertainment than in food. It would appear that the udang baring are being over-exploited both by local fishermen and by fishermen from Kuala Besut and other major fishing ports who use trawl nets. Trawlers relentlessly pull their nets through the schools of prawns, turn, and come back again. The fishermen of Mangkok use a purse seine for capturing the udang baring, not a trawl net as it would require a bigger boat with a larger engine.

Unlike the udang baring, anchovy are caught in deep water five to ten miles from shore. To encircle a school of anchovies requires a larger net than that used for the udang baring and therefore larger boats — up to fifty feet and more and powered by sixty horsepower diesel

engines. Though the net and other gear used for catching the udang baring are expansive by local standards, the total cost of used equipment is in the region of M\$3,000. In contrast, to equip oneself to catch anchovy requires an investment perhaps fifteen times as great.

The principle is the same in both cases: the purse seine net is cast around the school of fish or prawns and the bottom is closed by pulling in a rope that runs through brass rings at the bottom of the net while the top of the net is held up with plastic floats. In both cases a second boat is used to help haul in the net. In the case of fishing for anchovies there is often a third boat used for transporting the catch to shore for immediate processing. The one Chinese family in Mangkok owns such an "anchovy fleet" of three boats, but the boats are operated by fishermen from Fikri, a nearby village. This family owns and operates a processing facility (known as bangsal bilis) for the anchovies brought in by their own boats. The other processors (there are a total of seven in Mangkok) must either rely on other boats to bring their anchovies to them or, as if often the case, hire the boat of a local fisherman to go out to where the anchovy fleets are fishing. Especially during periods of poor fishing this is an important source of income to local fishermen. A processor purchasing anchovies will pay a commission of M\$2 per box of anchovies to the captain of such a boat for his services.

In addition to prawns and anchovies, various other species of fish and what is termed "trash fish" are processed along the beach at Mangkok. The processing sheds are located along the beach above the high tide line for ease of access to the boats fishing up and down the

There is no need to use the river entrance to the village as coast. There for this mix of marine life coincides with relatively calm seas and the boats can be brought right to the beach. The processing itself varies, not only according to what needs to be processed but to the condition it is in. The simplest way of treating the udang baring simply is to spread the tiny prawns on the mats of kerut or salt. A large area of beach is covered with over-mats upon which the udang baring are spread and, depending on lapping mats, after perhaps two hours the prawns are turned by the heat of the sun. In three or four hours of a hot day a quick shake given to each mat. In three or four hours of a hot day the prawns will be ready to be bagged. Care must be taken to dry the prawns adequately so that they do not rot in the jute bags, yet if they prawns will be brittle and turn to powder, lowering the quality are too dry they will be also the danger of a sudden squall or wind which could blow the tiny prawns all over the beach. A watch must be kept so that goats and chickens do not eat the drying prawns.

Compared to udang baring, processing anchovies requires more equipment, more labor, more material inputs, more risk, and not incidentally may produce more profit. When the anchovies are landed, men carry them up the beach in boxes, dumping the fish into a basin of water to be rinsed. Here a woman will take a shallow basket of woven split bamboo and scoop the anchovies out, carrying the basket into the cooking shed. Inside the cooking shed will be a number of large cast iron pots known as kawah which are shaped like a wok. There may be from two to eight kawah in a row, set roughly waist high in a foundation constructed of

stone, mud and cement. Under each kawah is a large cavity for the wood fire which heats the mix of fresh water and coarse salt in which the anchovies are cooked. The fish are placed in the kawah while still in the shallow bamboo basket and submerged using a bamboo lid weighted down with a brick or rock. When the anchovies are done, the entire basket will rise despite the weighted lid. The person or persons in charge of cooking, who may be either male or female, will be operating between two and four kawah, setting a basket in one and then lifting out the basket from another by sliding two poles underneath to lift and swing the steaming hot basket to the side. Another person -- a woman -- will carry the basket to the drying mats outside. Often when cooking is in full swing this woman will not have time to carry the baskets outside immediately. The baskets in this case will be stacked temporarily to the side, and as time allows the fish will be carried out to the drying mats.

The amount of time needed to dry the anchovies is a function of time of day and the heat of the sun. Often, if the fish are landed in the middle of the morning there will be adequate time to dry and box the fish on the same day. If not, the fish may need to be brought inside a shed for the night, and then spread to dry once again the next day. This increases the labor cost of processing anchovies and also the risk of breaking off the heads and tails of the small and delicate fish, lowering the quality and the price to be received for the finished product. Increased handling also may be required by a rain in the late afternoon (a common occurrence) or overcast skies. As with the udang baring, a sudden squall may send the fish flying all over the beach.

The fish processor's helpers will assist in picking up as many as possible, but a major loss is always possible from a sudden turn of weather.

Unlike the udang baring, the price for anchovies is highly volatile. During the early part of 1978 the price for udang baring was within a range of M\$10, with a median price of M\$115 per pikul (133.33 pounds). The price of anchovies, however, was more erratic, starting out at M\$295 per pikul in March and within one month dropping to below M\$200. A daily fluctuation of M\$20 per pikul was common.

Lacking adequate marketing information, the processors in Mangkok were to a large extent at the mercy of the dealers from Kuala Trengganu, who came to Mangkok daily to buy dried anchovies and udang baring. There are four such dealers who visit Mangkok daily in their small vans. One of these men works for himself, and the other three work for wages plus commissions from a wholesale merchant in Kuala Trengganu. All four buyers are ethnic Chinese. They claim that there is no pricing agreement between them, and it would be difficult to prove otherwise. The processors in Mangkok, however, are certain that two and possibly three of them actively collaborate on pricing. Whether this is so or not, these dealers are in fact the primary source of regular market information available to the processors. They will tell the processor at what price he should purchase fresh fish or prawns, but they do not guarantee to purchase his product at a set price for even the next day. Occasionally hard feelings arise as a result of this, and a processor will refuse to have further dealings with a particular dealer.

Irregular but less biased market information also is obtained when villagers themselves visit the urban centers of Kuala Trengganu or Kota Baru. The fish buyers are particularly useful in this regard, and as the peak season for fresh fish tapers off some of these men use their vans for transporting dried fish and prawns to wherever the price is highest. There is a risk involved in this in that prices change from day to day, and lacking telephone communications there is no way for a fish processor to know what price he will receive until he arrives at the selling point. Moreover, unless the processor has a large amount of dried produce to sell, the price differential may not make up for his transportation costs. To hire a local van to Kuala Trengganu is M\$40; for Kota Bharu the charge is M\$50. The risk to a processor marketing his own production is mediated somewhat by the normal movement of people on personal visits and on other business, and a certain amount of information does filter through to the village in this manner, but it is an uncertain source both in terms of timing and accuracy. Even if a processor personally takes his product to sell and finds that the price in that locality has dropped, by using the small van he can drive through as many small towns and villages as necessary, selling his production in small lots to shops and private individuals. Because it is time-consuming this is done infrequently, but the flexibility of the small vans is important in opening the option of marketing the dried anchovies and prawns directly rather than solely through the merchants who come to Mangkok.

In 1978 the price for udang baring was higher than it had ever been in the past and, moreover, the demand was constant. As a conse-

quence, marketing the dried prawns presented no difficulty, which in turn meant that the processor knew at what price he could buy the prawns and still make a profit. As shown above, the drying of udang baring is a simple matter, requiring no equipment other than mats and baskets for drying and moving the prawns, and the jute bags (provided by the wholesale purchaser) into which the dried prawns are poured. All the materials a person really needs to enter this business are enough mats (perhaps M\$200 worth at fifty cents each) and a storage shed, which may cost well under M\$100 even using bamboo which must be purchased in a village up-river. More important than materials, however, is an assured supply of udang baring, and this usually comes either through ownership of a pair of boats and the net for catching these prawns or through a kinship or other close relationship between the owner of the boats and net and the processor. In Bangkok there were two sets of gear for udang baring operating in early 1978; in one case the owner of the gear did the processing himself at his own bangsai hills. In the other, the owner of the gear had an agreement to sell his udang baring to his brother-in-law. The other processors also made some purchases, but on a more irregular basis.

As with udang baring, personal contacts are important when purchasing anchovies, but to a lesser extent. The anchovy fishermen are not necessarily local men, and there is a greater scope for purely economic relationships. Even here, though, these relationships often become regularized. The buyer of anchovies (or prawns) encourages repeated sales by offering tea and snacks to the fishermen, and some buyers give a small cash gratuity to the captains in the form of a

commission per box (anchovy) or per basket (udang baring). These quasi-economic and quasi-personal relationships are not as permanent as those based on ownership or kinship, but they are nonetheless significant and mutually beneficial. A processor who knows a certain captain's boat is operating offshore can hire a local fishing boat to take him out there, knowing that his trip will be rewarded with a purse if any fish have been caught. A regular outlet for his catch also is important to the captain, especially when the catch is made in the middle of the day or in the late afternoon, or if the catch of anchovies is mixed heavily with other small fish of lower value, or if for any other reason the catch is of questionable quality. The captain knows that his buyer will take this catch at a reasonable price despite the added inconvenience or risk involved, because the buyer wants to maintain the relationship. The buyer, for his part, knows that he can approach the captain later if he has suffered a loss and ask for a discount on his next purchase.

One processor of udang baring bought a total of M\$780 in two purchases over a six-day period. His labor expenses were M\$84, and included carrying the prawns from the beach to the drying area, spreading the prawns on the mats, and finally packing them into the bags. The processor sold the prawns in a series of daily transactions during this period for a total of M\$1,006.50, giving him a profit of less than M\$150. While M\$150 over six days certainly is not to be sneezed at -- especially when compared with the total income earned by the people who did the work -- the profit is paltry next to what the same man was able to earn from processing anchovies during the same six-day period.

In mid-March 1978 this man bought three catches of anchovies valued at a total of M\$2,105 (U.S.\$895) at prices ranging from M\$55 to M\$60 per box. Each box yields approximately thirty kati (almost forty pounds) of dry anchovies depending on the mix of other less valuable fish caught at the same time. The labor costs for processing anchovies include:

1. Going out to sea in a small local fishing boat to buy the anchovies.
2. Carrying the anchovies from the beach to the cooking shed.
3. Fetching water for rinsing and water for cooking the anchovies.
4. Rinsing the anchovies.
5. Cooking the anchovies.
6. Spreading and drying the anchovies.
7. Packing the anchovies into cardboard boxes.

Additional costs associated with processing anchovies include the purchase of firewood for cooking, the salt used in cooking, the cardboard boxes for packing the anchovies, and the wear and tear on the equipment used in cooking the anchovies. Excluding this last cost, and depreciation for the drying mats, sheds and other paraphernalia, the costs for processing anchovies works out to approximately M\$25 per pikul of dried anchovies.

The three purchases noted above (M\$2,105) produced 12.34 pikul (about 1,645 pounds), giving a figure of M\$308.50 for total processing expenses. Total costs were, then, M\$2,413.50. The anchovies were sold over a period of six days in five separate transactions, beginning at

M\$270 and then falling to M\$160 per pikul, for a total income of M\$3,247.15. The processor earned a net profit of over M\$830 (U.S.\$353) on a total investment of just over M\$2,400 in a period of six days.

During this period the fish processor and his wife earned a profit of over M\$1,000 while the people who worked for them earned a total of M\$392.50. An average of six women per day worked during this period. Daily wages of better than M\$10 are quite high for such casual labor, but then so is the profit earned by the family owning the bangsali bilis. When I obliquely suggested to the husband and wife team who owned the bangsali bilis (with whom I have been on good terms) that their income was disproportionately high in relation to that of their workers, they declined to agree. They cited the capital cost of establishing the bangsali bilis, the depreciation of this asset, the risk involved in their enterprise, and the managerial and technical expertise involved.

If a family can earn a profit of M\$1,000 in six days work, why have not more families gone into this business? One explanation would be the cost of setting up a bangsali bilis in the first place. Few families have the requisite M\$3,000 in liquid capital. But this can be in part remedied by entering into a partnership arrangement joining the resources (and labor) of two or more families. In fact, this was done during the period of field work when two families joined to operate a small bangsali bilis, buying the sheds and equipment owned by another man who, after a divorce, had left the village. We saw that when the profitability of the pukat tansi was established a great deal of money was quickly mobilized and invested in this gear, often in the form of partnerships. Capital needs certainly are a factor, but alone they

cannot be taken as limiting the participation of larger numbers of families in fish drying and processing.

The most important factor would seem to be the irregular nature of this enterprise. A profit of over M\$1,000 for six days of work is highly unusual. In other transactions this family suffered one small loss and some small profits. The large profit came early in the anchovy season while the price of dried anchovies was still high, and though they bought at a price higher than had prevailed during the previous year the margin of profit was even higher. Moreover, the weather was fine during that period, and there was no need for excessive handling.

Processing of anchovies and prawns is a highly seasonal activity. Due to the short length of time spent in this one community, I was unable to collect data for an entire year. Based on information gathered from residents of Mangkok, processors and non-processors alike, one has the impression that there are both seasonal and annual fluctuations in activity and in profits and losses. The udang baring season is extremely short, running from mid-February through the end of March. The anchovy season also begins in mid- or late February. There is apparently a slow season for anchovies beginning in mid-April or May parallel to and no doubt caused by the same factors that affect the other fishing operations off the coast at Mangkok. Only in August or September will the anchovy fishing pick up once again, and sometimes the season will be meager throughout the year.

Another factor that may serve to discourage wider participation in processing operations is that they entail considerable and regular

dealings with hard and occasionally sharp dealers. These dealers are not exclusively Chinese, though this is the case with those based out of Kuala Trengganu. The dealers in Kota Baru are mostly Malays. On the basis of the experience of processors from Mangkok there is at least as much sharp trading and probably more outright dishonesty (in the form of non-payment for delivered goods) from these Malay merchants than from their Chinese counterparts. It is beyond the scope of this study to give an in-depth analysis of the dynamic between racial and economic antagonisms. But it certainly can be noted that no one ethnic group has a monopoly on questionable business practices. In fact, many of the local processors of Mangkok prefer to deal with the Chinese, who they know will pay them something, rather than to deal with Malay dealers who will promise a higher price but delay payment, perhaps indefinitely.

The significant point for the villagers of Mangkok who may be interested in earning some of the profits from processing dried fish and prawns is that yet another factor of uncertainty is added to the uncertainties of weather and seasonal and annual fluctuations. Uncertainty and risk are associated with profit and may make the investment in processing facilities unattractive. The same investment will provide a fisherman with a used boat and net with which, it may be reasonably expected, fish could be caught and a living earned. This boat and net are mobile and can follow the seasonal migrations of fish. The boat itself also can be hired out for a number of uses not directly related to fishing, and also serves as a utility vehicle for some family needs. Processing facilities are more functionally specific, are immobile, and depreciate rapidly.

There are, then, serious disincentives for investment in processing facilities for anchovies and prawns, and this has limited the number of bangsal bilis. It is clear that the families which own and operate bangsal bilis make a good living by local standards largely on the basis of these operations. Their homes are larger than average, with more glass windows. But other than this, the consumption patterns of these families is not significantly different from that of their neighbors.

Economic Roles of Women in Mangkok

Most families in Mangkok face budgeting difficulties due to the seasonality of fishing and other employment. During the monsoon there may be some limited cash income from the weaving of kerent mats, or rice may be harvested. Life does not come to a halt with the rains and stormy seas or with the poor fishing in the middle of the year, and provision must be made for the proverbial rainy day. Accumulating a surplus of rice and cash to tide a family through the monsoon, postponing all expenses not related to immediate and necessary consumption, establishing a credit source from a local man of relative wealth, or borrowing from the captain of a boat or the buyer of the boat's fish -- all are logical strategies for seeing a family through periods of limited income.

The competence of rural Malay women in controlling their families' incomes is amply shown by the financial solvency of the vast majority in an economy which alternates plenty with want. The significance of female roles in East Coast rural Malay society lies in large part in this stabilizing influence. Their influence in a fishing

community such as Mangkok is indirect. Unlike conditions reported by Raymond Firth (1966) forty years previously, and unlike the situation in Malay fishing villages of southern Thailand twenty years ago (Fraser, 1960), women in Mangkok are not actively involved in the marketing of fish. Neither are they directly involved in fishing or the maintenance of boats and nets. Their productive roles fairly may be seen as of secondary importance to the local fishing industry, and to most households as well. There were sixty-one households which reported that the women did not seek active employment such as at the various bangsal bilis, while fifty-nine women from fifty-seven households were so employed. These figures no doubt vary somewhat from year to year, but they do show the relative lack of opportunity available to women in Mangkok. Of course, to say that women of sixty-one households are unemployed would be a gross misrepresentation. The women of these households contribute in numerous ways, from planting rice to weaving mats and baskets, but what they do not do is earn regular cash incomes, and what cash they do earn is likely to be in small amounts. The same is true of those women who work at the bangsal bilis; during all but the busiest of times they may earn only M\$2 or M\$3 per day, and that in itself is irregular.

But though women are productively peripheral, their economic dominance is almost complete. As noted above, wives and mothers gain control over the proceeds of the crew distributions. A fisherman may keep a few dollars for his personal expenditures, but once that has been spent he must then ask his wife or mother to replenish his pocket. Men are deemed to be spendthrifts who would squander their earnings on coffee

and cigarettes. When a family is considering buying a boat or a net the decision often is strongly influenced by the wife. Women control the finances of an overwhelming majority of households in Mangkok; less than ten exceptions were known to local informants. The exceptions to this rule were well known and frequently they were the object of public discussion, often disapproving. It would seem that it was usually the wife who made known the peculiarities of a husband who attempted to control the family purse strings, or who held back from his wife more than normal pocket money, and that this woman brought the matter to public attention in order to secure moral support for her position. Not only did this tend to be an embarrassment to the husband, but if the disagreement resulted in divorce this man probably would find it difficult to marry a local woman because of his "reputation."

In both of the East Coast communities studied, Gong Guncil and Mangkok, women control the family budgets and share with their husbands the responsibility of making decisions. In Gong Guncil the women not only play an active role in deciding which varieties to plant and how much fertilizer they can afford to use, they provide at least half of the labor required for rice cultivation. The women in Mangkok are not directly involved in the labor of fishing, but they control family finances and often have a decisive influence on whether or not to make investments in boats and nets. It follows that government officers working with rice farmers and fishermen need to take into consideration the influence of women when attempting to encourage the adoption of new production technologies.

Unlike their sisters on the East Coast of Peninsular Malaysia,

the women of the West Coast community of Kampung Dusun do not control family finances. The reasons for this difference will be discussed in the following chapter.

CHAPTER FIVE

KAMPUNG DUSUN:

A SMALLHOLDER RUBBER TAPPING COMMUNITY
IN SIK, KEDAHThe Setting

The forty-five households of Kampung Dusun reside in the hilly interior of Kedah State, in the District of Sik, on the West Coast of Peninsular Malaysia. The total population studied is 237, or an average of 5.3 per household. Included in the study area are six households within a village known as Kampung Mandul. This section of Kampung Mandul is contiguous with Kampung Dusun, and its residents are closely related by ties of kinship to the people of Kampung Dusun. Though the number of households surveyed is only one-third the number surveyed in the other two communities studied, my long experience in the District of Sik allows for broader understanding than would otherwise be possible from such a small sample.

The primary economic activity of the District of Sik, and of Kampung Dusun, is the production of rubber, a crop well suited to the terrain. Almost three-quarters of the District's land area of 636 square miles is in Forest Reserve, accessible only by logging roads and foot paths. Within this Forest Reserve are mountains approaching elevations of three thousand feet, but for the most part rubber is planted at elevations well under one thousand feet. Interspersed between the hills that dominate the terrain are narrow river valleys suitable for wet rice cultivation. Near the town of Sik, several hundred acres of rice land

are served by a small irrigation system which supports double-cropping.

In some areas year-round springs which feed into narrow stream valleys allow for double-cropping. In Kampung Dusun itself an earth dam structurally supported by hardwood posts provides water for double-cropping a small field of twenty acres; another field of comparable size lacks adequate water and supports only a single rain-fed rice crop each year. Most of the rice land in Sik District is dependent upon rainfall and is planted once a year.

Kedah lies in a rain shadow caused by a line of mountains which runs down the center of Peninsular Malaysia. The Northeast monsoon, which brings heavy rains to the rice farmers and fishermen of Trengganu, brings little to Kedah. On the contrary, Kedah experiences an annual drought lasting as long as three months during which many village walls dry up and rubber trees lose most of their leaves. This "wintering effect" results in markedly lower production of latex during the months of January, February, and March.

Many of Sik District's inhabitants, including those of Kampung Dusun, originally came from Patani as refugees during the 1830's, a period of warfare between Patani and the Kingdom of Siam. The flow of immigrants from Patani has continued into the twentieth century, and kinsmen still frequently visit back and forth across the border. During the nineteenth century Sik District was sparsely populated and new settlers had little difficulty finding unoccupied land on which to live and farm. In the absence of formal land titles, the presence of fruit trees (especially durian) in the middle of an area of jungle was sufficient to prove ownership by the family who had the locally-recognized

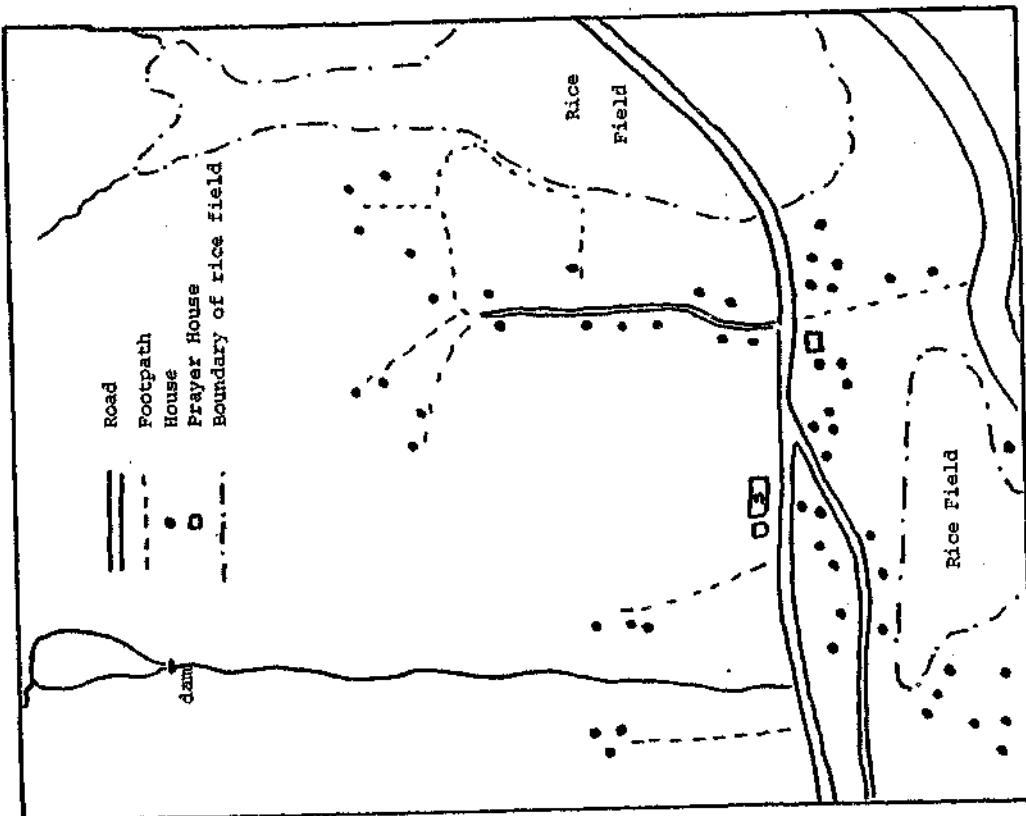
right to harvest such fruits. Similarly, ownership of rice land was based on previous and continuous usage.

During this period of Sik's history, subsistence production of wet rice dominated the economy, and the collection of various forest products for export down-river provided for the minimal import needs of the area. The value of fruit trees. Settlements in the nineteen century tended to cluster around the base of the hills adjoining the rice fields, and this pattern remains the most common today.

Kampung Dusun (a dusun is a fruit orchard) follows this general settlement pattern, as seen in Map 6. One obvious reason for this is availability of well water, houses bordering on the rice fields rather than further up the hill as the latter would necessitate either digging deep wells or physically carrying water up to the houses. In late 1977 piped water was provided to Kampung Dusun from the town of Sik, one mile away. Since the main pipe to future houses is based on a per foot charge, it is unlikely that piped water supplies will seriously alter settlement patterns.

Near most houses is found a wide assortment of fruit trees which serve to shade and cool the surrounding area. In some cases the number and value of these fruit trees is considerable; in others, the number of trees is just enough to provide for the family's consumption. It is also common to find open spaces next to many homes. This land occasionally is planted with vegetables or cash crops such as tobacco

Map 6
Kampung Dusun



or groundnuts, but more commonly provides graze for livestock.

The houses in Kampung Dusun appear on the whole to be more substantial than those of Gong Guncil or Mangkok, the two communities studied in Besut, Trengganu. Virtually all of the houses in Kampung Dusun are built of lumber, and galvanized metal roofs are equally common. Like Malay houses elsewhere, those in Kampung Dusun (and in Sik District generally) are raised off the ground on hardwood posts measuring six inches by six inches or larger. Frequently, houses in Sik District are raised much higher than they are in Besut District, high enough to allow for utilization of the space under the houses for work and leisure. Some families have laid concrete floors and enclosed part of this area for use as a kitchen and/or rest area. It is the coolest spot during the day.

In the context of rural Malay society, these are signs of prosperity, which are further confirmed by the presence in this village of ten motorcycles and two television sets. Two automobiles are owned by residents of Kampung Dusun and are used for commercial purposes.

The relatively substantial houses of Kampung Dusun reflect a periodic prosperity brought by sudden high prices in the world rubber market. During such times rubber producers enjoy high earnings, and one of the first calls on these earnings is the construction or expansion of the family's home. A sudden drop in the market price may force a family to delay completion of construction for years. Periodic cycles of prosperity and penury are the hallmark of an economy based on rubber production, and the relatively fine houses of Kampung Dusun should be seen as major investments for the future (including future generations) which are made when the price of rubber permits.

The stands of rubber are located behind the houses and further up the hills. Occasionally some of this higher land is planted with fruit trees or with various other crops for home consumption or sale. There also is a small amount of land that apparently is unproductive, usually because the owner either is too old or otherwise is unable to cultivate the land. Such land will provide pasture for livestock and, unless it is fenced, becomes common grazing ground. Similarly, the rubber stands themselves provide important pasture, unless (as is often the case) the land is choked with inedible brush. Livestock are allowed to roam freely during the day in search of food and only are brought home at night.

The main danger of allowing livestock to roam freely is that they may wander into the town of Sik. In the early 1970's the District Officer of Sik began enforcing a restriction on livestock within the town, subjecting the owners of errant animals to a fine. Within the village itself, allowing cattle to roam freely means that rice fields, household gardens, cash crops, or young fruit trees must be carefully fenced to prevent depredation.

The town of Sik is the administrative center of Sik District. It is a small town of approximately two thousand people which stretches perhaps one-quarter mile along the main road into the District. Parallel to this road is a small river, the Sungai Chepir, on the other side of which are a number of shops and the weekly market. On the hill behind the town are various government offices, including the District Office, the Post Office, the offices of various other government agencies, an open building for weekly court hearings, and a Police Station. Also

on this hill is the housing provided for many of the government officers who work in these offices. Further up the road from the town of Sik, in the direction of Kampung Dusun, is a government Health Clinic which is being expanded into a District Hospital. Still further up the road is a Chinese-medium elementary school and the District's secondary school, first opened in the mid-1960's. Another elementary school is located within Kampung Dusun itself. In 1968, when I first arrived in the village, this was an English-medium school, but by the mid-1970's the Malay language had been adopted in accordance with the national language policy for schools.

There is a housing shortage in and around the town of Sik, primarily due to the large number of government employees who are now sent to Sik's offices and schools. Five families in Kampung Dusun have built either small rental houses adjacent to their own or expanded their homes to include separate living areas which can be rented out. The rents charged are substantially lower than in the town of Sik, and since piped water and electricity are available, there is a ready market for this rental housing. A small village house can be rented for M\$40 per month (less than U.S.\$18). This provides a welcome source of income for the owners.

The proximity of the town of Sik has other important consequences for the residents of Kampung Dusun. Access to government offices and services is a matter of a short walk or bicycle ride; the daily and weekly markets and the sundry goods and other shops in town are similarly convenient. Several men of Kampung Dusun are employed in the shops of licensed rubber dealers or as butchers and sellers of

meat at both the daily and weekly markets.

At the market fresh fish and vegetables are available on a daily basis, and meat is sold at least three times a week including Tuesday, the day of the weekly market. The Tuesday Market (Pekan Selasa) attracts merchants from a wide area who sell a broad range of goods including clothing, cloth, tools, kitchen utensils, spices, fruits, and other foodstuffs. In addition, a number of stalls serve coffee, tea, and local cakes and sweets to refresh buyers and sellers.

Economic Roles of Men and Women

Differences Among Rural Malays

The Tuesday Market attracts villagers from the entire District of Sik, but most of the buyers and sellers are men. The relative absence of women in the marketplace is noticeable, especially after living in Trengganu. On the East Coast women dominate the kind of small-scale trading represented by the Tuesday Market, and women also do the majority of family shopping. In every marketplace this writer has visited on the East Coast women outnumber men, both in buying and selling. In Sik, however, women are conspicuous by their relative absence from the marketplace.

Three factors may explain this phenomenon. On the West Coast, non-Malay merchants dominate much of the wholesale and retail trade, and for the most part these Chinese and Indian merchants are men. Malay traders also tend to be male, possibly because to obtain their trade goods they must deal with non-Malay men. The economic dominance of non-Malays is less complete on the East Coast, and the economy is more rural in nature compared to the more developed West Coast.

A second factor which may help to explain the difference between women of the East and West Coasts is important sub-cultural variation between the Malays themselves. By definition, the Malays of Malaysia are Muslims, but the Malays of the West Coast have been more directly influenced by Arab and Indian Muslims whose orthodoxy includes restrictions on the work and movement of women beyond the household. Malay women of Sik are not totally house-bound and are economically active within the village, but only infrequently do they venture beyond the village itself. Even when walking to the weekly market in the town of Sik women typically go in groups. Women are much more sheltered in Sik District than in Besut District and are not encouraged to seek employment outside of the home village. Only two women from Kampung Dusun are employed outside the immediate village. They act as sales agents for a cloth merchant and travel outside of the home village, but their husbands provide transport for them on the back of their motorcycles.

The third factor is related to certain constraints in the production of rubber. Many families in Kampung Dusun tap rubber five miles or more from home. As noted, women generally are not encouraged to work far from home, especially if this means working in the physical isolation of a stand of rubber which may be heavily overgrown by brush. Cases of rape are not common, but neither are they unknown in the area, and newspaper reports indicate that throughout the country women working alone in a stand of rubber are vulnerable. In some cases husband and wife may tap together on land they own or sharecrop away from the home village. More often, however, the amount of land worked can be managed

by one person, which will be almost invariably (and for Kampung Dusun invariably is) the husband.

Women more frequently tap rubber within the immediate vicinity of the home village, but the amount of available land even for sharecropping is limited. Among the twenty-seven families of Kampung Dusun who tap rubber, the women of ten families do not tap and find their economic roles restricted to the home and, if the family plants some rice, to its rice lands. In some cases where the husband taps rubber in distant villages, the wife may tap on land closer to home. Though she may be assisted by her children, women typically tap fewer trees and collect less rubber than their husbands. In part this may be explained by the need to attend to domestic chores, including cooking the main mid-day meal and caring for children, and in part by the physical strength necessary to collect, process and transport large quantities of rubber. Moreover, much of the rubber land in the vicinity of Kampung Dusun is comprised of older, less productive trees, many planted prior to World War II, and these are the trees most women tap.

Among the twenty-seven families in Kampung Dusun who tap rubber there are thirty-eight active tappers: twenty-one men and seventeen women. In only five cases do husband and wife tap together; in six other cases both husband and wife tap but on separate parcels of land. In six cases only the women tap. With one exception (an elderly husband), their husbands are employed full-time outside of the village (watchman, taxi driver, employee of licensed rubber dealer). Not included in these figures are the children who may assist their parents. Their assistance will vary depending on whether school is in

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Women more frequently tap rubber within the immediate vicinity of the home village, but the amount of available land even for sharecropping is limited. Among the twenty-seven families of Kampung Dusun who tap rubber, the women of ten families do not tap and find their economic roles restricted to the home and, if the family plants some rice, to its rice lands. In some cases where the husband taps rubber in distant villages, the wife may tap on land closer to home. Though she may be assisted by her children, women typically tap fewer trees and collect less rubber than their husbands. In part this may be explained by the need to attend to domestic chores, including cooking the main mid-day meal and caring for children, and in part by the physical strength necessary to collect, process and transport large quantities of rubber. Moreover, much of the rubber land in the vicinity of Kampung Dusun is comprised of older, less productive trees, many planted prior to World War II, and these are the trees most women tap.

Among the twenty-seven families in Kampung Dusun who tap rubber there are thirty-eight active tappers: twenty-one men and seventeen women. In only five cases do husband and wife tap together; in six other cases both husband and wife tap but on separate parcels of land. In six cases only the women tap. With one exception (an elderly husband), their husbands are employed full-time outside of the village (watchman, taxi driver, employee of licensed rubber dealer). Not included in these figures are the children who may assist their parents. Their assistance will vary depending on whether school is in

session or, in the case of girls, according to the need for the girl or girls to help care for younger siblings, cook meals, or attend to other domestic chores. Boys are less inhibited by these duties, but even after the completion of their schooling they may or may not contribute to the production of rubber, depending on the economic standing of their family. There seems to be a period during which male adolescent Malays become rather frivolous and irresponsible, when they prefer to "hang out" with their contemporaries. This is not a universal phenomenon among Malays, but seems to be most common among offspring of relatively wealthy families.

As will be made clear below in discussing income inequalities in Kampung Dusun, there are a number of families in this village whose adolescent sons fit this description. The boys refer to themselves as a "geng" and are given considerable freedom of movement, including periodic visits to major cities in the area. Their sisters are much more closely watched and chaperoned to protect their virtue and reputation, an important consideration when the family of a prospective groom comes to negotiate the dowry (mas kahwin, wedding gold) to be paid to the bride and her family.

In discussing the economic roles of women and adolescent children it should be mentioned that social prestige accrues to a family which can afford to remove from remunerative employment these potentially productive members. A wife who need not work, a son who can be indulged, and a daughter who can be protected from the rigors of work in the hot sun while being trained in the domestic arts are hallmarks of a prosperous family. To some extent the same is true of the two communities studied in Besut District, but there the women are

much more active in productive activities. The wives and children of fishermen are economically active, especially adolescent sons who go to sea and earn the share of a man. Few rice farming families can afford the luxury of unproductive women or children. The seasonal demands of rice cultivation dictate full mobilization of a family's labor.

Dominance of Men in Rubber Economy

In the production of rubber there is no sudden seasonal demand for labor and often, because of the limited size of a family's holdings, one tapper is sufficient. For reasons suggested above, this tapper often will be the husband. In those cases where both husband and wife tap or where only the wife taps, the marketing of their product will be carried out by the husband or an older son. Interviews with rubber dealers in the town of Sik and throughout Sik District indicate that only between five and ten per cent of those who sell rubber in their shops are women, and personal observation confirms this fact.

One reason why men dominate the marketing of rubber is the accumulated weight of several days or a week's tapping which must be tied onto the back of a bicycle. This task is physically taxing and alien to women in the same way that coffee shops are predominately male preserves; women may enter but do so hesitantly, conclude their business and depart; men, on the other hand, will hang around, drinking coffee or tea, discussing recent changes in the market, and greeting friends from other villages who also are in town to sell rubber.

Perhaps the most important difference in economic roles of

Men on the East and West Coasts is in their control of family finances.

The fishermen of Mangkok, for example, earned the majority of income for most families, but with very few exceptions this income was handed over to their wives or, if unmarried, to their mothers. In Gong Guncil the men transported their rice to the rice dealers and received cash from the sale, but this income also was turned over to the women of the household for safekeeping. In Kampung Dusun, by way of contrast, the men control the family finances. There are a few exceptions to this rule, but the exceptions are based on the particular personalities of the characters involved and serve to prove rather than disprove the rule. After selling their rubber in the town of SIK, men also purchase fish, vegetables, or other needs of the family. It is common for men to give their wives small amounts of money for the purchase of certain daily necessities that may be obtained in the small shop within their home village, but major purchases almost always are made by men while in town. Since men regularly visit town anyway there is a certain logic of efficiency involved in determining who does the marketing. The reason given by the men of Kampung Dusun is more basic than this. The men of Kampung Dusun consider that they are both guardians of the family and the primary income earners, and that it is their duty and their right to manage family finances.

The issue of male-female economic roles in rural Malay society is quite complex and deserves a separate study comparing different economic adaptations on both the East and West Coasts. It is hoped that the discussion presented herein will be of use to other students interested in these questions.

Problems of Smallholder Productivity

Estate and Smallholdings

Rubber production in Malaysia is divided almost equally between estates and smallholders, the latter being defined as holdings less than one hundred acres. Though the approximately 2,700,000 acres of rubber smallholdings exceeds the 1,500,000 acres of estate holdings, only after 1972 did smallholders produce more rubber than estates (Rubber Industry Smallholders Development Authority, 1974). The productivity of estates substantially exceeds that of the smallholding sector, primarily because they are in a position to take advantage of research carried out by the Rubber Research Institute of Malaysia (RRIM), especially the development of higher-yielding varieties of rubber. Estate managers have ready access to research reports published by the RRIM, which until recently were published primarily in the English language. Due to their large size, estates are able to replace older, less productive trees, by staggering their replanting schedule, the seven years it takes to clear land and bring newly planted rubber trees into production presents relatively few problems as compared to smallholders.

During the colonial period, government policy actively discouraged smallholders from planting rubber and competing with estates towards the needs of the estate sector. Only after World War II were serious efforts made to apply research results to smallholders through the extension service of the RRIM. This function now is performed by the Rubber Industry Smallholders Development Authority (RISDA), estab-

lished in 1973. RISDA's field staff are among the most conscientious of government officials working in the rural areas. Yet though greater attention is now being focused on the particular problems of smallholders, these problems are so severe that it is unlikely that smallholdings will achieve the same level of productivity as the estate sector in the foreseeable future.

Rubber Replanting Scheme

The most important factor limiting productivity of smallholders is the continued tapping of trees whose yields are limited both by age and genetic potential. This in turn is related directly to the limited acreage of most smallholders, who can ill afford to remove even a small portion of their land from production for replanting. Though the definition of smallholder includes any holding of less than one hundred acres, the vast majority of the approximately one half million smallholders own less than ten acres, and nearly two-thirds own less than five acres (Pee Teck Yew and Ani bin Arope, 1976). For families dependent upon such limited acreages for their primary source of income, the felling of rubber trees, no matter how old or unproductive, on even a minor portion of their land, means a loss of income that threatens an already precarious existence.

Replanting grants are available to assist smallholders willing to cut down older trees and plant more productive varieties. These grants, funded by a cess on rubber exported from Malaysia, are currently administered by RISDA. In June 1978 (shortly before the national elections held in July) the replanting grants were increased from M\$900 to M\$1,200 per acre. This sum is paid out at intervals, minus costs for

chemical fertilizers and planting materials, only after inspection by officials of RISDA to ensure proper maintenance of the new crop.

Replanting grants are designed to cover the expense of replanting, which is primarily the cost of labor to clear and prepare the land for planting, and to ensure weed-free maintenance of the newly planted stand of rubber. For the smallholder family which does this work themselves, the replanting grant provides a source of cash income to help see them through until the new trees are in production. The work is strenuous but the return in increased productivity is substantial, often more than double the yield of older, less productive rubber trees. During the first few years after clearing and replanting, the land may be intercropped with upland varieties of rice or other cash crops including pineapple, banana, ginger and cassava. Production credit for cash crops is available through RISDA, the Department of Agriculture, and local Farmers' Cooperatives. The cultivation of these crops simultaneously serves to control weeds and to supplement the family's income.

If a family is unable to do the work themselves (due to age, infirmity, or conflicting occupations) they may hire someone else to do it. Some villagers specialize in this work and receive for their efforts the annual cash disbursements of the replanting grant. Usually those hired for clearing, replanting, and maintaining a parcel of land also have the right to plant and sell short-term cash crops, a feature which makes such employment especially attractive to landless families. Although nationwide sixty-three per cent of individually owned smallholdings have been planted with improved varieties since the early

1950's (Pee Teck Yew and Ani bin Arope, 1976) this figure includes planting materials which may have produced only marginally improved yields over original varieties (S. Selvadurai, 1977). Only in the 1970's with the introduction of bud-grafted clones has the replanting program led to major increases in productivity. Moreover, since the productive life of a rubber tree is limited to roughly twenty years, some of the acreage included in the figure of sixty-three per cent is due for further replanting.

It is estimated by local RISDA officers and local residents that less than one-quarter of Sik District's rubber land has been planted with high-yielding bud-grafted clones. Of the 190.5 relong (one relong equals seven-tenths of an acre) of rubber land owned by residents of Kampung Busun, by 1978 only five relong of bud-grafted trees were in production; 26.5 additional relong had been replanted but were still immature. Thus of the land owned by residents of the study area, only 16.5 per cent has been replanted with bud-grafted trees.

Constraints to Replanting

Now that replanting materials are significantly more productive, it is likely that the pace of replanting in the smallholder sector will increase. But there are a number of constraints which will limit full participation. Even with the replanting grant and the possibility of earning income by planting cash crops, many families are not in a position to remove from immediate production any part of their limited holdings of rubber. The first payment of a replanting grant is made only after successful completion of cutting and clearing, which

takes at least several months, if not longer. There will be a period, then, of several months before the first payment of the grant is made, and not all families are equally willing or able to limit their income for this length of time. Income from the cultivation of cash crops planted on the cleared land will come only after their harvest, usually a year or more later.

One alternative for a family owning limited acreage is to cut down part of their old rubber, continue tapping the other part, and if possible enter into a sharecropping agreement with another land owner. Work on the land being replanted can be managed in the afternoons and during days when tapping is impossible due to the weather or the season. This is perhaps the most common manner in which smallholding families of limited means manage to replant their land. Once the replanted trees are productive, the remainder of their land may be cleared and replanted as well.

This may be a workable strategy for a family in good health during their peak productive years. But for a family in their fifties or sixties whose sons and daughters are otherwise employed and whose sole source of income is derived from a few relong of old rubber trees, replanting does not present such an attractive option. The strenuous work involved in replanting, combined with the long period of time until replanted land is back in production, are strong factors inhibiting participation of such families in replanting schemes. Though it is possible to hire someone else to do the work, for a family of limited means this is not really a viable alternative. Replanting of such land is likely to be delayed until it is inherited by the succeeding

generation.

Occasional squabbles may occur when several heirs inherit or claim a small parcel of land, which may delay registration of the land in the name of the new owner or owners. Until the land is registered, no replanting grant can be processed. If the inheritance is too small to support the several claimants, one heir may seek to buy out the others' shares. Alternatively, one or two heirs may tap the land and share the proceeds with the others in a modified sharecropping arrangement; or the entire parcel may be sharecropped by another family and the proceeds divided among the heirs.

Once legal ownership is established, the heir or heirs decide whether or not to replant. If the parcel is owned by several heirs, any decision will have to be made jointly. Unless all are equally interested in replanting, and unless they are able to agree on who should do the work, replanting may be delayed or neglected altogether. Similarly, any family tapping rubber land for which they do not have clear title will be unable to qualify for a replanting grant. Some families have been tapping rubber planted on State land for two generations, but because they do not have legal title to this land they are not eligible for replanting assistance.

The yield that may be expected from either older unselected rubber varieties or new clonal varieties such as RRIM 600 (the variety most commonly used for replanting in SIK District) will vary according to a number of factors, including soil fertility, prevalence of diseases, weather and rainfall patterns, and finally cultivation, fertilization and tapping practices.

It is estimated that unimproved rubber varieties produce

approximately five hundred pounds of dry rubber per acre, while a bud-graft clone variety such as RRIM 600 may produce eighteen hundred to two thousand pounds per acre (Williams, 1975; S. Selvadurai, 1977; Pee Teck Yew and Ani bin Arose, 1976; Haji Mohd. Johar bin Mohd. Rashid and Abdul Jalil bin Haji Yusof, 1976). These latter figures, however, were produced during the RRIM's trials and may not be replicable on smallholders' land. Though supervision by RISDA during the replanting period assures proper management for the first years, past experience indicates that the standard of field maintenance and the level of fertilization may be below

optimal once this supervision of replanting ceases. Even within the estate sector, yields of RRIM 600 are fifteen per cent below that obtained in the RRIM's trials (Pee Teck Yew and Ani bin Arose, 1976). The same authors report a trial yield of 1772 pounds per acre for RRIM 600, and a yield of 1507 pounds per acre for estates. Under these conditions it seems reasonable to discount the yield potential of two thousand pounds per acre. To what extent yield potential will suffer under smallholder conditions must remain conjecture at this point as there are no available data. The point is an important one, however, as actual performance under smallholder conditions will determine not only the degree of acceptance of the new clone, but possibly the future of rubber smallholdings.

Though the yield potential of RRIM 600 is substantial, maximum yields will not be obtained until perhaps the fifth year of tapping. During the RRIM's trials, the first year of tapping yielded only 620 pounds per acre; the second, third, and fourth years yielded 1,070,

1,380, and 1,600 pounds per acre respectively (Haji Mohd. Johar bin Mohd. Rashid and Abdul Jalil bin Haji Yusof, 1976). Only in the fifth year did yields reach 2,060 pounds per acre. This means that in addition to seven years of lost production while waiting for the newly planted rubber to mature, the first year is unlikely to produce a yield markedly different from the original yield of unselected varieties.

If we assume that an existing one-acre stand of rubber produces five hundred pounds per acre, there will be thirty-five hundred pounds of lost production while waiting for the replanted rubber to mature, and it is bound to take some time for this lost production to be made up. In Table 5.1 a one-acre holding of an unimproved variety yielding a constant five hundred pounds per acre is compared to some possible yields from RRIM[®] 600 based on one hundred per cent, eighty per cent, and sixty per cent of the RRIM's experimental results.

Table 5.1 assumes that the older trees would continue to produce at the level of five hundred pounds per acre, which may not be true in the case of very old trees, and that the productivity of RRIM 600 remains stable after five years (for which there are no available data).

It is assumed that smallholder management practices are substantially below that of estates and the RRIM experimental stations, and this may not be true in all cases. It also is assumed that replanted trees will come into production after seven years (that is the beginning of the eighth year) from the time the original trees were cut down. Under estate conditions this time may be reduced by as much as a full year, and the RRIM is experimenting with new varieties which will produce after only four or five years. Given present practices and materials,

TABLE 5.1

Comparison of Yield of Dry Rubber in Pounds Per Acre for Old Rubber Stands and Replanted Rubber Stands

Year	Replanted Stands of RRIM 600 at varying Percentages of Trial Yields						100%	
	Old Stand Production			Replanted Stands of RRIM 600				
	Annual	Cum.	Annual	Annual	Cum.	Annual		
Year 1	500	500	—	—	—	—	—	
Year 2	500	1,000	—	—	—	—	—	
Year 3	500	1,500	—	—	—	—	—	
Year 4	500	2,000	—	—	—	—	—	
Year 5	500	2,500	—	—	—	—	—	
Year 6	500	3,000	—	—	—	—	—	
Year 7	500	3,500	—	—	—	—	—	
Year 8	500	4,000	372	372	496	496	620	
Year 9	500	4,500	642	1,014	856	1,352	1,690	
Year 10	500	5,000	828	1,842	1,104	2,456	1,380	
Year 11	500	5,500	960	2,802	1,280	3,736	1,600	
Year 12	500	6,000	1,236	4,038	1,648	5,384	2,060	
Year 13	500	6,500	1,236	5,274	1,648	7,032	2,060	
Year 14	500	7,000	1,236	6,510	1,648	8,680	2,060	
Year 15	500	7,500	1,236	7,746	1,648	10,328	2,060	
							12,910	

Note: Figures underlined indicate approximate break-even point compared to unreplanted land.

seven full years seems a reasonable average for smallholders, though there will be some variation in either direction. Not considered in Table 5.1 is the income derived from the replanting grant itself or the production and sale of cash crops on the cleared land. Finally, the significance of lost production will depend on the price paid for rubber during this period. If the price has been high the relative loss in income will be greater than if the price levels generally were low.

Despite these caveats, Table 5.1 is of more than passing interest. It shows that though only seven years are lost to rubber

production, because of the loss in earnings from the previously existing stand it takes anywhere from twelve to fifteen years for the smallholder to show a "profit." Thereafter the benefits are substantial, but for many smallholders the delay may be daunting.

Smallholder Rubber Production

Tapping

When a young rubber tree is first tapped the initial cut is made at an angle of approximately thirty degrees moving from top left to lower right and half way around the circumference of the tree. At the lower point a vertical cut of about ten inches is made downwards. A tin spout is tacked into the tree at the base of this vertical cut.

The initial spiral cut is shallow, with subsequent cuts moving deeper into the bark. The number of latex-bearing vessels increases further into the bark, and it is important to tap as close to the cambium as possible without actually cutting into this tissue. Too shallow a cut will reduce yield, while too deep a cut (known as slaughter tapping) will give short-term increased latex production but will stunt the growth of the tree, increase the tree's susceptibility to disease, and delay the appearance of regenerated bark over the tapping panel, which can be tapped in the future. Slaughter tapping usually is done only to trees which are to be cut down for replanting as the practice quickly exhausts even full-grown trees.

In addition to the depth of the cut, the amount of bark removed by a tapper also is critical to the long-term productivity of the tree. As much as one-sixteenth inch of bark is consumed per tapping, and depending on the type of tree and the frequency of tapping, this means

that a tapping panel will be consumed in three to five years. At this point the tapper begins working the other side of the tree, allowing the bark to regenerate where he has tapped before. If too much bark is consumed at too rapid a rate, it may not be adequately restored by the time it is necessary to return to that tapping panel. Skill and care are essential in ensuring long-term productivity. Because of the potentially long productive life of a rubber tree, for smallholders often in excess of twenty years, proper care of the tree is of utmost importance.

Regardless of variety, the essential procedures for tapping rubber trees are the same. Tapping is done early in the morning while the temperature is cool and the latex vessels of the tree are at maximum turgor. At each tree the tapper first will remove the thin layer of coagulated latex (known as tree lace) from the tapping groove and any small quantities of latex that may have flowed into the collection cup after the previous day's collection (known as cuplump). Tree lace and cuplump are sold as "scrap" rubber. Common practice in Six District is to leave scrap at the base of the tree and gather it for sale after several days of tapping.

The tapping itself is done with a grooved knife. A thin ribbon of bark is cut with short, careful strokes, beginning at the top and moving around the tree to the vertical cut. This vertical cut is left untapped, providing a channel for the flow of latex. After tapping, the latex begins to flow along the entire length of the fresh spiral cut and is carried by gravity down the spiral and vertical cuts and over the tin spout into the collection cup. This cup usually is attached to

the tree by a wire holder secured around the trunk of the tree. Where the spout is quite low, the cup may be placed on the ground. The cup itself either may be a split coconut shell or an unfired clay cup. Clay cups and wire holders are common and in widespread use, and they are inexpensive to buy (together about M\$0.50).

After tapping the latex will continue to flow for four to five hours, gradually ceasing as the tissue becomes clogged. Tappers begin work at dawn and tap for two hours or so, depending on the terrain and the number of trees to be worked. At this point there is a break in the activity until the latex is ready to be collected. This time may be utilized for collection of scrap, clearing of undergrowth among the trees, or simply resting. If the tapper's home is nearby, he or she may return for a cup of tea and a snack. A woman tapper working near home may use this time to cook rice for the family's mid-day meal if there are no female children available to help with this, returning later to collect the latex. If the woman is tapping with her husband, she may let him collect the latex and carry it to the processing shed, where she may join him in pressing the latex into marketable sheet rubber.

Collecting

Collecting latex is accomplished by dumping the contents of collection cups into a bucket which is carried from tree to tree by hand. Typically the latex is then poured into a narrow-mouthed container strapped onto the back of a bicycle. This may be heavy work if a large number of trees have been tapped; often more than fifty pounds of liquid must be moved to the processing site.

The main features of a processing site are two large mangles used to press coagulated latex into sheet form. There also will be a clean flat working space of wood, stone or concrete which is used for preliminary shaping of the sheets by hand. There also must be a source of water nearby for cleaning the mangles and the trays used for coagulation of the latex. Finally there is likely to be a simple open shed to protect the workers from the mid-day sun and the mangles, trays and other assorted paraphernalia from rain.

Processing Ribbed Sheet Rubber

Once the latex has been collected and transported to the processing site, it is poured out into shallow tin containers measuring approximately fourteen by twenty inches. A filter is used to remove extraneous debris from the latex which if not removed would lower the price of the finished product. Sometimes a fine-mesh wire screen is used for this; commonly the fibrous husk of a coconut is used, which removes the large pieces of foreign matter but probably replaces them with finer particles from the husk itself. Into the shallow pan of latex is poured an equal quantity of water and a small amount of formic acid which hastens the coagulation of the latex. This mixture is stirred slowly several times during the first ten minutes or so to promote even mixing. Depending on the amount of acid used, (one-half tablespoon diluted with some water is recommended) the latex should congeal within approximately one half hour. At this stage the latex glob is dumped out onto a flat working surface and pressed out with both hands until it has a uniform thickness of approximately one inch. From here the sheet is run through the first mangle which has large smooth steel

rollers. The sheet may be run through this mangle as many as three times, each time with the rollers adjusted to produce progressively thinner sheets. It usually takes two people to operate this machine, one to turn the handle which through gears turns the heavy rollers, and the other to carefully feed and stretch the latex sheet through the machine. Ideally the sheet should be pressed down to one-eighth inch in thickness, though this is not always done. In some cases the mangles are in poor condition and incapable of producing thin, high quality sheets; in other cases the processor may decide that the extra effort is not worth the difference in price offered for the thinner sheets.

After the sheet has been pressed by the smooth mangle it is passed once through a mangle that produces a ribbed pattern which increases the surface area of the sheet and hastens drying. After ribbing the sheets are hung to dry in the shade under fruit trees near the house or under the house itself.

Not every tapping family owns their own mangles, and in some cases tappers must rent mangles owned by another family. The fee may be a straight cash payment of MS2 or MS3 for every pikul (133.33 pounds) of dried sheet, or the payment of one sheet for every twenty or twenty-five sheets processed. The dried weight of a sheet will vary depending on the size of the pan in which the latex, water and acid were mixed, but generally runs from one and one-half to two kati (one kati equals 1.33 pounds).

If several tappers are using the same set of mangles it is possible that there will be some delay in pressing the sheets, but this usually is a minor factor in the time required for processing latex.

More important will be the number of sheets to be processed and the number of people available for operating the machines. Often, especially if the trees to be tapped are close to home, two members of the family will be available for pressing the latex into sheets. Because the mangles are driven by gears, a child of ten or twelve can crank the machines, and of course husband and wife may work together. The manual pressing of the latex before processing by the mangles requires more strength than such a young child is likely to possess, and at least one adult must be available for this step.

Further from home it becomes increasingly less likely that women will join their husbands in tapping rubber. Because of the shortage of available land near the village of Kampung Dusun, many families own and/or tap stands of rubber between five and seven miles from home, reaching their trees by bicycle. One man from Kampung Dusun taps trees twelve miles from his home, traveling to and from his land by motorcycle. In some cases a wife will accompany her husband to tap rubber several miles from home, riding on the back of the bicycle peddled by her husband, but her ability to do so will depend on the age of the family's children and is in any event uncommon. More frequently the wives of men who tap distant trees will tap local trees, perhaps on a sharecropping basis, or not tap at all.

Because tapping and collecting rubber can be managed by a single individual there is no necessity for any tapper to depend on another. It is even possible for one individual to operate the mangles by setting them into motion, feeding in the sheet, and then cranking the sheet through. Working alone precludes producing thin quality sheet as the

sheet could not be stretched as it entered the mangle and hence the mangle would have to be adjusted to a thicker setting. In practice, however, several tappers usually share the use of one set of mangles and are able to help each other.

Alternatives to Processing Ribbed Sheet Rubber

In recent years there have been alternatives to processing the latex into sheets. In some areas smallholders are able to sell their unprocessed liquid latex at collection points either to private estates or to recently established government processing plants. This latex is processed into blocks of heveacrumb rubber which obtain a premium price on the world market. Another alternative which has gained increasing acceptance in the past few years is related to a new process that allows use of scrap rubber to produce heveacrumb block suitable for manufacture of tires or other general uses. Rather than bother with collecting the liquid latex or processing sheets, the tapper is able simply to tap the trees and let the latex coagulate in the cups. This process may be speeded up by the addition of minuscule quantities of formic acid to the collection cups, though this has the disadvantage that if at some point in the near future price fluctuations make the production of sheet rubber more attractive, the trace of acid in the cups will cause premature coagulation.

The advantage of selling scrap rubber is that by nine or ten in the morning the tapper is free for other activities or for leisure. Tappers selling liquid latex will have to stay until ten or eleven in the morning until the latex has finished flowing, but they still save time by not having to process the latex into sheet rubber. For families

who must rent mangles, by-passing this process means very real savings.

There are, of course, some disadvantages. In Sik District, liquid latex is bought by agents who receive franchises from a factory operated by MARDEC (Malaysian Rubber Development Corporation), a government body established to process smallholder rubber and provide alternative marketing channels and higher prices for their product. In 1976 a MARDEC factory was opened fourteen miles from the town of Sik. Tappers claim the agents sometimes fail to show up, leaving them with a heavy liquid load which they have with difficulty brought to the collection facility. This latex, if not sold, will have to be carried back to mangles or poured into containers and sold as scrap.

The buying agents are licensed by MARDEC and are supposed to be on the job every tapping day. Often, however, the person winning the license from MARDEC will hire someone else to do the work, and the hired help may be more, or less, diligent in his efforts. Problems also are posed by rain which may fall in one area but not another. When there is a heavy early morning or sustained late afternoon or evening rain at the MARDEC factory, it is sometimes assumed that no tapping was possible elsewhere. Hence, the MARDEC purchasing agents are not informed of the day's price and, knowing that no trucks will be sent out to collect the latex, they are unable to buy latex from the producers. Though this may happen no more than a few times a year, the uncertainty, especially if combined with the irregular attendance of some purchasing agents, causes some tappers to market their rubber elsewhere.

In the past several efforts have been made to collect liquid latex from smallholders. In the late 1960's a large rubber estate

outside of the District of Sik sent private purchasing agents into some parts of Sik District to buy latex for processing into heveacrumb. This effort founders because the sellers felt they were being cheated by the buyers. This may or may not have been the case, but it is easy to see how cheating can take place in the marketing of liquid latex.

The procedure then as now is to measure the dry rubber content (DRC) by means of an hydrometer. Depending on the season and on the variety of tree tapped, the DRC of liquid latex is somewhere around thirty per cent of the weight of a given quantity of latex. Weighing the latex presents few problems as the scales are read easily by buyer and seller alike. Reading the scales on the hydrometer, however, presents some problems. The hydrometer is slightly larger than an oral thermometer and is allowed to bob in a sample of the tapper's latex. This simple hydrometer is roughly accurate but, because of its small size, reading the meter requires close and careful examination. The buyer will probably be more familiar than the seller with the hydrometer's markings and may make a calculated error of one or two degrees, giving him a higher profit. This apparently is what happened in the late 1960's and resulted in the tappers returning to the production of sheet rubber when the lower price they received no longer justified the reduced effort of selling liquid latex. During 1978 I heard no claims of such cheating, which may be because the actual buyers were hired men from a local village who received a fixed daily wage and who would not benefit from cheating their customers. Using these men, however, has presented other problems as noted above. These problems may be worked out over time as the MARDEC staff gains experience and several vacant

supervisory positions are filled.

Cheating in the sale of liquid latex is not altogether one-sided, however. It is common practice in Sik District to add water to the liquid latex collected from the trees to increase its gross weight. Though this will reduce the DRC percentage, many tappers seem to think that a judicious addition of as much as a gallon of water will affect the weight more than the DRC reading of the hydrometer. Some tappers also claim that adding hot water to their liquid latex has a favorable effect on the DRC readings.

Because there are a limited number of latex collection stations in the District of Sik (twenty-three), for many tappers selling liquid latex would entail transporting the heavy liquid for several miles. The importance of liquid latex marketing also is limited during the dry season (January through March) when rubber trees in Sik lose most of their leaves (the so-called "whitening effect"). During this season only a limited amount of latex is produced. Moreover, the dry weight content of the latex is reduced, lowering the price paid to tappers for liquid latex. Under these circumstances most tappers prefer to produce scrap rubber, and all of the liquid latex collection centers close down temporarily.

Scrap has none of the disadvantages of liquid latex, but it does have some of its own. Scrap is easily transported and finds a ready market at any licensed rubber dealer open for business. Because the scrap must be ground up and the heveacrumb produced is of a lower quality than liquid latex the price of scrap is somewhat lower. It also lower than for good quality sheet rubber, but the difference is not

substantial. One tapper reported selling one day's production of dried sheet for M\$9.80, and one day's production of scrap from the same land for M\$9.40. Other tappers report similar differences. With this minimal difference in price many tappers valued their three-plus hours more than the extra M\$0.40. As noted above, for those tappers who found it necessary to rent mangles, the difference in actual cash income may favor the production of scrap.

Producing scrap during the dry season presents little difficulty, but during the rest of the year there is a danger that rain in the morning or early afternoon may wash away the latex before it has coagulated in the cups. For the most part rains in Sik District are caused by the building up of heat over the day resulting in brief though sometimes heavy and violent thunderstorms late in the afternoon. If rains hold off until the afternoon there is little or no danger to the latex in the cup, but a mid-day rain is likely to cause a total loss of the day's production. During the rainy season tappers are more likely to sell liquid latex or process their latex into sheet.

Land Ownership and Sharecropping

Difficulties in Collecting Data

Collecting accurate information on land ownership in an area of rubber smallholdings is most difficult. Unlike rice land, which is on level ground and demarcated by clearly visible bunds, rubber land typically is hilly and one's view is obstructed by the trees themselves. By walking through rice fields with a reliable informant it is possible to learn what land is owned by whom, but for rubber smallholdings this is insufficient. Though most of the land in the immediate vicinity

of Kampung Dusun is owned by residents of this village, it represents less than half of the total amount of rubber land owned by the household interviewed. Most of the land owned by the people of Kampung Dusun is several miles away, and in some cases more than five miles away.

As a consequence it was necessary to rely heavily on information gathered during interviews. As noted previously in the Chapter on the rice farming community of Gong Guncil, this presents certain problems of reliability, especially with owners of larger acreages. It was impossible personally to check on the information provided during interviews, though an attempt was made to confirm these data with reliable informants. In many cases, however, informants could contribute little in this regard. The scattered nature of rubber holdings effectively limits knowledge within a community of the exact acreages owned by individual families. Despite these limitations, it is possible that the information provided during interviews was reasonably accurate. My long-term residence in the community allowed not only for rapport and trust, but for a certain level of knowledge prior to interviews which may have lessened the tendency of those interviewed to misstate the information requested.

Distribution of Rubber Land Ownership

Of the 190.5 relong of rubber land owned by residents of Kampung Dusun, seven families own 109, and five of these families own 87 relong. The distribution of ownership of rubber land in Kampung Dusun is significantly more skewed than was the case with either rice or rubber land in Gong Guncil, as may be seen by comparing Table 5.2 with Table 3.2.

TABLE 5.2

Distribution of Rubber Land Ownership
Among Families Active in the Rubber Economy (n=35)

<u>Relong (.7 of an acre)</u>	No. of Families
0	10
Under 1	1
1 - 1.9	1
2 - 2.9	2
3 - 3.9	2
4 - 4.9	2
5 - 5.9	5
6 - 6.9	2
7 - 7.9	1
8 - 8.9	1
9 - 9.9	1
10- 14.9	2
15- 19.9	4
Over 20	1

Though this sample of only twenty-five families which actually own rubber land is small, I would offer the judgment that the distribution of land ownership is roughly representative for Sik District as a whole. A number of local residents were farsighted enough to obtain title to ten, twenty, or more relong when rubber was first introduced into Sik District in the early twentieth century, a time when land was still plentiful. Later migrants to Sik District, and the offspring of families which previously obtained grants to small acreages, have found it difficult to obtain title to additional land. Though there are no large-scale estates within Sik District, there are a few families who own in excess of the one hundred acre limit which is the official point separating smallholders from non-smallholders.

Though some land in Sik District is still available, the process of obtaining a land title may take years. This is especially so

If there are a number of applicants for a single piece of land, and if there are traditional claims based on previous occupation or locally recognized rights to the fruits of durian or other trees on the land. Moreover, what land remains available typically is on rough terrain and far from any road.

Though no longer plentiful, rubber land does not have the same scarcity value as rice land. Neither do families attach the same emotional ties to rubber land that they do to rice land, which provides for their food needs. Though the market in rubber land in Sik District is not highly active, its transfer through sale is more common than the sale of rice land either in Kampung Dusun or in Gong Guncil. Rubber land is more nearly an exchangeable economic good, but exchangeability depends on meeting the market price. A number of factors affect the price of rubber land, including age and quality of the trees, access to roads, and roughness of terrain. Land with a gentle slope, easy access to a road, and planted with old trees may cost M\$1,000 per relong (M\$1,430 or U.S.\$610 per acre), while the same land planted with high-yielding varieties may attract three times this sum.

Rarely is only one relong bought or sold unless this land is contiguous to land which the buyer already owns. More frequently a sale will include three or four relong. This is so because a holding of only one relong could not provide an adequate return to the investment of time and effort spent in tapping. Unlike rice farmers who can cultivate different plots by staggering the timing of planting and harvesting, rubber tappers tap all their trees each day. Tapping separate stands of rubber is inconvenient at best and unless the stands are quite close

each other the amount of time spent in moving from one to another will preclude timely tapping and complicate the collection of latex.

While a rice farmer can purchase land in increments as small as one acre at a time, this option is not available to most rubber tappers. At least three or four relong (2.1 ~ 2.8 acres) are necessary for efficient use of time and effort, and to produce an adequate income.

For these reasons, a landless family seeking to buy rubber land will need to accumulate substantial capital resources in order to purchase land planted with older, less productive trees. One family, which moved into Kampung Dusun in the late 1960's and had as many as three members of the family sharecropping land owned by others, was able to try four relong of old trees of their own after ten years of effort.

In 1978 they were considering replanting their land.

It is far easier for families who already own land, or who earn regular cash incomes, to purchase what land does enter the market. A family owning ten relong may find it relatively easy to expand their holdings or to improve their holdings through replanting. Government officers, including teachers, also have ready cash or access to channels of credit which may allow them quickly to take advantage of a sale of land. To government officers, rubber land is both a hedge against inflation and a source of income, especially after retirement.

Though there is a market for rubber land, for most families in villages such as Kampung Dusun the most important means of access to land is inheritance. Within any given family the pattern may vary, but as a general rule male and female heirs are treated equally. If a daughter has married a man who already owns land, her portion of the

inheritance of land may be divided among the other heirs. Similarly, if a son has found employment outside of the village (e.g. in the police or army), his share may be divided among his remaining siblings, especially if the amount of land concerned is small.

As with the case of Gong Guncil, division of a family's land among heirs usually does not proceed beyond a point where a holding is deemed uneconomic. The definition of an uneconomic holding by village standards may not correspond to that of agricultural economists, as it will include issues of equity among the heirs. Though it may take four relong of rubber land to adequately provide for a family, several heirs may divide a holding of this size. Rarely, however, will holdings be fragmented into units of one relong or less, and division into units of less than two relong also appears to be uncommon. Two relong of rubber may provide for minimal needs of a family, but less than this may make tapping not worth the effort unless additional land in the immediate area is available for sharecropping.

Ten of the thirty-five families directly involved in the rubber economy own no land and sharecrop land owned by others. Of the remaining twenty-five families which own land, eight let out all of their land to sharecroppers. There are, then, twenty-seven families in Kampung Dusun which are active tappers. Table 5.3 indicates the distribution of families by tenure category.

Tenancy relationships are much more complicated than Table 5.3 would indicate. Included under the category "Owner-tenant" is one family which owns land in a distant village and lets out this land to a tapper there, and in turn sharecrops land located closer to home.

TABLE 5.3

Land Tenure Status of Active Tapping Families in Kampung Dusun (n=27)

Category	Number of Families
Owner-operator	15
Owner-tenant	2
Tenant	10

Among the fifteen "Owner-operators", only seven families tap all of the land they own; eight others tap only a part of their land and let out the rest to sharecroppers. Due to the distance from Kampung Dusun of some of these holdings, it generally is more practical to hire a sharetapper who lives close to the holding itself.

Sharecropping

In Sik District the sharecropping of rubber is based on the equal division of production, or bagi dua. Within the system of bagi dua there are a number of variations. The cost of purchased inputs is not significant for rubber, and most production costs are borne by the owner, including planting and maintaining the rubber stand and the provision of collection cups and holders. If ribbed sheet rubber is produced, the cost of formic acid (M\$1 or M\$2 per month) may be shared or the acid may be provided by the owner. More significant is the cost associated with the use of the mangles for pressing and ribbing the sheets. Mangles may be provided at no cost by an owner whose land is tapped by a tenant, especially if he has a number of tenants working in the same area. Some owners, however, charge their tenants a rent of up to M\$3 per pikul (133.33 pounds) produced. If the mangles used are owned by a third party, a land owner may either split the rent with

his tenant, make the tenant pay the rent, or pay it himself.

In cases where a landowning family is not significantly more wealthy than their tenants, sharing the cost of using the mangles is reasonable and provokes no strong negative reaction on the part of the tenants. In cases of wealthy landowners, however, local sentiment applauds the owner who provides free access to mangles and criticizes the owner who does not.

The actual marketing of the rubber may be undertaken by either an owner or a sharecropper. If an owner does not live nearby but there is a licensed rubber dealer in the vicinity, his tenants may sell the total production and, with receipt in hand, share the proceeds with the owner. Alternatively this owner may collect the rubber and pay the sharecropping family after this production has been sold. In some cases the production is divided by weight and both parties sell their share. In most cases who sells the rubber is based on convenience, but in some cases, especially when the owner and sharecropper are from different villages, convenience is replaced by concern on the part of the owner that he or she may be cheated by the sharecropper. This may happen either by the sharecropper withholding some of the total production or, if ribbed sheet rubber is being produced, by practices which increase the proportion of scrap to sheet rubber.

When rubber is processed into ribbed sheets, the tenant tapper is allowed to collect and sell the usually small quantities of scrap which have coagulated along the cut in the bark and in the collection cup after the bulk has been removed from the previous day. One study estimated that eighteen per cent of the incomes of smallholders who

produce sheet rubber was derived from the sale of such scrap (Cheam, 1971). A sharecropper seeking to increase his or her share of the production may do so by collecting latex soon after tapping, thereby gaining a larger quantity of cuplump for sale as scrap. Because the yield of rubber may vary from year to year and from season to season, the owner may not be aware of such cheating on the basis of sales receipts alone. But regular checks of the rubber stand itself would indicate if excessive latex was being collected as cuplump.

Regular checks by owners also are made to ensure that the tapper is not consuming bark of the tapping panel at too rapid a rate and that the tapper is not cutting too deeply into the trees. Such slaughter tapping increases short-term gains in yields but reduces the long-term productivity of the tree. Some tappers, especially transient families which move into an area to sharecrop rubber, will slaughter tap for a short period of time before moving on to another area. This problem is especially serious in some of the more remote parts of SIK District where few local residents are available to sharecrop and where the owner does not regularly check on the work of the tappers. Many tenant tappers in the more remote parts of SIK District are short-term residents, young men and women from other villages or other Districts who seek temporary cash employment. For them a reputation as a careless tapper is unimportant; they can move on and find employment elsewhere. In some cases tenants slaughter tap trees for several days or even weeks and leave the area without warning, taking the rubber and leaving the owner with injured trees which are lost to production for as long as a year. Consequently, whenever possible, landowners seek to hire local

people to work their land.

If the rubber is sold as liquid latex the tenant also receives any scrap he or she may have collected. If the rubber is sold as scrap, however, all of the production is divided equally between the owner and tapper. It might be expected that tenant tappers would prefer to produce sheet rubber and would oppose the marketing of rubber in scrap form as an infringement of their rights. But such does not appear to be the case, and tenant tappers appear to have readily adopted the sale of scrap because of the time saved compared to producing ribbed sheet rubber.

Marketing

Local and Urban Rubber Dealers

Trade in rubber is closely regulated by the government, which collects substantial revenue from rubber exports. Only licensed rubber dealers are permitted to buy rubber and their bookkeeping records are frequently checked by government officials. The price paid to producers, however, is established by the individual dealers and is not subject to government control. Primary purchasers of rubber, such as those found in the town of SIK and in other parts of the District of SIK, in turn sell their rubber to purchasers located in major urban areas near the ports from which rubber is exported. It is from these major dealers/exporters that the primary purchasers obtain daily (and sometimes even more frequent) price quotations. The relationship between primary purchasers and the major urban dealers usually is long-lasting and mutually beneficial. An urban dealer may offer credit facilities or cash advances and will cushion the consequences if a sudden drop in

price occurs between the purchase from the tapper and delivery to the urban dealer. The urban dealer, having entered into contracts to export a given quantity of rubber in the future, is keenly interested in ensuring steady sources of supply.

Relations Between Local Dealers and Rubber Tappers

Primary purchasers of rubber are no less interested in a steady source of rubber and employ a number of tactics to attract regular customers. Rubber producers typically sell to the same dealer on a regular basis, unless there is a significant difference in price. The prices offered by rubber dealers are posted and may be readily compared by the sellers. There usually is little variation between the five shops in the town of Sik, where the majority of Kampung Dusun's tappers sell their product. (A few residents of Kampung Durun sell their rubber to shops further into the interior near where they tap; while the price may be slightly lower than that offered in the town of Sik, the trouble and expense of transporting the rubber makes the difference insignificant.) Rubber Producers keep informed of price trends through regular radio broadcasts which announce prices paid at the major urban marketing and export centers.

Rubber dealers in the town of Sik report that sellers have become increasingly aware of even minor price differentials and will look for the best price before they sell. This may be so, but there are some factors which limit such shopping around. Often sellers of ribbed sheet rubber will bring a week's production with them tied onto the back of a bicycle, and though the town itself is not large, the shops of the rubber dealers are not centrally located. It is easy to understand

that sellers usually will head directly to their regular dealer rather than peddle their heavy load from shop to shop. Rubber producers from distant villages who use taxis and buses to bring their product to town for sale are even more constrained since it is impossible to have their transport stop at the several rubber dealers. (Residents of distant villages generally will choose to bring their rubber to the town of Sik only if they are planning a trip anyway, for example to attend the weekly market; unless they have a large quantity to sell, the expense of transport would make the price differential between the dealers in the town and those closer to their home villages less tempting.) A rubber producer may decide to sell to one dealer instead of any other out of habit or because of personally friendly relations with that dealer or one of his workers. This decision may be made on the basis of other economic dealings. This is especially the case with those producers selling to one particular shop which handles the largest volume in the District of Sik. In addition to his business as a rubber dealer, the owner of this shop also is one of the two local retailers of lumber and other construction materials. He is willing to sell these materials on credit to those rubber producers who regularly sell to him. Either in expectation of future credit needs or in gratitude for past dealings, a large clientele has been established. This dealer also owns the only rubber smokehouse in the area, and because he is able to make a profit on the increased value of the smoked ribbed sheet rubber he sells, his competitive position is quite strong. (Smoking of ribbed sheet rubber completes the drying process and prevents the growth of mold; for this reason ribbed sheet rubber must be smoked before it is

exported from Malaysia.) Though all of the licensed rubber dealers offer limited credit to regular customers, this one large dealer probably accounts for the largest share of outstanding credit. There does not appear to be a price differential between sellers tied to a particular dealer through credit and those without such ties. Rather, credit is used to establish a lasting relationship between buyer and seller. In addition to assured supply from tappers, purchasing from regular customers makes grading the rubber brought to the shop a matter of common understanding since the quality of the product is constant and known. A new customer is more likely to question the grade or quality assigned to his rubber, whereas a regular customer knows what to expect.

Of the five licensed rubber dealers in the town of Sik, four shops are run by Chinese and only one by a Malay. In two cases the license is held in the name of a Malay who has leased his license to a Chinese buyer. The decision as to which dealer to patronize does not appear to be influenced by considerations of ethnic origin, and the largest rubber dealer in Sik District is Chinese. All of the dealers buy both ribbed sheet rubber and scrap, though one dealer seems to specialize in scrap, saying that he can make a better profit from buying and selling this product. This is so, he says, because sellers are less aware of the prices paid for scrap at varying degrees of dryness, and if a seller brings him several days production including some that is drier than the rest, he will be able to pay the going price for fresh scrap. The difference to any single seller may be small, but cumulatively this dealer feels he can make a better profit on scrap based on his fuller

knowledge of this commodity.

Scrap rubber must undergo further processing before use or export. Only dry scrap can be processed, and dealers usually will dry the scrap in front of their shops for several days. The odor is distinctive, a sickly-sweet aroma which once one becomes used to it is not altogether displeasing. Every few days the accumulated scrap is gathered and loaded onto a small truck and sent to a processing plant to be ground and recombined with latex and some unsmoked ribbed sheet rubber to produce heveacrumbs. Most of the scrap produced in Sik District is processed at the MARDEC factory fourteen miles from the town of Sik, but some is sent to private processors as far as seventy miles away. Two grades of heveacrumbs are made from scrap rubber, SMR 20 and SMR 50.

Compared with other lighter colored and more expensive grades of Standard Malaysian Rubber (SMR) which are made exclusively from liquid latex, SMR 20 and SMR 50 are more attractive to manufacturers of tires and other products where color is unimportant. Malaysia first began to produce heveacrumbs in 1965, but only since the early 1970's have facilities expanded to the point that they have exerted an upward pressure on the price paid for scrap. Rapid expansion of facilities to process SMR 20 and SMR 50 and contract commitments by these processors to produce and export these grades of rubber have had the effect of raising the price paid for scrap relative to other types of rubber. As late as 1974 in the District of Sik, the production of scrap was limited to tree lace and small quantities of cuplump. By 1978 scrap had come to occupy a position of importance equal to that of ribbed sheet rubber, especially during the drier months of the year.

Ribbed sheet rubber also has been displaced by the sale of

liquid latex, though as noted previously there are problems and limitations on the sale of latex. However, for the tapper, selling latex the same day as it is tapped means an instant cash payment and dispensing with the bother of processing ribbed sheet rubber. Unlike producing scrap rubber, the sale of liquid latex means that an afternoon rain will not wash away the day's efforts. Because collection points are situated every few miles along the major roads of Sik District, the rubber stands of many tappers will be within two or three miles of a collection center. Other tappers, especially those living further into the interior of the District, or who tap rubber far from a major road, will find selling the liquid latex inconvenient and will prefer to produce scrap or ribbed sheet rubber.

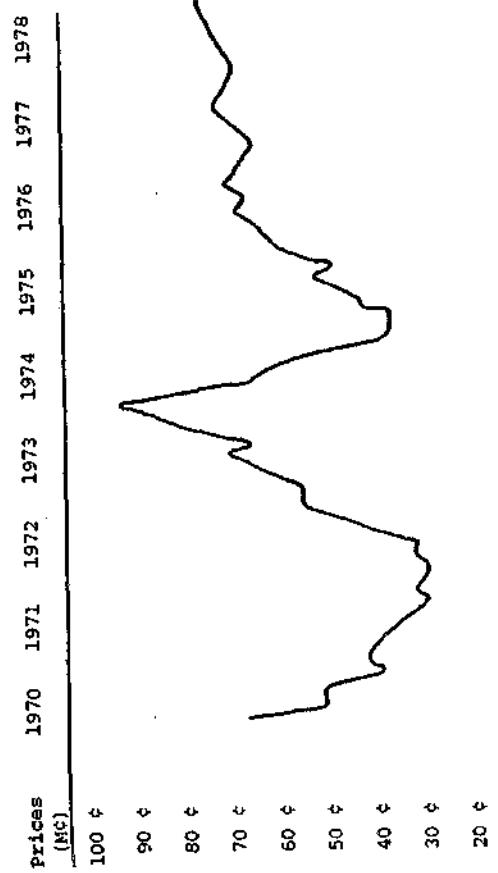
Income from Rubber Tapping

The Effect of Fluctuating Price Levels

The price paid for rubber fluctuates widely, as may be seen in Table 5.4. When the price of rubber is M\$0.70 per kati (1.33 pounds) and above, most rubber tapping families earn incomes adequate for their consumption needs and may be able to afford such minor luxuries as a new bicycle or a radio. But when the rubber price falls to M\$0.40 per kati or lower, these same families are hard pressed to meet even basic consumption requirements. Obviously the point at which a life of relative plenty turns to one of hardship will depend on the amount of land and the quality of the trees on the land worked, as well as the existence of secondary economic activities which may soften the effect of lowered income from rubber production. The importance of secondary sources of

TABLE 5.4

Price Paid per Kati for No. 5 Unsmoked Sheet Rubber
January 1970 to May 1978, Sik, Kedah



income will be discussed in the section which follows. The remainder of this section will focus on the effect on income of fluctuations in the rubber price.

As noted previously, collecting data on extent of land ownership presents many problems, and the same is true for information on the amount of land worked by each household of active rubber tappers. Even if an accurate figure could be obtained, there are so many qualitative variables to be considered (productivity of tree, number of trees per relong, type and quality of product) that this alone would be insufficient to provide adequate information. The best guide to incomes earned is to ask each informant how much (in weight) is produced per day. But even this introduces an unknown variable, as the number of

days tapped per year or month varies according to weather and competing social activities.

Depending on terrain, one tapper should be able to work as much as four relong per day if producing ribbed sheet rubber, or up to six relong if scrap is being produced. The overwhelming majority of households in Kampung Dusun which depend primarily upon rubber tapping work between three and five relong of land. The only exceptions to this are a number of households the women of which tap rubber to earn an income supplementary to that of their husbands and one other household which has three active tappers sharecropping ten relong. In most cases the trees these families tap are old and relatively unproductive. Over the course of the years several trees may have died or fallen over during a storm, further reducing yield on a per relong basis.

One relong of old rubber trees may produce between four and five kati (5.3 and 6.7 pounds) of dry ribbed sheet rubber, whereas more highly productive grafted trees may produce twelve kati (sixteen pounds) per relong. If we assume that a family taps four relong of old trees capable of producing five kati of dried ribbed sheet rubber per relong, the daily production would be twenty kati. The same amount of land planted to more highly productive grafted trees would produce forty-eight kati. If we further assume that the price per kati is M\$0.80, the daily income would be M\$16 and M\$38.40 respectively. If a family is able to tap twenty days per month, their monthly income would be M\$320 and M\$768 (U.S.\$126 and U.S.\$327) respectively. Even the lower of the two figures is substantially higher than the incomes earned by the rice farmers of Gong Guncil or the fisherman of Mangkok.

As may be seen from Table 5.4, M\$0.80 per kati is an optimistic figure. If the price falls to M\$0.30, as it did for a six-month period from late 1971 and into the middle of 1972, a family tapping four relong of older trees would be able to earn only M\$6 per day, or M\$120 (U.S.\$51) per month. These figures assume that the family owns the land and trees. If they are sharecropping, the income would be halved. As noted previously, a substantial proportion of tappers in the community studied, and in the District of Sik as a whole, are sharecroppers.

These figures assume that trees could be tapped a full twenty days per month. In fact, the period of low prices during 1971/1972 included some of the best tapping months, the period from October through January when the trees are at full strength and tapping usually is not seriously affected by rains. But following on this peak tapping period is a dry season of from two to three months when rubber trees lose most of their leaves and the flow of latex is seriously reduced. Though tapping is not restricted by rain, heavy tapping of trees during this drought may have serious long-term consequences on the trees themselves. Once the rains come in March much of the trees' energy is devoted to re-establishing leaves, and latex yields continue to be low. Moreover, during March and April heavy rains may allow only ten days of tapping per month.

After this prolonged period of low prices, the world market recovered in mid-1972, reaching a high of M\$0.90 per kati in January 1974. At this point a precipitous slide began with prices once again approaching the M\$0.30 mark. But this time the problem was much more

serious, because since 1972 the price of rice had risen from M\$1.60 per gantang of milled rice to almost M\$3.00. For many families rice is the major item of the household budget, and as noted in the preceding chapters, a family of six will consume as much as one gantang of milled rice in a day. A family of sharecroppers tapping four relong of land planted with old trees and who need one gantang of milled rice for the consumption each day barely would be able to meet this single expense at a market price of M\$0.40 per kati for their rubber, assuming a yield of twenty kati and twenty days tapping. This would give a gross total of M\$160 to be divided with the owner, leaving the tapping family with M\$80 per month. The cheapest quality of rice available at the time sold for M\$2.60 per gantang, or M\$78 for a thirty-day month. And as may be seen from Table 5.4, the prevailing price hovered near the M\$0.40 mark for approximately four months before beginning the current generally rising trend.

Poverty and Protest

It was under these conditions that two major demonstrations demanding that the government raise the price paid for rubber took place in Kedah State in 1974. In the town of Sik itself an estimated five thousand demonstrators gathered in front of the District Office, some villagers having marched up the main road from as far as twelve miles away. The demonstration in Sik was peaceful, but in the neighboring District of Baling ten thousand demonstrators were dispersed by tear gas. Demonstrations of sympathy and solidarity were held at two national universities and led to the arrest of a number of prominent student and faculty leaders.

These demonstrations by rural Malays were touched off by wider spread economic hardship among rubber smallholders. Many families were unable to earn enough money from rubber tapping to buy adequate food, and while there was no starvation, many families were reduced to finding alternative and less nutritious foods (e.g. cassava) to their beloved rice.

Not all families were hit equally hard by the rapid drop in prices in 1974. Those families which employed several tappers to work their land certainly suffered a drop in income, but not one which threatened their existence. Other families were able to fall back upon secondary economic activities to tide them through the worst, and families which owned a little rice land were somewhat cushioned by the grain they themselves grew.

Secondary Economic Activities

Secondary economic activities serve two functions in a volatile economy such as that based on rubber: increasing income and reducing economic vulnerability by diversifying sources of income.

The most common productive activity other than rubber tapping is the planting of rice. Almost half (twenty out of forty-five) of the households in Kampung Dusun own and cultivate small rice fields -- rarely more than two relong and more usually half this size. In addition, another six households sharecrop or rent rice land. Yields in the study area are low and, with the exception of one field of twenty acres, only one crop is grown per year. (Since mid-1977 this field also has yielded only one crop due to improper construction of a new road through the village which resulted in blockage of an irrigation canal.) One family

claimed to obtain yields comparable with the rice farmers of Gong Guncil (300 gantang per acre), but most families' yields are as low as 100 gantang per relong (less than 150 gantang per acre). In the absence of effective water control under rainfed conditions, little investment is made in chemical fertilizers. A mix of fertilizer responsive and traditional varieties of rice are planted, the former being harvested by threshing and the latter with a small hand knife (ketam). Small plots and low yields mean that less than half of those families cultivating rice are self-sufficient in this staple for an entire year. Rice is produced solely for home consumption, and it is common practice for the grain to be stored rather than eaten if the income from rubber tapping or other employment enables the family to purchase rice. The habit of storing grain as a hedge against economic hard times helped some families weather low rubber prices in 1971/1972 and 1974.

In Gong Guncil where rice cultivation is the primary economic activity, those families which also tap rubber cease tapping during peak periods of labor demand for rice. In Kampung Dusun this is not the case. Even during transplanting and harvest seasons the small size of rice plots operated by most families allows adequate time during the afternoons or during those mornings when rain prevents tapping to get the crop in or out of the field. Labor also is saved by the almost universal use of contract tractor plowing. As recently as 1968 contract plowing was a novel practice; by 1978 virtually every family cultivating more than one relong used such tractor service. Others with even smaller plots also used tractors, or in some cases prepared the land for planting by hand.

One major effect of the increased use of contract plowing services has been the reduction in the water buffalo population in the community. Although no data were collected during previous periods of residence in this community during 1968 through 1971, and again in 1974, I recall very clearly that these animals were in common use for land preparation, and that many families owned water buffalo. By 1978, however, only two families owned two and three water buffalos respectively, and three of these animals were still calves in 1978. Since all of the mature male water buffaloes in the village had been sold off, the opportunity of these two families to increase the size of their herds was limited.

Artificial insemination of water buffalo is still in the experimental stage, and under village conditions a male water buffalo may require as long as three years before size and sexual maturity allow for natural breeding (Candens, 1976). There are male water buffalo in villages several miles away, but even though no stud fees are charged, both of these families in Kampung Dusun expressed hesitancy about either taking their female to stay with the male until bred or bringing the male to their female. Detecting the period of a female water buffalo's heat is more difficult than with other ruminants, and it may be a matter of considerable time before she is successfully bred. Both families mentioned fear of theft as a deterrent to borrowing a stud bull. How would they be able to repay the price of a mature water buffalo, they asked, perhaps as much as M\$1,000?

Besides the ubiquitous chicken, by far the most important animals in Kampung Dusun are cattle. Just over half of the households

in Kampung Dusun (twenty-three of forty-five) own cattle. Most of these households raise from one to four animals, though two households own fourteen and sixteen cattle respectively. Goats are conspicuous by their relative absence; only two families own these voracious animals. Livestock are allowed to roam freely during the day. Unlike Mangkok, where vegetable gardening and other agricultural pursuits are impossible, in Kampung Dusun these pursuits are more common. Goats are much more difficult to control (e.g. by fencing) than are cattle. An animal's owner is responsible for the animal's actions, and goats are more likely to be the cause of troublesome disputes than are cattle or water buffalo.

The importance of livestock in the household economy of Kampung Dusun is similar to the case of Gong Guncil. Due to the land's physical limitations, livestock plays a less significant role in the economy of the fishing village of Mangkok.) Cattle function as capital on the hoof, an asset that may be turned into cash at short notice. Usually cattle are sold to meet major expenses, such as the construction of a major addition to the family's house, further education for a child, the purchase of land, or to finance a religious pilgrimage. In some cases a family will sell off all of their mature cattle at one time, gradually building up the number of their livestock again either from young animals they retained, or by taking over the care and raising of another family's cow from which they receive a share in the ensuing offspring. (Known as pawah, the manner in which the offspring are divided is similar to that found in Gong Guncil.)

Goats also may be sold to meet household expenses, though

because the value of a goat is so much less than that of a cow, the sale of a goat is not likely to contribute greatly to the major expenses and investments noted above. Unlike cattle and water buffalo, which usually are sold to butchers who provide meat to the daily and weekly markets in the town of Slik, most of the goats are sold to fellow villagers or slaughtered by the family itself when minor feasts are held celebrating a rite of passage such as the circumcision of a son. Major feasts, such as typically are held for a wedding, usually will entail the slaughtering of a cow or even a water buffalo to feed the assembled guests.

Rice production and raising livestock are the two most common sources of income beyond rubber tapping. Beyond this are a number of other occupations and activities which may serve to diversify a family's income, including cultivating vegetables for consumption and sale or growing tobacco. Most families at one time or another do grow some vegetables, but usually these are for home consumption with minimal surplus for sale within the village itself. The daily and weekly markets in the town of Slik are supplied by vegetable producers outside of Slik District, who specialize in vegetable cultivation and are able to ensure a steady supply to the retail sellers in the local market. There is some room for improvement in the local production of vegetable crops, though the problem of steady supply to the market would require further study. There also is limited absorptive capacity in the local market due to the small population the local market supplies.

Tobacco cultivation presents a broader opportunity, though there are marketing problems in this commodity as well. Tobacco is

a high value, labor intensive crop which requires relatively little land. Under favorable conditions and careful management practices, one relong of tobacco may yield a cash income of as much as M\$500 (U.S.\$213) over a four-month period. Unlike vegetable production, there is less of a problem of oversupply as the market served is not local. In the early 1970's a licensed tobacco processing facility was opened in a nearby village. A number of residents of Kampung Dusun grew tobacco for this processor, but for only one season. The reason given for this is that the processor cheated on the grading, offering a price lower than justified by the quality of the leaf. And in a number of cases the processor delayed payment for several months. Allegations of cheating were substantiated by a young man from Kampung Dusun whom I have known intimately for over ten years. This man, the son of the man who was my "adoptive father" when I first lived in Kampung Dusun, was trained by the government's National Tobacco Board as a tobacco grader and was employed for a short time by this processor until he quit in disgust because of the processor's cheating. As a consequence of these unfair practices, no tobacco was grown in Kampung Dusun after the initial season and production in other villages in the area was so reduced that the processing facility was closed for two years. Though it has reopened, as of 1978 no one in Kampung Dusun had taken up tobacco cultivation, though several families were again considering the possibility.

One crop that has taken on increasing importance in recent years is cassava. Unlike tobacco, which matures in a short time and which is

intensive both in labor and land usage, cassava takes at least one full year to reach maturity and requires less intensive labor but more extensive land to obtain comparable income. Also unlike tobacco, whose price is established by the National Tobacco Board, cassava's price is subject to wide fluctuations. Cassava grown for commercial purposes is sold to buyers representing factories which process the cassava into flour and animal feed. High prices in 1977 and early 1978 encouraged many farmers to plant cassava, but by mid-1978 the price per pikul (133.3 pounds) had dropped from M\$4 to M\$2.80. The planting of cassava often takes place on land cleared for rubber planting or replanting, a practice encouraged by Farmers' Cooperatives which offer production credit for this crop. RISDA provides production credit for interplanting of crops other than cassava but does not approve of cassava cultivation on land to be planted to rubber because of the possibility that the cassava plant's root system, left behind in the soil when the tubers are harvested, may pick up and transmit certain root diseases to young rubber trees.

Besides these agricultural activities which supplement income from rubber production, a number of families in Kampung Dusun are engaged in non-agricultural occupations. Members of four families make cement bricks and cement post supports on which the raised pilings of village houses rest. These materials are made in their spare time at home, using homemade molds. Their production is sold under contract to a local lumber merchant, who supplies the raw materials and picks up the completed product in his small truck. Most of the work is done by the women of these closely related families. One of these women is

a widow, and the husbands of the other three are regularly employed as carpenters.

The husbands of three women who tap rubber are employed in the town of Sik as helpers in the shops of rubber dealers, earning M\$5 per day. Until recently two other men in Kampung Dusun worked three days a week as butchers and sellers of meat in the daily and weekly markets. (One of these men died in 1975 and the other has "retired," living off the proceeds of his land that is being sharecropped and from the rental of a small house he built next to his own.) The wives of two men who tap rubber earn income from selling cloth in villages throughout the District. One family owns and operates a small sundry goods store in the village, and another family operates the canteen at the elementary school located in Kampung Dusun.

Though there are a wide range of possible secondary sources of income available to the residents of Kampung Dusun, the economy of the village as a whole is tied closely to the production and sale of rubber. In the chapters which follow the rubber-based economy of Kampung Dusun will be compared to the economies of rice farming and fishing. They differ in important respects concerning the organization of labor and productive resources, and these differences have important implications for the organization of social life in these three communities.

CHAPTER SIX

THE MATERIAL CONTEXT OF PRODUCTION: NATURAL AND TECHNOLOGICAL RESOURCES

Introduction

As should be clear from Chapters Three, Four, and Five, the production processes of rice farming, fishing, and rubber tapping differ in a number of important respects. This Chapter discusses the different natural and technological resources utilized by the residents of the three communities studied. These resources provide the material context in which production processes and relationships take place. The availability of and means of access to natural and technological resources affect a wide range of economic and non-economic social relationships and determine the relative rigidity of social and economic stratification in each of the three communities studied. While the vast majority of Malaysia's rural Malays live at or near a subsistence level, a small minority are significantly better off. This economic stratification is significantly more rigid among rice farmers and rubber tappers than among fishermen. Fishermen are more easily upwardly mobile than are rice farmers or rubber tappers, but even among these latter two groups there are strategies of capital accumulation through which some families successfully improve their economic standing.

The differences found between the three communities studied, interesting in their own right, have practical implications for the design of rural development policies and programs. The introduction of new technologies and the increased commercialization of the rural

economy have led to new material opportunities. However, the benefits of these developments often are unequally shared and may exacerbate existing inequalities within rural Malay society.

In the discussion which follows, each of the three communities studied is treated in turn. The two land-based economies of rice farming and rubber tapping have more in common than either of them do with the economy of fishing. There are, nonetheless, significant differences between these two land-based economies, and of course between them and the fishing economy.

Gong Guncil

In the rice farming village of Gong Guncil, the most important natural resource is land. At the turn of the present century land in the Gong Guncil area was plentiful compared to the more crowded rice producing areas of Kelantan. Gradual migration from Kelantan combined with natural population increase has led to a situation where all available land has been claimed for private ownership. Over the past ten years, the purchase price of land escalated rapidly, in part due to the introduction of irrigation facilities which increased the productivity of rice land, and in part to general inflationary pressures which have made rice land an attractive speculative investment. Rice land is at least M\$3,000 (U.S.\$1,275) per acre, and in surrounding villages prices of M\$4,000 are heard. The value of land unsuited to rice cultivation also has increased. Land planted with rubber trees in the vicinity of Gong Guncil varies in worth depending on the type and ages of trees, with a range of M\$2,000 to M\$3,000 per acre. Land on which houses and fruit orchards are situated is approximately equivalent to that of

rubber land.

Land of any kind rarely is offered for sale. The most common reasons for selling land are a family moving away from the area, or heirs being unable to agree on the distribution of inherited land. Even with the current high market value of land, few families are willing to sell, realizing that once their holdings are sold they will be unable to replace them in the future. This especially is important for rice land, the key to a family's subsistence needs. A family dependent upon sharecropping arrangements for access to land must expend twice the labor to obtain the same yields as a family which owns its own land.

As tenant farmers its members would have little hope of producing a surplus of rice beyond their immediate consumption needs.

Rice land is valued primarily as a subsistence resource and only secondarily as a source of cash income. A farm family's rice land not only provides its members their daily staple, but did so for their ancestors and is expected to do so for their descendants. As such, rice land has a high subjective value, and this emotional attachment to the land is one reason why rice land rarely enters the market.

A second reason why rice land rarely is sold was suggested above: once sold it would be difficult to replace. This is so not only because the market in rice land is relatively inactive, but because the price of any type of land is rising rapidly, putting it beyond the reach of many families. The current high price of rice land has little to do either with the land's subjective value or an objective value based on its income producing potential (see Table 3.9). Rather, the most important factor accounting for the rise in price of rice land is its value

as a scarce commodity. This in turn has made rice land attractive to non-farmers with cash to invest. Within the study universe of Gong Guncil, all purchases of rice land made in the past ten years save one are reported by local informants to have been made by teachers who live or work nearby. The one exception is a farm family which sold its rice land in Kelantan (where land values are even higher) and moved to Gong Guncil, using the proceeds from the sale to purchase new land. The amount of land that has changed ownership in the past ten years is small, totaling less than fifteen acres. Farmers are not being displaced from their land in a wholesale fashion, but as the market value of land continues to rise, future sales are likely to be made to non-farmers, confirming a disturbing pattern which has been noted elsewhere (see especially Swift, 1967).

Rubber land differs from rice land in having lower subjective and scarcity values. Rubber production is a source of variable cash income and of secondary importance to most farm families of Gong Guncil. Most of the rubber land in the area is planted with old trees of limited productivity. Unlike rice, rubber is a purely commercial crop, is not eaten, and is not shared among families. Neither is rubber land as scarce as rice land. New rubber stands are being planted further into the interior within a radius of ten miles, and within the village itself land thinly planted with fruit trees mixed with secondary undergrowth could be put into rubber.

Land used for housing (tanah kampung) and land planted with fruit trees (tanah dusun) carry greater subjective value than rubber land. The land upon which a family has built their house also is likely

to have been occupied by either the husband's or the wife's forebears. Similarly fruit trees which a man planted in his youth, or which his or his wife's father or even grandfather planted, exert a strong emotional appeal and make a family reluctant to part with this land. Such land cannot be considered scarce in the sense that rice land is scarce. In a village where there are numerous close kinsmen, a family will have no difficulty in finding a spot to locate their house and, if they choose, plant a small garden or a few trees. It is common to find several closely related households living on the same piece of land without any rent being paid to the owner. Even non-kinsmen are allowed to build their houses on tanah kampung, and if any rent is charged the sum will be nominal (e.g. M\$5.00 per year).

Inheritance and Land Fragmentation

As a consequence of the high market and scarcity values of rice land, inheritance is the most prevalent means by which a farming family gains access to this resource. One consequence of inheritance among rice farmers is the gradual fragmentation of holdings from one generation to the next. This process is modified, however, by practical limitations. Holdings of rice land rarely are subdivided below a certain threshold, in practice set at about one acre. Below this level a household would be unable to produce enough rice to assure its basic subsistence needs. A farm family owning two acres of rice land is unlikely to divide this small holding among four or five offspring. Often one or two children will marry spouses who own or have access to land or who are otherwise economically established. A son, or less commonly a daughter, may migrate to a city or another rural area looking for

employment if economic opportunity near the home village is limited.

By the time the inheritance is divided, it is likely that several siblings will have moved away or become economically independent.

Though each sibling has an equal share in the inheritance, individual needs are not likely to be equal, and the distribution ideally (and in practice usually) takes into consideration such needs. One heir may receive the family home and livestock, another the family's orchards or rubber land, and a third the rice land.

A farm family with larger than average land holdings (e.g., five to ten acres) may be able to provide an inheritance of land to all or most of their children sufficient to produce adequate rice for subsistence needs, though again relative need may determine the specifics of the distribution. The fragmentation of such larger than average land holdings has a leveling effect within a community, ultimately bringing most families to or near subsistence level.

The process of land fragmentation through inheritance may be modified as a result of any one of a number of factors. A husband and wife may have only one surviving child, natural or adopted, in which case the family's land remains undivided, alternatively, all but one of this couple's children may continue their schooling at the secondary or even tertiary levels and find employment outside of the village. In this case their relatively high salaries make them less dependent upon an inheritance, and those of their siblings who remain in the home village are then likely to inherit control over most or all of the family's land. Finally, the process of land fragmentation for relatively wealthy farm families may be modified by their ability to purchase land.

Families which already possess larger than average holdings are more likely to be in a position to buy land when it becomes available. They also are the ones most likely to take advantage of technological innovations which require greater investment of production capital (and the associated risks), but which also may provide significant increases in production. By combining larger farm size with greater productivity per unit of land, these families generate large surpluses of grain for sale. Villagers who have regular cash incomes from wage employment as laborers and non-villagers such as school teachers and government clerks with substantial cash reserves and access to institutional credit also are advantageously placed to purchase land.

In discussing land fragmentation through inheritance we assumed there was something to divide. Yet one-quarter of the households in Gong Guncil are landless tenant farmers. Their heirs are likely to remain landless, and depend upon sharecropping and rental agreements to obtain access to rice land.

Accumulating Capital: Pajak and Gadai

This scenario of the rich effectively maintaining their economic position while the poor struggle to maintain a subsistence base is accurate in general, but there also are possibilities for a family with limited material assets to accumulate capital and acquire land. A family with little or no land can obtain access to land through gadai or pajak, types of lease arrangements discussed in Chapter Three. A landowner who is in need of immediate cash will lease his land to another who is able to provide cash on short notice. Typically it is the owner of smaller holdings who will need to avail himself of such credit rather

than the owner of relatively extensive holdings, whose production surpluses are adequate to cover most immediate cash needs. The relatively wealthy villagers also are likely to be the ones who have ready cash and often are approached by others in need of this form of credit, usually for consumption purposes.

There also are farm families of more limited means who use lease agreements to increase their effective farm size. The sums of money involved usually are small, between M\$200 and M\$300 per acre, can be accumulated by a family of modest means.

Lease agreements are not considered to be exploitative, though as noted in Chapter Three the return to the investment of a leaseholder is quite attractive. In Gong Guncil lease agreements provide the landowner with immediate cash and the leaseholder with temporary rights to the use of the land. Under Pajak a certain time is stipulated (often one or two years) after which the landowner regains effective possession of the land. Pajak essentially is an extended rental, the leaseholder paying rent in advance, usually at a substantial discount compared to seasonal rents which are paid at the end of each harvest. Gadai, on the other hand, is an open-ended lease whereby the legal owner of the land regains effective control of the land only after the loan has been repaid in full. The leaseholder may gain little if the loan is repaid after only one season but stands to gain more the longer the loan remains unpaid.

Gadai is the more prevalent form of lease arrangement, and because often it takes several years for the owners to repay their loan, the leaseholder retains control over the land for an extended period of

time. As noted in Chapter Three, it is common practice for the leaseholder to allow the legal owner to continue cultivating his or her land under a sharecropping agreement which returns one-third of the harvest to the leaseholder (bagi tiga). This especially is common when the farm family holding the lease is relatively wealthy and is not trying to increase the amount of land farmed. A family which leases land from another in order to increase its effective farm size, however, is more likely to do its own cultivation. Thus, an owner who wishes to continue working his land can make arrangements to do so. Sometimes, however, an owner prefers to allow the leaseholder to cultivate the land. If this is the case, the owner will lease the land to a farm family wishing to increase their effective farm size. In this manner the owner, who knows the reputations of the farm families able to provide the necessary loan, is able to choose who will work the land.

Through leasing, a farm family of limited means is able to increase their effective farm size at a cost lower than sharecropping or rental arrangements, and thus produce a larger surplus of rice for sale. The accumulated profits from such sales then can be used for other leases or the outright purchase of land that comes onto the market. This is an effective though long-term strategy for increasing a family's landed wealth, and one which may require years of hard work and frugality to acquire enough capital to purchase even one acre of land.

Accumulating Capital: Livestock

A more common method of capital accumulation adopted by families of limited means is raising livestock for sale, especially cattle and to a lesser extent water buffalo and goats. Meat is a luxury food item

only rarely consumed in a village. Cattle and water buffalo usually are sold to specialized traders who frequently pass through the village and who in turn sell the animals to urban abattoirs. The sale of a five-year-old cow will bring a farm family M\$500 or more; a water buffalo of the same age will sell for even more. Older, larger water buffalo may sell for over M\$1,000.

As was seen in Chapter Three, farm families in Gong Guncil commonly own from two up to four large ruminants. Since the introduction of double-cropping, the number of livestock raised in the Gong Guncil area has declined. Primarily due to the difficulty of providing adequate grazing for these animals. The pressures of double-cropping also have decreased reliance upon the use of workstock for land preparation. These factors have affected the water buffalo population more seriously than the cattle population. Water buffalo have been replaced by the use of tractors for land preparation and also require more graze land for their maintenance than do cattle. Moreover, unlike cattle, which can be looked after by younger children, water buffalo require the attention of an adult male member of a household.

For these reasons cattle are the most prevalent livestock raised in Gong Guncil. Cattle are taken from their corrals early in the morning and tethered wherever graze is available. They usually are moved to new grazing spots several times during the day, and sometimes additional fodder is cut for them. No grain is provided either to cattle or water buffalo, and the only cost involved in their rearing is that of the labor involved. Rarely do families purchase either young animals to raise or older animals as breeding stock. If

a farm family has not inherited livestock, or has sold what livestock it owned, this family is able to re-establish its herd by means of pawah arrangements with fellow villagers. Under pawah one farm family agrees to care for a cow until a calf is born, thereby obtaining half interest in this calf. Most commonly the cow and calf will remain under the care of this family until a second calf is born. At this time the mother and the second calf are returned to the original owners, the first calf becoming the property of the family which cared for the animals. There are a number of variations to such pawah arrangements, but the essential point to be made is that a family owning no livestock is able in this manner to start its own herd with no expense other than time and labor.

Livestock represent a working capital fund which quickly may be turned into cash to meet extraordinary expenses. These might include the expenses of a wedding or other feast, a pilgrimage to Mecca, sending a son or daughter off for advanced secular or religious education, building a new house, or repairs and extensions to an existing house. Usually the cost of such expenditures will be met by the sale of one or two animals. Proceeds from the sale of livestock also may be used for the purchase of rice land, but unless a family has an extensive herd this sum is unlikely to be sufficient to purchase even one acre of land. Among rice farmers, the majority of whom are unable to produce large surpluses of grain for sale, raising livestock is probably the single most important means of accumulating capital. Though the proceeds from the sale of livestock may be insufficient to buy land, the sale of three or four mature cattle may cover half or more of the price

of an acre of land. Additionally, if the family already owns one or two acres it may be able to earn part of the balance of funds needed by leasing out this land (*i.e., gadai*) to another family.

A hard working, frugal family of limited means may gradually accumulate enough cash to purchase small amounts of land, but this is likely to take many years. Raising livestock is a relatively less and inexpensive means of acquiring capital, but it will only be one part of an overall strategy of capital accumulation. Leasing the land of fellow villagers allows for the production of surplus grain which may be sold. Money also can be earned by growing a cash crop such as tobacco, driving a pedicab, or working in the construction industry of Singapore. There is, then, some chance for upward mobility even for poor families, but the process is slow. If land values continue to escalate, however, the ability of a family of limited means to afford even one acre of rice land will decrease.

Kampung Dusun

With its land-based economy, Kampung Dusun is more directly comparable with Gong Guncil than with Mangkok. For rubber tappers, the primary natural resource, land, is expensive and in limited supply. Inheritance provides the single most important source of land for most families, and the offspring of landless families are likely to remain landless. There are, however, important differences to be highlighted between the situation in Kampung Dusun and that in Gong Guncil.

The rice farmers in Gong Guncil tend to cultivate land near their houses, a practice which limits their available land resource to the immediate vicinity of their home village. Rice farmers visit except through inheritance. Though the yields are small, those families

their fields irregularly once the crop is established, but during certain critical periods (when seedbeds are being established and immediately after transplanting) constant watch is maintained. If the rice fields are distant, these tasks are more difficult. After harvest a heavy and bulky crop needs to be carried home. Moreover, a crop of rice ready to harvest is vulnerable to the depredations of birds and to theft, and farmers understandably prefer to have their fields closer to home to guard against these dangers.

Rubber tappers prefer to work land near their homes, but they are less constrained than rice farmers in this regard. With a bicycle a tapper easily can travel five miles or more to his rubber stand, and a small motorcycle allows an even wider range. The ability to work land outside of the immediate confines of the village greatly expands the available land resource for families in Kampung Dusun, and for rubber tappers generally.

Kampung Dusun and other villages in the vicinity of the town of Sik are long-established and relatively more densely populated than those in Sik District's interior. Kampung Dusun is served by piped water and rarely offered for sale. Kampung Dusun is served by piped water and electricity, the only one of the three communities studied which has these amenities. In Kampung Dusun land suitable for housing is worth in excess of M\$5,000 per *relong* (M\$7,000 per acre or over U.S.\$3,000 per acre), a price which reflects the close proximity of the town. Bordering the village of Kampung Dusun is a small area suitable for rice cultivation. This rice land virtually never changes ownership except through inheritance. Though the yields are small, those families

which own rice land place a very high value on their ability to produce at least some part of their annual consumption requirements. The volatile nature of the rubber market, and the extreme scarcity of rice land in this hilly area serve to explain the importance of rice land to its owners.

Rubber land is the primary natural resource from which most families of Kampung Dusun earn their living. Rubber land in the immediate vicinity of Kampung Dusun has a higher market value than rubber land with trees of comparable quality which is located further into the interior of Sik District. In Kampung Dusun rubber land may cost in excess of M\$3,000 per relong even if planted with older, less productive trees. Further into the interior land planted with comparable trees may cost M\$2,000 or less per relong, depending on terrain and access to a road. Land planted with younger, high-yielding trees will bring a premium price of perhaps M\$1,000 per relong more than land planted with older trees. This is an estimate supplied by informants; such land is offered for sale even less frequently than other rubber land, and I was unable to collect precise data on such sales.

The higher value of land in and around Kampung Dusun reflects the higher population density in this area compared to the interior of Sik District, and also the obvious convenience of working land close to home. The scarcity value of rubber land is limited, however, by the availability of land further into the interior of Sik District and by the tappers' mobility, which allows them to exploit land miles from their home village without necessitating a move from that village.

Three-quarters of Sik District's 636 square miles is covered

with primary and secondary jungle held in Forest Reserve. This extensive area is not at present legally available for cultivation, but its existence would seem to mitigate against subjective feelings of land hunger. Though many families are landless, the presence of hundreds of square miles of land suitable for rubber gives local residents hope that in the future the government might open up blocks of land for cultivation, as was done in the 1950's and 1960's. At that time land with easy access to roads still was available for the price of administrative and surveying costs. The process of applying for title to this land, however, required several years to complete.

A few scattered parcels which can be claimed for private ownership still remain, but without exception they are located far from existing roads and often on steep terrain. At present, the government appears to have no further plans for alienating Forest Reserve land for private ownership and is content to receive substantial revenues from logging concessions. Nonetheless, many landless families appropriate parts of this Forest Reserve for their own use and plant fruit and rubber trees. (A few wealthy and politically well-connected families clear larger areas, in one case reportedly two hundred relong, which then are planted with rubber.) Many of these illegal holdings exist for decades without any government interference; in other cases squatters are moved out by government authorities soon after they are discovered.

During 1977, in two separate incidents in Sik District, the government evicted squatters and cut down their fruit and rubber trees. In one case the land had been in use by the squatters since before World

War II; in another the settlement had existed at least five years. In both cases the settlers, through public demonstrations, effectively pressured the government into officially recognizing their rights to own and operate the land.

Through legal or extra-legal means, land in Sik District suitable for rubber cultivation is in relatively abundant supply when compared to the rice land available to farmers of Gong Guncil. Though land near Kampung Dusun itself can be considered scarce, further into the interior of Sik District it is less so, and is more frequently offered for sale. Though the market in rubber land in Sik District cannot be characterized as highly active, it is when compared to the market in rice land in Gong Guncil. In part this is due to the relatively abundant supply of land and in part to the fact that there is less emotional attachment to rubber land than there is to rice land.

For centuries rice cultivation has been the primary occupation of rural Malays. Rice is more than simply a staple food; it is inextricably bound up with Malay cultural identity. Rice is central to Malay customs and ceremonies, and though many of the pre-Islamic practices associated with rice cultivation (e.g., propitiation of the rice spirits) have fallen into disuse, rice and rice cultivation have meaning beyond the food provided.

Unlike rice land, from which a family draws direct sustenance, rubber land is a purely commercial commodity. Introduced early in the twentieth century, rubber tapping has not accumulated a comparable set of ceremonies and beliefs and requires none of the complex forms of labor organization found in rice farming and fishing. In the small-

holder sector, rubber is a cash crop produced by the labor of an individual family which, unlike the families of rice farmers and fishermen, does not share the fruits of its labor with fellow villagers. Rubber land is a capital asset which provides for a family's cash needs, but it is not the basis of a broad range of cooperative relationships within a village.

Sik District's relatively active market in rubber land means that a landless family could manage to purchase land. As tenant tappers their production must be shared with the landowner, but if both the yield of the trees and the price for rubber are high, they will be able to put extra money aside. These savings are likely to be supplemented by raising livestock. The details of raising live-stock and of access to breeding stock are the same as for Gong Guncil and need not be repeated here. Unlike Gong Guncil, in Kampung Dusun leasing land is not a viable strategy for gaining access to this resource. There are no lease arrangements among rubber tappers comparable to those among rice farmers. A family leasing out rubber land for a stipulated sum risks the very real threat of having their trees slaughtered tapped by the leaseholder, who will seek to maximize immediate yields at the expense of the trees' long-term productivity. An owner of a rice field risks comparatively little; the leaseholder may neglect to fertilize the fields and may not maintain the bonds, but there is not likely to be significant damage to the soil. The owner of a rubber stand is likely to find his trees seriously damaged and either may have to wait up to a year before the trees can again produce or, in extreme cases, cut down the trees and replant.

The ability of a landless or near landless family to buy rubber land is limited by production processes which make holdings of only one or two relong uneconomic. Often families in Gong Guncil will own or farm several separate plots located in different fields. As noted in Chapter Three, this may reduce the risk of loss through disease or insect infestation. Since different fields are often on a slightly different planting schedule, farming separate plots also facilitates the allocation of a family's labor. Because rice fields typically are within a mile or so of the family home, the time spent in travel between the different plots is not a major problem. In rubber tapping, however, fragmentation of land into separate small plots presents major difficulties. Daily tapping is carried out in the early morning hours, and working separate plots of land would seriously reduce labor efficiency, both in tapping and in the collection of the latex.

Depending on topography and type of tree tapped, a tapper can effectively work four or five relong of land. Though some people tap holdings of as little as one or two relong, this most commonly is done by an elderly tapper or by the wife of a man who taps (or is employed) elsewhere. If their economic activities were confined to rubber tapping, a holding of one or two relong would provide insufficient income for most families, and would be an inefficient use of their time.

A family of rice farmers might consider the effort of cultivating one acre (or even less) worthwhile and would be able to schedule alternative employment strategies around the limited seasonal labor

requirements of rice cultivation. Rubber tapping, in contrast, requires a certain daily input of time and labor which varies little whether one or four relong of land is worked. The production of scrap rubber modifies this somewhat as the tapper producing scrap is not required to wait for the latex to flow or process the latex into ribbed sheet. Scrap production, however, is risky during periods of heavy rain, which may wash away the latex before it coagulates. In any event, the income earned from a holding of only one or two relong will be insufficient for most families.

Since a parcel of one or two relong of rubber land is insufficient to support a family and is inefficient in terms of labor utilization, a landless family seeking to buy rubber land would need to purchase at least three or four relong. Even if relatively inexpensive rubber land is available (e.g., less than M\$2,000 per relong), the cost of an economic holding is prohibitive for most families. A family of rice farmers may purchase one acre (M\$3,000) or less, and gradually increase the size of their holdings over a period of years. Rubber tappers are less likely to purchase land in such small increments, and as a consequence require larger sums of money for any single purchase. The necessity of maintaining an economic holding for rubber production directly affects matters of inheritance. A man or woman owning four relong and having four potential heirs is unlikely simply to divide the land equally among them. As is true in Gong Guncil, perhaps one child will find employment or land elsewhere, and another may marry into a family which will provide that couple with land. Of the remaining heirs, perhaps one will receive the family house and livestock,

or a small plot of rice land, and the other the rubber holding.

This arrangement would be ideal for keeping the rubber holding to an economic size, but in practice questions of inheritance are not resolved so easily. The heirs may disagree on the distribution and decide that the only way to settle the dispute is to sell the land. Alternatively the holding may be fragmented even though the resulting parcels are uneconomic in size. If a young husband or wife inherits one or two relong of rubber land, the wife may tap this land while the husband works as a sharecropper on the land of another family. Alternatively, the small parcel may be sharecropped out to a family working on a contiguous parcel of land, or the couple may sharecrop the land adjacent to their inheritance in order to make it a more economic holding.

Over time this young family may inherit additional rubber land which, if contiguous or nearly so, may make up an economic holding. If the two parcels of land are too distant from each other to be operated effectively, both parcels of land may be sharecropped out to others while the owners in turn work a larger holding. Alternatively, they may decide to sell the two parcels and buy one single, larger plot.

The necessity of purchasing land in blocks of several relong at a time rather than in smaller increments (as is possible for rice farmers) limits the ability of landless families to acquire land, the relatively active market in land notwithstanding. Depending on the world market price of rubber, a family of tenant tappers or a family owning a small holding is likely to be living at or near a subsistence level with little surplus available for investment. As in Gong Guncil,

the relatively wealthy families of Kampung Dusun can afford to purchase land more easily than can their less fortunate neighbors. Rubber land is an attractive investment for non-villagers also, providing a hedge against inflation and a source of cash income. In Gong Guncil the ability of wealthy farm families and non-villagers to purchase rice land is limited by the infrequency of sales. For reasons stated above, rubber land in Sik District is a more active commodity. Families which can afford to postpone immediate cash income and consider rubber land a long-term investment are more likely to take advantage of the government's replanting grants than are families whose primary source of cash income must be derived from one small holding.

Data collected indicate greater inequality in the distribution of land ownership in Kampung Dusun than in Gong Guncil (compare Tables 5.2 and 3.2). Moreover, these data do not reflect the very sizable holdings of rubber land controlled by several wealthy families in Sik District, holdings which in some instances are in excess of one hundred relong. Though there will be a tendency for large holdings to become fragmented from one generation to the next, the leveling effect of inheritance is mitigated by marriage alliances between similarly wealthy families, and as stated previously, by their ability to purchase land on the open market. It is likely that this pattern of inequality not only will continue, but will worsen in the future, especially as those families which can afford to replant their land with high-yielding rubber trees do so and begin to obtain significantly greater yields.

Mangkok

The fishing economy of Mangkok differs in important respects

from the land-based economies of Gong Guncil and Kampung Dusun. Land is a secondary economic asset for most families of Mangkok. The sandy soils support little vegetation other than coconuts and a thin ground cover of grass which quickly withers in the absence of rain. The sparse vegetation severely limits livestock raising to goats and a few usually hungry-looking cattle. Animal husbandry is not a viable strategy for capital accumulation in Mangkok. Neither is coconut production, which is limited by climatic features discussed in Chapter Four and by the fact that most of Mangkok's coconut trees are old and past their productive prime. A few families earn several hundred Malaysian dollars a year through the sale of fresh coconut and copra, but the majority in Mangkok must be content with production for household consumption alone.

Land within Mangkok is valued primarily for housing, though a family with no land will find little difficulty in gaining permission to build a house on a kinsman's land. In Mangkok most land is valued at M\$700 per acre, significantly lower than land in either Gong Guncil or Kampung Dusun. The market value of land reflects its limited productive potential and the absence of any scarcity value attached to land. A family may have emotional attachment to land it has inherited, but this attachment has little to do with basic subsistence needs. Unlike the other two communities studied, in Mangkok non-villagers speculatively investing in land are conspicuously absent.

Land is a relatively unattractive investment to fishermen whose primary productive assets are boats, engines, and nets. Unlike land, which is a finite resource with clear and enforceable restrictions on

access, the primary resource of fishermen is the fish in the sea. Though there are legal restrictions on the operation of trawlers close to shore, and there are specific fishing grounds which can be marked off for exclusive use through the erection of traps or shelters, the sea essentially is open to all fishermen. The technology for catching fish is similarly open ended. Additional boats and nets may be added and only a marked reduction in the catch caused by this addition of more fishing units is likely to interrupt this process. In recent years this unrestricted access to fishing grounds has led to concern that fish stocks may be over-exploited (Marr, 1976). In Mangkok, fishermen express the same concerns and lay blame on the proliferation of trawlers which illegally operate close to shore and whose fine-mesh nets capture the small fish upon which the primarily carnivorous commercial species feed, as well as capturing the fry of these commercial species. While trawlers may be responsible in large part for the decline in fish stocks in Malaysia's coastal waters, the ease with which fishermen operating traditional gears expand the number of boats and nets operating in a given area no doubt is a contributing factor.

As noted in Chapter Four, a young fisherman may buy an old boat and a used net and put to sea as the captain of his own boat. The investment required may be as little as M\$1,000 (U.S.\$425). He may depend on his parents, grandparents, or in-laws to lend part or even the entire amount necessary. While he lives in his parents' home, most of his income will be turned over to his mother. Any subsequent loan from his parents will be considered not so much a matter of inheritance or cross-generational assistance as recognition of past contributions

to the family which in this manner are being repaid. Usually such a purchase will be made only after this son has worked at sea for a number of years, often including employment as captain on another person's boat.

As the years pass the young fisherman may sell his original boat and buy a newer, more seaworthy craft. In the meantime new sections of netting will be added, gradually replacing those that have worn out, and perhaps the total length of the net will be increased. Unlike rice farming and rubber tapping families, ownership of productive resources is available to many if not most fishermen and further investments may be made incrementally. As some fishermen and their families trade up to newer boats, other fishermen provide a market for the used boats. Not all fishermen make such investments. Some prefer the lesser responsibilities of working as crewmen, or are engaged in secondary economic activities which keep them from being full-time fishermen. Others are less frugal, less diligent, or less lucky at fishing and are unable to accumulate the capital required to become a boat owner. Nonetheless, it is obvious that fishermen have greater opportunity to own the means of their production than is the case with either rice farmers or rubber tappers.

Boats and nets depreciate and deteriorate over time and require constant maintenance. Part of this maintenance may require only an investment in labor, but there also are a number of expenses which require cash payment. Boats need to be painted at least once a year, preferably twice a year, and there are occasional minor engine breakdowns which require new parts. Less frequently, major engine breakdowns

may put a boat out of action for an extended period of time and cost several hundred Malaysian dollars for repairs. A net requires constant maintenance and regular replacement of worn out sections if its efficiency is to be sustained. The need for such constant reinvestment is recognized by specifying a particular share for both the boat and the net from the total proceeds of the catch, the remainder of which is divided among the fishermen.

In a situation where the primary natural resource is open to all and the technology for exploiting this resource is available to many if not to all, the importance of inheritance is reduced. In Mangkok the only permanent rights over a fixed resource to be transmitted from one generation to the next are rights over land, a commodity of limited utility. If a family owns a boat or net these are likely to be of greater value and of greater income-producing potential. In common with rural Malay society in general, the villagers of Mangkok feel that both sons and daughters should be treated equally in terms of inheritance. In practice, however, sons are more likely to inherit a family's boat and/or net, while daughters tend to inherit the family's house, land, coconut trees, and any livestock.

Unlike the land-based economies of Gong Guncil and Kampung Dusun, in Mangkok the most important assets -- boats and nets -- are divisible only through sale. If there are several heirs, it is not possible to fragment such a holding among them. Therefore if a family owns a boat and net there are several options: for example, the boat and net may be sold and the proceeds divided among the heirs; alternatively, one of the heirs may inherit the boat (and usually the net

as well) and the other heirs divide the remainder of the family's assets.

The decision will hinge on several factors. If the father, the probably owner of the boat and net, dies intestate, the heirs must collectively agree upon the distribution of the inheritance. It may be that they will agree that only one of them will inherit the boat and net, but more commonly these assets will be sold and the cash distributed. If the father decides to retire from active fishing, he and his wife may decide to hand over ownership to one of their sons or even a grandson, with the understanding that the son or grandson will support them in their old age. By the time a fisherman retires, often in his sixties, several or even all of his sons already will be established as owners and captains of their own boats or be otherwise employed.

Because the father is likely to continue fishing long after his sons have gone to sea, they have no immediate prospect of taking over his boat. By the time the father retires, the hull and net may have worn out, leaving little of value to inherit. The father also may decide to sell his boat and net and use the proceeds to support himself and his wife in their old age. Alternatively, the boat and net may be handed over to another fisherman to operate, the family then receiving the boat and net shares as income.

In Mangkok, children grow up with the understanding that the most important material assets owned by the family are impermanent. A son, if he desires to become a boat owner, either must wait until his father retires from fishing (which may not be for another fifteen or twenty years) or buy a used boat of his own. Because of the uncertain-

ties associated with the first strategy, it usually is the latter which is adopted.

In a fishing village the transmission of wealth from one generation to the next is an important but not a crucial factor in the economic success of individual families. A young family with relatively wealthy kinsmen may more easily borrow the money necessary to purchase a boat and net. But even a young family of limited means without such ready credit may become owners of these productive assets. In land-based economies, inheritance to a large extent determines the economic standing of succeeding generations. In a fishing economy, economic success is determined to a much greater extent by the skill, diligence and luck of individual fishermen and the careful management of their household economy by their wives. As a consequence, economic stratification in a fishing community such as Mangkok is less rigid than in the two land-based economies represented by Gong Guncil and Kampung Dusun.

An important caveat should be noted concerning this portrayal of a relatively egalitarian situation. Future technological changes in the direction of larger boats and more expensive gears may lead to distributional changes which favor owners as opposed to crewmen. In the neighboring villages of Kuala Baru and Penarek the crewmen of large purse seiners earn incomes comparable to and sometimes larger than the drift netters of Mangkok, but the captains and the owners of these boats earn considerably more. Where such capital-intensive fishing takes place, the owners of these expensive boats and gears have significantly larger incomes and assets to pass to their heirs, and in this situation economic inequalities are more likely to persist from generation to generation.

Conclusions

One of the most important differences between the three communities studied concerns the availability of natural resources. The economies of rice farming and rubber tapping are based on a finite natural resource, the land, to which access is limited by clear and enforceable rights of ownership. In contrast, the natural resource exploited by fishermen, the sea, is freely available to all.

This major difference makes inheritance a more important determinant of economic standing in the land-based communities of rice farming and rubber tapping than it is in a fishing economy. As a scarce and highly valued commodity, land rarely is offered for sale, and when it is, its price is so high that most farm families not fortunate enough to have inherited land are likely to remain landless. Inheritance in a fishing economy also is important, but to a lesser extent because the transferable assets (boats and nets) deteriorate and decrease in value over time. In contrast, land holds or increases its value and is a more permanent asset which can be passed from generation to generation. As a consequence, economic inequalities are more likely to be persistent from generation to generation among rice farmers and rubber tappers than among fishermen.

Variations in the availability of and access to natural resources are paralleled by similar differences which affect the utilization of technological resources. Fishermen enjoy unimpeded access to the sea and an active market in used boats and nets makes it possible for most fishermen who so choose to become owners of the means of their production. The technological resources available to rice farmers and

rubber tappers, including new varieties of seed, planting materials, and chemical fertilizers, also in principle are available to all. In practice, however, technological innovations which promise increases in productivity have not been adopted uniformly. Only farmers and tappers in a position to accept the costs and risks associated with these innovations have benefited from the new agricultural technologies.

Rice farmers operating at or near a subsistence level of production have been reluctant to maximize their yields by increasing the application of chemical fertilizers for fear of a crop loss, which then would threaten not only their subsistence but their limited working capital as well. Farm families which own larger than average acreages of rice land from which a substantial surplus can be produced are in a better position to take advantage of the new rice technology. Similarly, rubber tappers who own larger than average acreages of rubber land are able to take advantage of the government's replanting scheme and replace older, less productive trees with high-yielding varieties. Their less fortunate neighbors can less easily afford the seven years of lost production entailed in replanting, and are more likely to continue tapping less productive trees.

The diversity summarized in this section presents interesting questions to general students of rural Malay society and defines pressing problems to those involved in designing rural development policies and programs. At the very least, it should be recognized that there are important differences among rural Malays which are determined by their various economic adaptations. By presenting details of these differences, it is hoped that this study will contribute to a richer understanding

of rural Malay society and instill an awareness of economic adaptations as causal factors leading to socio-cultural diversity.

The comparative framework used in this study allows not only for the illumination of important differences among rural Malays but the highlighting of important similarities as well. The commercialization of rice production, the availability of improved rubber trees, and the introduction of larger and more efficient fishing boats and gears all tend to benefit some people more than others. Perhaps this is inevitable. However, certain steps can and should be taken to modify the most extreme of these inequalities. These steps could include improvements in credit facilities to allow for wider participation in the benefits of new agricultural and fisheries technologies. Providing loans to landless or nearly landless families seeking to buy land is another possibility.

The limited farm size of rice farmers and rubber tappers is a primary cause of poverty among these groups. Similarly the limited sums available to fishermen for investment in boats and gears limits their income-earning potential. To supplement incomes earned from their primary economic pursuits, most rural Malays engage in a number of secondary economic activities. These secondary activities serve to diversify a household's income and hence lessen the risk of loss in any one pursuit. In addition to supplementing and diversifying incomes, these secondary economic activities provide the possibility of accumulating sufficient funds to purchase land or improve the quality of boats and nets.

In this Chapter it is argued that important differences affecting access to natural and technological resources are a significant

cause of socio-cultural diversity, and that the issues raised should be of interest to students of rural Malay society and to development planners alike. To the latter audience the necessity of tailoring development policies and programs to fit the differing needs of rice farmers, fishermen, and rubber tappers is suggested.

CHAPTER SEVEN

SOCIAL CONSEQUENCES
OF ECONOMIC ORGANIZATION

This study has concentrated upon production processes and the social relationships which these processes engender. In so doing we have identified major differences within rural Malay society based on the differing economic adaptations of rice farming, fishing, and rubber tapping. The central tenet of this study is that production processes and relationships affect many aspects of social life. Indeed, the distinction between economic and non-economic aspects of life often is blurred. Virtually every aspect of social life can be seen to be affected by the economic context in which social relationships exist. Many social relationships are influenced by the nature of the relationships between owners and non-owners of productive resources. Relations among kinsmen and patterns of local leadership are directly influenced by the exigencies of economic life. The character and tone of community are influenced by the necessity or lack thereof for members of a community to cooperate in production-oriented activities. The discussion which follows will proceed by considering each of the three communities studied and will focus on the issues introduced above: relations between owners and non-owners, relations among kinsmen, local leadership patterns, and the social consequences of reciprocal labor exchanges.

Gong GuncilInterdependence of Rice Farmers

Rice farmers depend on their neighbors and kinsmen both for supplementary labor during peak seasons of labor demand and for coordination of the planting schedule. In order to achieve optimum water, pest, and disease control, successful rice cultivation requires roughly simultaneous land preparation, seeding, transplanting, and harvesting. The crop of a farm family planting prior to others in a given field is likely to attract the attention of birds and various insect pests which will seriously damage their earlier ripening crop. A family late in planting risks similar losses, and in addition will suffer if draining of contiguous parcels begins before their rice crop is fully developed. If the parcels of each individual family planting rice in a given field develop and ripen simultaneously, the risk of loss is substantially reduced for all. It is for this reason that prior to each season farm families in Gong Guncil meet informally both in their fields and in their homes to exchange information in which variety they intend to plant and when they intend to begin seeding. As a consequence, each of the plots within a field tend to be planted simultaneously, with a limited number of rice varieties which have roughly comparable maturation rates. There is no formal mechanism to achieve this cooperation. Rather the decisions are made through an informal consensus based on mutual interests.

At one time or another, most farm families in Gong Guncil depend on the assistance of others during the transplanting season. Once their rice seeds are sown a family is committed to transplanting the seedlings

in a relatively short period of a week to ten days. Some families avoid this problem by making successive sowings or sowing their seed in separate seedbeds for each of their plots. This may reduce some of the pressure of transplanting, but in any given season a number of families will require additional help beyond their own labor resources. They may hire additional labor on a cash basis, engage in reciprocal labor exchanges either with a limited circle of kinsmen and friends (tolong-menolong), or through a call upon a large number of helpers (pinjam orang). If a limited amount of assistance is required hired help or labor mobilized through tolong-menolong will be used. If there is a great amount of work to be done, however, pinjam orang often is the only practical option available.

The number of helpers called upon for pinjam orang depends on a number of factors, including the amount of work that needs to be done and the number of people whom the family has helped in the past. Using pinjam orang establishes an obligation to reciprocate in the future. Most farm families consider it in their interest to participate in pinjam orang activities even if no immediate need to call upon such labor is foreseen. If they did not assist others, no one would come to help them in time of need. Sudden illness, injury or recent child-birth can reduce a family's ability to plant a crop. The majority of farm families at one time or another are subject to such problems, creating the need for mutual interdependence. The result of this mutual interdependency of farm families is a web of reciprocal labor obligations which have great importance not only in rice production but in other aspects of social life as well.

Only members of the local economic elite are isolated from this interdependence and the associated reciprocal labor obligations. Their labor needs are met through hired labor brought in from distant villages where rice either is not grown or is grown on a different schedule. Other families in the Gong Guncil area make use of hired help, but without exception they hire members of the local community, providing an important source of employment and income.

The Ketua Pinjam Orang

Effective utilization of Gong Guncil's labor resources during critical periods such as transplanting requires effective coordination. To accomplish this each community has one or two recognized labor organizers, known as ketua pinjam orang. Gong Guncil has two such persons. A family wishing to utilize pinjam orang will call upon one or both of these men, stating how much work needs to be done in which field on what day. By channeling requests through these men, the problem of several families attempting to use pinjam orang on the same day is avoided. The family needing the help also is saved the time and difficulty of informing a large number of people as the organizers undertake the task of spreading the word, either by hailing people as they pass by, visiting them in their homes, or sending messages via children. The organizers act as more than a simple clearing-house for families seeking assistance through pinjam orang. Intimate knowledge of reciprocal obligations incurred in the past enables them to make accurate estimates of the number of helpers a given family is likely to attract for an afternoon's work. It is clear that those who have assisted others in the past are able to attract large numbers of helpers

through pinjam orang, while those who did not participate are unable to obtain such help. It might be thought that the decision as to whether or not to help would be made by the individual family whose assistance is requested. In the final analysis this is true, but the ketua pinjam orang is in a position to exert considerable influence in this matter. In this he acts not only as a coordinator but as an organizer and enforcer.

Each time a ketua pinjam orang agrees to help a family mobilize labor he is putting his prestige and reputation for effectiveness on the line. If he promises a family that forty workers will arrive on a given afternoon and significantly less turn out, it will be embarrassing for all concerned; if this occurs repeatedly this ketua pinjam orang will lose his position. In practice, however, an effective ketua pinjam orang is able to estimate how many people are willing to help a particular family, and he will not agree to call out an un-realizable number. Those asked to help a particular family are likely to do so not only to discharge reciprocal labor obligations but with an eye to staying in the ketua pinjam orang's favor. A family informed that others need help on a certain day is bound to send at least one of its members. If a family failed to help another family without good reason, the ketua pinjam orang might refuse to assist them in the future. Thus, reciprocal labor obligations are buttressed not only by the norm of reciprocity but by the person of the ketua pinjam orang.

The willingness of families to turn out whenever a ketua pinjam orang requests their assistance carries over into matters not directly related to rice production. Because a majority of farm families

are beholden or potentially beholden to this man, calls to contribute labor for community projects such as the clearing of small irrigation canals or maintenance of the local mosque or cemetery are not likely to be ignored.

A ketua pinjam orang also mobilizes cooperative labor beyond the confines of the immediate village. Moving a large house may require more manpower than is available within a single community. As many as three hundred men may be needed to move a large house, requiring the cooperative effort of men from half a dozen or more communities. A family in need of such help will approach a ketua pinjam orang in their community, and together an estimation will be made of the number of men required for the task. If labor beyond the immediate community is required, this ketua pinjam orang will visit his counterparts in other neighboring communities to enlist assistance. Each of these ketua pinjam orang will be asked to provide a certain number of men on the appointed day. From a community the size of Gong Guncil the assistance of as many as thirty men may be requested. There is no payment for this work other than food, which will vary from local cakes and coffee or tea if a house is moved a short distance, to a full meal if the move requires several hours of work. Individuals who turn out to help move a house in another community do so not in expectation of obtaining commensurate assistance for themselves. Rather they do so out of a general sense of social responsibility, because such gatherings are entertaining social activities, and because the ketua pinjam orang requested their assistance.

The Effective Source of Leadership in Gong Guncil

In Gong Guncil the two ketus Binjam orang appeared to be very effective in mobilizing labor. One of these men is employed full-time as a laborer by the Department of Drainage and Irrigation, though he and his family continue to plant two acres of rice on their own land. The other, Tok Wan, is more influential. He is a landless man with two wives. Though he occasionally helps them in the fields, it would be an exaggeration to call him a farmer. Self-educated, he is widely respected for his religious learning and piety. He is gifted with a particularly sonorous voice and as muezzin (bilal), a formal position at a mosque) gives the Friday call to prayer. He earns a small income from services as circumciser of young boys entering manhood, and from making handles and scabbards for the heavy choppers used for clearing brush and the somewhat smaller knives used for slaughtering and butchering animals. Though he is not a rich man, he finds ample time in his daily schedule to attend to various community needs. He initiated a program of religious instruction for young children, adolescents, and adults, the latter of which meets two or three nights a week, except during transplanting and harvest seasons. Tok Wan also is the person to whom people turn for mediating local disputes. No doubt his effectiveness as a mediator in part is due to his position as ketua plrijam orang; a family who refuses to abide by his recommended solution to a dispute may find Tok Wan less than enthusiastic about helping them with future needs.

Tok Wan is the most influential person in the Gong Guncil area. He is not the formal village headman, however. The position of ketua

kampung is held by a member of the local economic elite, the nephew of the previous ketua kampung. Though he was chosen for this position by the male members of the community over ten years ago, he is not an active leader in the community. Indeed, he is regarded with considerable dislike by many. It was his unfair treatment of local residents hired to work his land that led to the boycott of his fields and those of several of his close relatives. His unpopularity is compounded by his chaneling most of the benefits of various government projects (e.g., the Veterinary Department's pawah scheme) to himself and to his immediate kinsmen.

Class Polarization

Traditionally it was expected that members of local economic elites would use their wealth for social purposes (e.g., gifts, loans, feasts, etc.). As the rural economy has become increasingly commercialized, however, these traditional expectations are not being met. Whereas previously the rural economy operated at a subsistence level, at present there are both possibilities for earning cash incomes and opportunities for spending such incomes. Instead of being redistributed throughout the community, wealth now tends to be used for private consumption.

This commercialization of the rural economy has altered the relationship between the majority of the rural population and the local economic elites. Increasingly one finds that these elites deviate from traditional expectations regarding their role as people of wealth and disassociate themselves from involvement in reciprocal labor exchanges. It also is significant that the local economic elites are broadening

their contacts with non-villagers through advanced education and employment outside of the village and through marriage alliances which unite these elites with other elite groups, especially teachers or other government employees.

There are different economic interests in virtually every Malay village, and relationships between owners and non-owners of productive resources are prone to tension. This was found to be true in each of the three communities studied. However, despite the important exception of the labor boycott mentioned above, the rice farmers of Gong Guncil were less affected by such tensions than were the fishermen of Nangkok or the rubber tappers of Kampung Dusun. Other than the few families which comprised the local economic elite, virtually all other families, despite differences in wealth and income, needed to work together on the timing and cultivation of their fields.

Mangkok

Cooperation Among Fishermen

The residents of the fishing village of Mangkok, like those of the rice farming community of Gong Guncil, need to cooperate in the course of productive activities. However, compared to rice farmers, fishermen are able to operate much more independently of one another. Indeed, their occupation calls for independence of judgment and operation. Their interdependence is limited to their small crews of two or three men, and the composition of these crews is itself constantly changing.

In Mangkok there are no needs for large-scale labor mobilization comparable to those in rice production. The only time that labor

beyond that of the crew itself is required is when a new net has been purchased and the numerous component sections need to be sewn into a whole. However, fishermen rarely purchase a completely new net, but rather replace sections of old netting as required. The labor necessary for this task is provided by the crew itself.

At sea, fishermen depend upon their fellow crew members, and indeed generally cannot put to sea until their small crew assembles. The rice farmers of Gong Guncil depend upon the help of others only during certain periods of the crop cycle. In contrast, fishermen are dependent upon their fellow crewmen during every productive day. The nature of this dependence, and the manner of its expression, however, varies greatly from the example of Gong Guncil presented above. In rice production, the need to work together carries over from year to year, and cooperative relationships tend to be long-lasting. The cooperation between individual fishermen, in contrast, is less permanent due to frequent changes in the composition of boat crews.

Sources of Conflict

Within Mangkok itself there are numerous boats upon which a fisherman can work. A fisherman who is unhappy with the success of one boat or has an argument with the boat's captain, owner, or another crewmember is quite free to throw in his lot with another boat. Similarly, if a boat captain is unhappy with a crewman, he may force the crewman to find another boat on which to work. Disputes at sea are common. A crewman and a captain may disagree over where or how many times to cast the net. There also may be disagreements on the manner or price at which the catch is sold or on the maintenance of the boat

and net. Most commonly of all, the generosity of the boat captain in sharing the babacian bawa (the extra share which the captain earns for the responsibility of operation, maintenance and upkeep on the boat and net) is called into question.

In the preceding section it was noted that the right to a subsistence in rice was considered to be basic and incontrovertible among the farm families of Gong Guncil. In the fishing economy of Mangkok the recognition of this right is limited by practical considerations. Fishing essentially is a commercial venture, and the capture of fish requires a substantially larger investment in depreciable equipment. A small amount of fish is reserved for the home consumption of the individual fishermen, but the bulk of the catch is destined to be sold. Fishermen receive their share of the catch in cash, a more impersonal medium than rice standing in a field. The distribution of this cash between boat and net shares and the shares of fishermen allows less room for flexibility than the division of a rice crop. Owners and crewmen alike recognize that a substantial share of the gross income must be retained to meet regular maintenance expenses and the irreversible process of deterioration. Seeing the larger share given to the owners often leads crewmen to ask the owners for small loans during periods of poor fishing. The owners are reluctant to do so, however, because there is little likelihood that such loans will be repaid, and their own limited cash reserves must be saved to meet the possible expense of an emergency repair, and for maintaining or improving their equipment.

Tensions also arise in the marketing of fish. Fish buyers, for the most part local men, seek to buy fish cheaply, while their

neighbors and kinsmen who caught the fish want to sell dear. Despite the fact that most of the fishermen and buyers operating in Mangkok are kinsmen, their economic relationships are full of tension and distrust. Fishermen fear that buyers may collectively agree to manipulate the local market. This distrust was dramatically illustrated when in early 1978 the buyers forced a change in the commonly accepted sale by auction (borong) in favor of buying by weight at standard prices set by the buyers. The buyers claimed that this was the easiest and fairest marketing system, but virtually every fisherman I questioned voiced concern that the buyers would fix the prices and unfairly gain from this arrangement.

This new marketing arrangement did not last long, however, as the buyers' solid front itself broke down when several of them began to offer higher prices than the others. With the sale of fish no longer going to the highest bid at auction, several of the buyers were able to call upon economic, kinship, or friendship relationships to obtain sole access to the catch of a particular boat (see Table 4.7). This placed the other buyers at a disadvantage, and they found themselves with hardly any fish to buy and sell. Furthermore, two buyers were able to offer higher prices than the others because they had direct links to the major urban markets, which gave them a larger profit margin than their competitors who sold fish to middlemen in Kuala Trengganu.

Patterns of Local Leadership

An important consequence of the absence of regular and large-scale cooperative labor exchanges is the absence of any local leadership roles related to matters of production. As in Gong Guncil, Mangkok has

a village headman formally recognized by the government. Unlike the formal headman of Gong Guncil, the Ketua Kampung of Mangkok is a popular member of the community. The extent of his power is quite limited, however. Though he is responsible for settling local disputes, in practice he shares this task with several other members of the community, including the imam of the local mosque, the head of the Fishermen's Cooperative, and the locally-born headmaster of Mangkok's elementary school.

The chairman of the Fishermen's Cooperative is in fact the single most important leader within Mangkok. Interestingly, he himself is not a fisherman, nor has he ever worked as a fisherman. He and his wife operate a small sundry goods store in Mangkok, and he earns a steady cash income as caretaker of the local school. The Fishermen of Mangkok elected him chairman of the Fishermen's Cooperative because of his educational background, which included both secular and religious instruction at the secondary school level. This education enables him to keep the Cooperative's books and effectively deal with government officers. His is not, however, a leader in the active sense of the word.

As a community, Mangkok is divided by the competing economic interests of owners, captains, crewmen, and buyers. These divisions contribute to the relative weakness of leadership roles in this community. Mangkok's fishermen lack the kind of solidarity imposed upon the rice farmers of Gong Guncil by the necessities of production. Due to the absence of a comparable need for large-scale cooperative action, in Mangkok there are neither reciprocal labor obligations nor leadership

positions which enforce such obligations.

Despite the presence of competing economic interests, Mangkok is spared the deeper divisions based on economic inequalities found in Gong Guncil. Though there are inequalities of wealth and income in Mangkok, these are not based upon permanent rights over limited resources. As noted in Chapter Six, the sea is a resource open to all, and most fishermen who so choose are able to become owners of their own boats and nets. Economic stratification is less rigid in Mangkok and neither the relationship between owners and non-owners of productive resources nor the competing interests of fishermen and buyers have ossified into class polarization.

Kampung Dusun

Rubber Tapping

The production of rubber requires little or no cooperative labor outside of the immediate family. Unlike rice cultivation, there are no periods of peak labor demand. An individual tapper normally taps and collects latex from several hundred trees without assistance, unless accompanied by a spouse or offspring. The routine of tapping, collecting, and processing into ribbed sheets occupies the period from daybreak until roughly noon, day in and day out, weather permitting. There are no advantages to be gained in mobilizing a group of helpers in the course of rubber production. Sometimes while waiting for the latex to flow after tapping, several tappers will sit and talk together, and they may meet again later if they share the same mangles for pressing ribbed sheet rubber. In some cases they may even help each other operate the mangles. But other than this they operate independently.

The only times when labor resources beyond the immediate family may be required are when an old stand of rubber trees or a patch of jungle is being cleared in preparation for planting new rubber trees, or when an established stand of rubber is cleared of accumulated undergrowth. In practice, however, these tasks usually are managed by a single household which, if necessary, supplements its own labor with hired help. Often the cutting of old rubber trees is contracted to a man owning a powered chain saw. Clearing the felled trees and planting new trees requires months of work. A close friend or kinsman may offer to help for a few days, but this is rare and, in terms of the over-all task, is of limited importance.

Tappers from separate households rarely work together, even when clearing undergrowth from an established rubber holding. A stand of rubber can be maintained free of weeds by one man, who either clears the undergrowth little by little or who concentrates his effort once or twice a year. Occasionally men from several households join together in small cooperative groups and work on each other's land in rotation. This, it is said, seems to make the work go faster and makes the task an enjoyable social activity.

Interestingly, such groups working together to clear rubber stands were found to be more common in Gong Guncil than in Kampung Dusun. In Gong Guncil the tradition of cooperative labor is solidly entrenched, while in Kampung Dusun no comparable tradition exists. In addition to their relative lack of experience in working together, there are two other factors which limit this use of cooperative labor by the residents of this community: the scattered nature of rubber holdings,

and the fact that many owners prefer to pay others to complete this task.

In many cases the parcels of land tapped by the people of Kampung Dusun are not contiguous but are scattered across a wide area. Often their land is several miles away from Kampung Dusun, and it is difficult to organize a group of men from the home village to travel such distances. It also would be difficult to organize a group of men from households which tap contiguous rubber stands, as it is likely that such a group would include residents from several villages, some of them miles apart.

The cash-oriented relationship between owners and sharetappers also discourages the formation of such cooperative groups. It is not the responsibility of the tenant to clear the rubber stand of undergrowth. If the owner wants his stand of rubber cleared he must do it himself or hire someone else (usually the sharetapper) to do the work. When the sharetapper is hired, the work is done on the basis of a cash payment. It is of little importance to the owner if the sharetapper does the work himself or arranges to have it done through a cooperative effort. In practice, however, when a person is paid for a given amount of work, others are unlikely to assist him, even if the amount of work they would contribute is reciprocated in full. Work which is paid for in cash is differentiated from work done on one's own behalf. The former is a suitable situation for cooperative endeavors, but the latter is not.

Sharecropping Relationships

It may be recalled that of the twenty-seven families from

Kampung Dusun which tap rubber, ten families own no land and are share-tappers. In a large majority of these cases, they are not related by kinship to the owners of the land they sharetap. Often they do not even reside in the same village. Because of this, their social interaction often is limited to the narrow concerns of rubber production.

Tenancy relationships are affected by the commercial nature of rubber production. The rubber economy is based on cash, not on the production of a subsistence food item. An owner of rice land in Gong Guncil is not able to strictly enforce a tenancy agreement if it threatens the subsistence needs of a tenant family. However, unlike yields from rice cultivation, which are prone to loss through natural causes, the income from rubber production is less likely to be affected by natural calamity than by fluctuations in the market price. Also unlike rice farming, rubber production is a commercial proposition unencumbered by a traditional norm of distributive equity between owners and tenants. Lowered income affects the ability of tenant tappers to meet their consumption requirements just as much as a crop loss threatens the subsistence needs of a tenant family cultivating rice. Even when the price of rubber falls, the owner of rubber land expects to follow the agreed-upon division of production. The product shared by owner and tenant is valued in cash terms, and as such is not directly related (at least from the standpoint of the owner) to the subsistence needs of the tenant family. The commercial nature of rubber, the impersonal workings of the international rubber market, and the fact that owners and tenants often are neither kinsmen nor even residents of the same community are factors which differentiate land tenure relationships among

rubber producers and rice farmers.

Local Leaders

The rubber tappers of Kampung Dusun have no need to cooperate while working, and have no leadership role comparable to that of the ketua pinjam orang, or even to the more limited role of boat captain. The leadership roles found in Kampung Dusun are of limited importance in the day-to-day lives of the village's residents. The man recognized as the ketua kampung has operated a licensed rubber shop in a village almost ten miles away since 1971. Six days a week he is gone from the village from early morning until the evening. He is a respected member of the community, but his regular absence precludes his acting as an effective leader. Like his neighbors, he is taking care of his own business. Insofar as a local leader can be identified, a more likely focus of our attention would be a younger man, a skilled carpenter who heads the Village Development Committee. In recent years, however, this man has been in poor health and unable to spend much time on community affairs.

As in Gong Guncil and Mangkok, formal leadership positions based on government recognition are an insufficient basis in themselves for effective local leadership. In the case of Kampung Dusun's ketua kampung, even official recognition is lacking. The position of ketua kampung was formally abolished in Kedah in the 1950's. Though the title still is used in villages, it is devoid of official sanction or power. The Village Development Committee is recognized officially, but in most cases where it exists at all, it acts as a forum for requesting government assistance rather than as an institution for mobilizing local

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energies to carry out local projects. These Committees provide little more than the appearance of popular participation in rural development programs, and in most cases exist only on paper.

The lack of effective leadership within Kampung Dusun, however, cannot be understood on the basis of conflicting business interests, poor health, or lack of official support of existing leaders. Rather, the most significant cause would appear to be the lack of any functional requirement for such leadership. There is no need to mobilize labor on a regular basis for work on rubber holdings as each family operates independently of its neighbors. There is no strong tradition of cooperative action in Kampung Dusun, and it is difficult to call together members of this community as they work in scattered locations throughout the District. Rather than actively leading, in the sense of mobilizing the community's energies, the leaders of Kampung Dusun (like those of Mangkok) limit their concerns to the mediation of local disputes and other efforts designed to foster community harmony.

Economic Inequality

Economic inequalities among rubber producers are more extreme than inequalities among rice farmers primarily because of the more unequal distribution of rubber land ownership. This certainly is true in a comparison of Kampung Dusun and Gong Guncil (Tables 5.2 and 3.2), and probably holds true in general. Rubber land always has been an attractive investment for tappers and non-tappers alike. Early in the twentieth century land suitable for rubber production was not in short supply (though it is now) and some families were fortunate or farsighted enough to obtain legal title to relatively large acreages of such land.

Through the process of inheritance these holdings are being fragmented. A counter to this, however, is the ability of relatively wealthy landowners to utilize their income from the sale of rubber to purchase additional land. Moreover, the possession of larger than average holdings of rubber land enables owners to cut down older, less productive trees on part of their land and by stages replant with more productive trees. As a consequence of these advantages, economic inequalities among rubber tappers are likely to persist, and indeed become even more extreme in the future.

Conclusions

The Nature of Rural Malay Communities

In this Chapter a number of important differences between rural Malay communities have been summarized and related to the three most important economic adaptations in which rural Malays are engaged -- rice farming, fishing, and rubber tapping. These differences have a direct effect on the character of rural life. In the final analysis, social relationships boil down to interactions between individuals and no theoretical framework can fully account for the diversity of such relationships. Nonetheless, the systematic and structural differences pointed out in this study allow us to understand a significant cause of diversity within rural Malay society and provide us with a framework for understanding the widely divergent character of rural Malay communities.

The existence and significance of this diversity appears to have been overlooked both in the available academic literature and by those responsible for the planning and implementation of rural develop-

ment programs. For the most part, previous research efforts have been limited to case studies of individual communities. These studies contain important information but, lacking a comparative perspective, they have been unable to provide an understanding of major differences within rural Malay society. Similarly, many government officers consider the rural population to be an undifferentiated whole and do not realize that much of the sub-cultural variation pointed out in this study is relevant to their work.

Government officers and students of rural Malay society alike often hold the rather romantic notion that rural Malay communities possess an inherent cohesiveness that enables and encourages members of these communities to work together for the common good. Many government programs based on this misconception seek to mobilize supposedly pre-existing local energies and resources for development projects. Eliciting popular participation in development is a worthy goal, but a number of serious obstacles must be recognized and dealt with. Virtually all rural Malay communities work cooperatively at one time or another, but the regularity and importance of such cooperative effort varies significantly. As shown in this study, only rice farmers have a recurring need to work together. Rubber tappers and fishermen have no organizational experience comparable to that of rice farmers. Neither do they have leadership roles comparable to the ketua pinjam orang. The well-developed capacity of rice farmers to actively cooperate with one another is a direct result of production processes and relationships which place a premium on coordination of the planting schedule and mobilization of the community's labor during transplanting

and harvest seasons. These reciprocal labor obligations and the organizational ability to mobilize rice farmers for cooperative efforts have no counterparts among rubber tappers or fishermen. Cooperative activities among fisherman and rubber tappers are likely to be limited to such matters as preparations for wedding feasts. These activities certainly are important, but they occur sporadically and do not provide an organizational framework for other types of cooperative endeavors.

The willingness of rice farmers to work together presents a valuable opportunity for mobilizing their efforts and encouraging their active participation in development programs. Coordinating the efforts of fisherman and rubber tappers and encouraging their collective participation in rural development programs presents more challenging problems. Cooperation in production and participation in development programs are both complex phenomena. They are related, however, insofar as popular participation in development programs calls for the mobilization of the collective energies of a community, whether it be for deciding local priorities or organizing people to construct and maintain roads, bridges, irrigation canals, or other infrastructural developments. Organizing the rural population into associations such as Farmers' and Fishermen's Cooperatives facilitates dissemination of information from the various government agencies to the local communities.

However, efforts to organize the rural population have done little to encourage active participation in planning and implementing development programs. This is due to the government's somewhat paternalistic "top-down" approach to rural development, and the tendency for members or local economic elites to be selected as leaders of the various

organizations established in the rural areas.

Economic Stratification and Local Leadership

Rural Malay communities often are divided by competing economic interests and increasing polarization along what essentially are class lines. There is conflict or the potential for conflict between those who control productive resources and those who do not. In fishing communities, competing economic interests are readily apparent and affect the every-day lives of the people involved. Among rubber tappers, conflict between landowners and their tenants is evidenced by the slaughter tapping of trees and the concerted efforts of landowners to discourage this and other harmful practices. Even among rice farmers, where the need for coordination and cooperation is crucial, and where landowners to some extent protect their tenants during times of crop loss, there is evidence that the commercialization of rice production results in conflict between owners and non-owners.

A second (and related) misconception commonly held by government officers is that local leaders such as the ketua kampung are representative members of their communities. Often government officers working in rural areas channel their efforts through these formal leaders. However, as should be clear from the example of the ketua kampung of Gong Guncil, formal leaders may be neither the most effective leaders of their community nor representative of their community. This presents problems insofar as these leaders are in a position to divert the benefits of certain government programs so as to assist a restricted number of families. These local elites, further strengthened by their contacts with political and administrative elites at the local, state, and national

levels, are able to gain disproportionate advantage from development

programs.

Economic Attitudes and Developmental Change

A third misconception involving rural Malays concerns their willingness to adopt new production processes and technologies and thereby improve their material standard of living. The persistence of traditional practices has convinced many government officers that rural Malays are unwilling to change the ways of the past and are content to live at or near the margin of subsistence. This misconception fits in with the image of the "lazy village Malay" fostered by the British during the colonial period, and has been the focus of an interesting debate among academicians (see, for example, the conflicting views of Parkinson, 1967 and Wilder, 1968).

In any population it is possible to find individuals who exemplify a given stereotype. Among rural Malays one may meet those who claim that as long as they have enough to eat they are happy ("cukup makan, sudah"). This characterization of rural Malays is not accurate. For the most part, rural Malays work hard within the context of their available resources. The fact that they live at or near the margin of subsistence has less to do with indolence or contentedness with their lot in life than with the limited opportunities available to them. This is most clearly illustrated by the case of Malay rubber tappers, who full well understand the increased income possible through replanting with high-yielding rubber trees. Their ability to replant is limited by the lost production entailed in cutting down their existing trees, replanting grants notwithstanding.

Similarly, rice farmers are reluctant to adopt new varieties and production practices due to their limited financial resources. Though the new rice technology promises increased yields, it also entails new risks. Given the small size of most family farms, even optimum yields would not provide income sufficient to maintain a farm family. As a consequence, most farm families in Gong Guncil have adopted a more conservative approach to rice production than that recommended by government extension agents. Rather than invest the majority of their time and working capital in rice production alone, most farm families engage in a multiplicity of economic activities which reduces their dependence upon any single source of income, and indeed provides them with higher incomes than would be possible through rice farming alone.

The decision on whether or not, or to what extent, to adopt a new production process is made on economic terms, but using different criteria than those of the government's development officers. The latter tend to be specialists who focus their attention on only one crop or activity, seeking to obtain optimal results in their particular speciality. The people with whom they work, however, engage in a broader economy in which maximization of income from any one source often results in a loss in other important economic activities, either through constraints on time, land, or available funds. Moreover, where there is a threat of crop loss or other uncertainty in production or marketing, economic specialization leads to unacceptable vulnerability. Diversification of risk and income is a rational economic strategy for most rural Malays.

Far from being resistant to change, rural Malays are inveterate experimentors, and willingly adopt new methods of proven utility. Early in the twentieth century rubber production replaced subsistence farming in areas suitable to cultivation of rubber trees. Indeed, Malay smallholders were so successful in competing with large foreign-owned rubber estates that during the colonial period a number of official policies were established to discourage rural Malays from this endeavor.

Rice farmers constantly are trying new rice varieties, including not only those recommended by extension officers, but those in use by farmers in other areas. For example, occasionally farmers in the Gong Guncil area traveling to Kedah bring back new rice varieties, including those not yet officially released by the government. Demonstration plots planted by government agricultural scientists are carefully observed, and in at least one instance farmers have been known to enter a fenced-in experimental station at night and abscond with the ripened grain of a variety which attracted their attention (M.L. Barnett, personal communication). Malay fishermen also have proven their willingness to change by quickly adopting diesel engines once they became available, thus reducing their dependence on wind power. This enables them to operate at night and to fish farther away from their home villages.

The need to improve levels of productivity in the rural areas is beyond dispute. The knowledge and technology to do so is available. What is lacking is the clear recognition that not all rural Malays are equally able to take advantage of the opportunities provided by the new technologies. This has led to frustration and misunderstanding on the part of government officers, and problems in the design and implementation of development programs.

CHAPTER EIGHT

THE SOCIAL ORGANIZATION
OF DEVELOPMENT

The Importance of Participation

Malaysia's rural development efforts can be characterized as more paternalistic than participatory (see Uphoff and Esman, 1974 and Chee, 1974). Development planners and administrators in Malaysia have adopted a "top-down" approach, assuming that by reason of their superior knowledge and technical skills they are better prepared to chart the course of rural development policies and programs. Many of these government officers are conscientious and bright, and their skills are vital to the success of specific development efforts. This is especially so for more technically demanding projects such as the construction of an irrigation system. Nonetheless, rural development is more than the product of such specialized technical skills. For infrastructural or other developments to fulfill their promise requires the active involvement of the target population, the rural Malays.

In this Chapter it is argued that Malaysia's rural development efforts would benefit by allowing rural Malays to become active participants in rather than passive recipients of development programs. Ideally this participation would include taking part in the planning and implementation of local development projects. This would lead to the tailoring of development efforts to meet local needs and capabilities and would share the responsibility for a project's success or failure between government officers and local residents. For example, rice

farmers are intimately familiar with their land, and their advice should be sought in the design of irrigation facilities not only for technical reasons, but to ensure fair distribution of the water. Similarly, production credit and capital improvement loan schemes should be designed and administered in consultation with local residents, who best understand the needs for such assistance. Moreover, representative local organizations should be given responsibility for approving loan applications and ensuring repayment of outstanding loans.

Involving rural Malays in the planning and implementation of development policies and programs also would facilitate the design of effective extension strategies. Too often extension efforts are designed solely on the basis of research by government agronomists. There is no need to denigrate the importance of such research, but there is a need to improve the communication of research results to farmers and, equally important, to communicate to agricultural scientists the practical constraints faced by farmers. One of the primary advantages of encouraging rural Malays to participate in rural development efforts is the potential for facilitating this two-way flow of information between the rural population and the government's development specialists.

In the context of rural Malay society, it is necessary to channel such participation in an organized manner. Individual farmers and fishermen have little chance to influence the course of development. Government officers are regarded partly with awe and partly with fear by most rural Malays. As individuals, most rural Malays are hesitant in their dealings with government officers and reluctant to voice complaints or offer suggestions. Collectively, however, and through representative

leaders who are less intimidated by government officers, rural Malays have a greater chance of participating in the design and implementation of development programs which affect their daily lives.

The need to organize the rural population has been recognized by the government itself, and it has established a number of organizations. These organizations, however, are tightly controlled by the government and allow for only token participation in planning or overseeing the administration of development programs. Government officers have been reluctant to encourage active popular participation for two reasons: they lack confidence in the ability of the rural population to effectively organize itself and to contribute positively to the process of development; and they fear that once established, local organizations not tightly controlled by the government could become the focal point of opposition groups or political parties.

Farmers' Associations/Cooperatives

Fear of an organized opposition in the rural areas was in fact a major factor in the demise of an organization which briefly held promise of eliciting effective rural participation in development efforts. After several unsuccessful attempts, in 1968 a modified version of Taiwan's Farmers' Associations was adopted in Malaysia. Beginning as a pilot program and expanded at a measured pace, by 1972 over one hundred Farmers' Associations (FAs) had been established. Membership in these FAs was limited to those who received at least half of their total income from farming, a requirement which effectively excluded non-farming landlords and merchants. The day-to-day operation of the FAs was the responsibility of the several government officers assigned to each FA,

including a General Manager and several assistants. This technical staff received their basic instructions from the government, but were advised by a board of directors elected by members of the FA. These boards of directors were influential in establishing local policies, including approving requests for production credit from local members and organizing demonstration plots and other extension activities.

Upon occasion the local boards of directors even arranged for the transfer of those government-appointed staff members who were unacceptable. By 1973, however, the FAs began to be perceived as a political threat, and their continued existence was further clouded by organizational conflicts within the government itself. The FAs had proven to be popular and had elicited a strong response from the farmer members, but their very strength led to their undoing. Rumors circulated within political and administrative circles that the opposition Partai Islam had infiltrated the FAs, and that these increasingly influential organizations could develop into a powerful opposition block. At the same time, within the Ministry of Agriculture, the Department of Cooperatives complained of competition from the FAs. Rural Cooperatives were first established in Malaysia during the 1920's. Membership was open to farmers and non-farmers alike, and these Cooperatives tended to serve the interests of local elites rather than the majority of farmers in the areas in which they operated (see Agarwall, 1965).

The FAs were established in response to the need for organizing farmers for agricultural development, a task to which the existing Cooperatives had proven unsuited. Nonetheless, though both agencies were located within the Ministry of Agriculture, officers of the Department

of Cooperatives fought a vigorous battle against the FAs. Ultimately a compromise solution was adopted under which the FAs and Cooperatives were amalgamated into a separate autonomous federal authority, the Farmers' Organization Authority.

FAs now are known as Farmers' Cooperatives. These Cooperatives have been established throughout the country, but lack the strong participatory character of the early FAs. The rapid expansion of the Farmers' Cooperatives, instead of a carefully designed program of gradual expansion, has contributed to this problem. Staff members and farmers alike need time to develop the skills necessary to encourage active popular participation. For the most part, the boards of directors of the Farmers' Cooperatives serve as sounding boards for decisions made by government officers. No longer are the local boards of directors responsible for deciding which members are eligible for receiving production credit, and partly as a consequence of this, repayment of outstanding loans has become a major problem.

Two other changes have contributed to the decline of the Farmers' Cooperatives. The first is that the membership has been opened to include both active farmers and certain other groups (e.g., landowners) who do not farm but have a vested interest in agriculture. As a consequence of this broadened membership policy, the leaders selected to represent the membership tend to be members of local economic elites. In some cases these leaders effectively represent their membership; in others they do not. A second change that has affected the Farmers' Cooperatives is the separation of the extension service. For the first few years of their existence, the FAs were responsible for extension efforts

within their areas. When the FAs were placed under an autonomous authority, the extension service was retained by the Ministry of Agriculture. While this makes some sense, the removal of this important function from the FAs and Farmers' Cooperatives weakened these organizations.

The history of the FAs, though brief, indicates that, when given the opportunity, farmers are willing and prepared to accept responsibility in planning and implementing development programs which directly affect them. Unfortunately the very success of the FAs proved to be the cause of their demise. Nonetheless, the record is clear that the potential exists for eliciting active popular involvement in development.

Fishermen's Associations/Cooperatives

Inspired by the model of the FAs, Fishermen's Associations were established beginning in 1971 and later renamed Fishermen's Cooperatives. Fishermen's Cooperatives are similar in structure to the Farmers' Cooperatives, with government officers serving as technical staff, and minimal emphasis upon the active participation of fishermen in the design of development programs. Indeed, the primary purpose of these Cooperatives appears to be facilitating the administration of programs implemented by the Department of Fisheries.

To this end a major restructuring of fishing activity has been proposed. Fishermen's Cooperatives are established only at a limited number of major fishing centers, and "it is hoped that these areas will develop into the major centres of fishing activities in the future. Thus the Cooperatives will try to concentrate fishermen within each State

into a few centres" (Department of Fisheries, 1971:2). Once this is accomplished, the efforts of the Department of Fisheries can be focused on these areas. While this will facilitate the work of the Department of Fisheries, concentration of effort on a limited number of major fishing ports will tend to diminish the attention paid to the numerous smaller fishing villages that line the long coastlines of Peninsular Malaysia.

To some extent, this concentration of effort on major fishing centers is necessary. It would be prohibitively expensive to provide ice factories, cold storage facilities and other necessary infrastructure to each of the numerous small fishing villages. In many of these villages the amount of fish landed is too small to merit such expenditure. Yet because most of the programs administered by the Department of Fisheries are channeled through the Fishermen's Cooperatives in one way or another (e.g., fisherman applying for a subsidy are required to be members), there is a danger that limiting the establishment of Fishermen's Cooperatives to a few major fishing centers will make it impossible for many of the most needy fishermen to take advantage of these programs.

Perhaps the most important obstacle to the active participation of fishermen in Fishermen's Cooperatives is the inclusion of "all those who are directly and indirectly involved or engaged in the fishing industry. This includes the middle-men, the merchants dealing with supplies to the industry, the boat-owners, the fishermen proper and others who are engaged in the development and improvement of the fishing industry" (*Ibid.*:3).

The result of this all-inclusive membership policy is that non-fishermen have come to dominate the Cooperatives. This has less to do with active government encouragement of the interests of non-fishermen than with the common tendency among rural Malays, fishermen included, to acquiesce to the selection of local economic and political elites to head formal organizations. These elites typically are better educated and regarded as being better equipped to deal on equal terms with government officials. As discussed above, this same phenomenon was found to be a major reason for the local elites' domination of the original Cooperative Societies. Dominated by government officers and by the local elites, the Fishermen's Cooperatives are regarded by the majority of fishermen as simply another government institution, not an organization which serves their interests or elicits their active participation.

The inclusion of non-fishermen in the Fishermen's Cooperatives perhaps is more serious than the inclusion of non-farmers in Farmers' Cooperatives. As was noted in Chapters Four and Seven, fishing communities tend to be divided by the conflicting interests of fishermen versus buyers, crewmen versus captains, and owners versus non-owners of boats and gears. These conflicting interests are clearly evident in the course of day-to-day activities, and find expression through the ambiguous medium of cash. With such competing interests involved in a fishing economy, and with the inclusion of all of these interests under the umbrella of the Fishermen's Cooperatives, it is unlikely that these organizations will succeed in developing a spirit of cooperation and unity among their members.

There is no doubt that middlemen, merchants, and boat owners who themselves are not fishermen have a role to play in the development of Malaysia's fishing economy. As members of local economic and political elites, however, they are quite capable of looking after their own interests. The majority of fishermen, however, are less capable of exerting their own influence without a representative organization. The present structure of the Fishermen's Cooperatives precludes this possibility and as a result Malaysia's fishermen are deprived of an organized means of participating in the planning and implementation of development programs designed to benefit them.

Village Development Committees

A third organization whose goals include the encouragement of local participation in rural development efforts is the Village Development Committee, or Jawatan-kuasa Kemajuan Kampung (JKKK). Established under the umbrella of the Ministry of Rural Development in 1962, the JKKKs are supposed to be a two-way conduit of communication between development planners and the rural population. On paper it would appear that the JKKKs are organizations with considerable potential for channeling popular participation in development efforts. In practice, however, this ideal has not been met. Few JKKKs ever existed other than on paper, and most of those which at one time had functioned now are dormant. There are a number of reasons for this failure.

The JKKKs were established not only to encourage participation in development, but were designed to strengthen the political position of the UMNO, the ruling political party. Not all villages are unified in support of the UMNO, however, and where political factionalization

exists followers of the opposition parties (usually Partai Islam) perceive the activities of the JKKK as a political threat and refuse to cooperate.

Another problem affecting the JKKKs at the village level is the manner in which the Chairman and the other members of the JKKKs are selected. As was noted above, members of local elites tend to dominate formal positions of leadership even though their interests may not coincide with those of other members of their community. It also is important to note that these formal leaders may not be the most effective local leaders. In some cases their economic interests are widely divergent or in competition with their neighbors (e.g., the headman of Gong Guncil), or their economic interests do not permit active involvement in community affairs (e.g., the headman of Kampung Dusun). In other cases the formal headman may be old and incapable of providing active leadership. If the JKKKs are to be effective organizations they will require responsive local leadership. There is, however, little hope for attracting such leadership to the service of the JKKK (or the Farmers' and Fishermen's Cooperatives) as long as government officers and villagers alike persist in selecting the same people whenever a formal position is to be filled.

The failure of the JKKKs cannot be attributed totally or even primarily to problems of political factionalization or inadequate leadership within the village itself. The main blame for the failure of the JKKKs must rest with the government itself. The goals of the JKKKs are stated so broadly so as to be vague. Unlike the Farmers' or Fishermen's Cooperatives, the JKKKs have no clearly identifiable function which

relates to the every-day concerns of local communities. Moreover, the JKKS are given no resources of their own with which to work, but are dependent upon the government for the technical and financial resources necessary to carry out their projects. These requests for assistance are channelled through the usual bureaucratic maze. When their requests are delayed or refused, many JKKS simply cease to exist.

In the absence of effective local leadership, clearly stated goals, material support, or even official encouragement, the JKKS excite little interest either in rural areas or in government offices. Unfortunately, however, discouragement with the failure of the JKKS carries over to other efforts to encourage popular participation in development. Government officers claim that the experience of the JKKS proves that villagers are incapable of playing an active role and that therefore they themselves must direct the course of development. Villagers, on the other hand, perceive the JKKS as an organization imposed from the outside which never was designed to provide more than a facade of participation in development. Despite the obvious failure of the JKKS there have been repeated public efforts to resuscitate these organizations. None of these efforts, however, has attempted to alter the basic factors responsible for the JKKS' lack of success.

Recommendations

Encourage Popular Participation in Development

Government policy should allow for and encourage greater and more effective participation in development planning and implementation by the rural populace. In the absence both of popular participation and frequent visits to the field by development planners, the two-way

flow of information necessary in the design of development policies and programs is greatly hindered. Great care must be taken in creating local organizations through which such popular participation will be channeled. It is especially important that these organizations be limited in membership to the agriculturists or fishermen themselves and exclude local economic elites who would not represent the interests of the majority. Though it is common practice among rural Malays to select members of these elites to positions of formal leadership, where their participation has been excluded (e.g., the original FAs) the non-elite members of local communities have been able to effectively participate in development efforts.

Abandon or Substantially Strengthen the JKKS

The very failure of the JKKS constitutes both an embarrassment and an obstacle to encouraging active participation in development. The JKKS should either be substantially strengthened or quietly abandoned. If the former alternative is favored, several steps must be taken.

First, the goals and responsibilities of the JKKS must be stated more clearly. This could be accomplished by specifying that JKKS are responsible for supervising the efforts of the various government agencies working in their area. All government projects would be brought to the attention of a JKKS, and the government officers responsible for the project would discuss the project, encourage questions and recommendations, and call for the support of the community as a whole.

Even this level of participation would be an improvement over the existing situation. Ideally, however, the JKKS would initiate

development projects on their own. Yet to do so would require certain skills and resources not commonly available. Unless limited to village clean-up campaigns or other relatively minor activities, most locally-initiated projects will cost at least some money. JKKS control no financial resources, and their requests for assistance usually take months to be answered. It is therefore recommended that, if the JKKS are retained, they be provided with an annual project fund. Alternatively, a project fund could be maintained at the district office from which disbursements could be made with a minimum of red tape.

Strengthen the Farmers' Cooperatives

Farmers' Cooperatives are potentially important organizations which could provide a forum for encouraging popular participation in the development process. To fulfill this promise it is not only necessary for the government to accept and encourage such participation, it also is necessary to broaden the scope of activities of the Farmers' Cooperatives. At present, despite the multi-purpose potential of Farmers' Cooperatives, many of these organizations are engaged primarily in the provision of production credit. To elicit active involvement in the Farmers' Cooperatives it is necessary to expand the range of functions of these organizations.

The provision of production credit has been recognized as an important means of encouraging rice farmers to use adequate chemical fertilization in conjunction with new rice varieties. The use of fertilizer responsive rice varieties, however, introduces a new element of risk for farm families who, in the event of a serious crop loss, would lose not only the expected harvest but their limited operating

capital as well. In the rice farming community of Gong Guncil this risk was found to be a major factor influencing the decision to use less than optimal levels of fertilization. This is so despite the recognition by most farm families that increased use of chemical fertilizers will produce concomitant increases in yields.

To overcome the understandable reluctance of small farmers to risk their limited operating capital, it is recommended that some form of crop insurance be provided. Under such a program those farmers seeking production credit automatically would be enrolled in a crop insurance scheme and pay a small premium. One week after the crop had been transplanted it would be necessary for an extension agent of the lending agency to visit the field, ensuring that the crop was in and that the plants were healthy. The crop insurance policy would take effect at that time. It would be the responsibility of the farm family to notify the lending agency immediately if a problem developed, at which time the extension officer would visit the field and suggest appropriate measures. Farmers would be required to follow these recommendations to maintain their crop insurance, and their efforts could be monitored by the extension agent. If despite reasonable efforts a substantial portion of the crop was lost, the insurance would cover the outstanding production loan. It would be necessary to draw up clear guidelines which defined at what point a farmer's loss would become a payable claim.

The major difficulty of this crop insurance program is at the same time one of its advantages. A greater burden would be placed on the administrative and extension staffs of the lending agency. On the other hand, this scheme would encourage, indeed demand, regular and

purposeful visits to the fields of farmers enrolled in the crop insurance program.

It is suggested that the Farmers' Cooperatives be made responsible for this crop insurance program. This would require a reassignment of duties between the various agencies involved in production credit and extension activities. These recommendations would strengthen the Farmers' Cooperatives and increase their effectiveness. The Farmers' Cooperatives are the primary sources of production credit available to rice farmers. The Agriculture Bank also is involved in the provision of production credit. The Agriculture Bank's Local Credit Centers directly compete with the Farmers' Cooperatives and undercut the position of these Cooperatives.

It is recommended that Local Credit Centers other than the Farmers' Cooperatives (which are considered Local Credit Centers by the Agriculture Bank) be phased out and their participants encouraged to join Farmers' Cooperatives. It is further recommended that the Farmers' Cooperatives assume primary responsibility for the provision of extension services, which presently come under the Department of Agriculture. This arrangement has several advantages.

By limiting the source of production credit to the Farmers' Cooperatives and making these Cooperatives responsible for extension services, the scope of their activities would be increased and they would attract wider participation from the farmers they are supposed to serve. By including a crop insurance program under the aegis of the Farmers' Cooperatives the attraction of these agencies would be further enhanced. At present the activities of the Farmers' Cooperatives are

limited in scope and elicit less than enthusiastic support among the farmers themselves. These organizations are imperfect, primarily because their functions are limited. By expanding the number of important functions and services offered by the Farmers' Cooperatives the popularity and effectiveness of these organizations would be enhanced.

Moreover, by locating production credit, crop insurance and extension services with the Farmers' Cooperatives, there is a greater likelihood of encouraging popular participation in the establishment of local policies. To date the Farmers' Cooperatives have been less than successful in encouraging such participation, partly due to the lack of interest on the part of farmers themselves, and partly due to the tendency of government officers assigned to the Farmers' Cooperatives to run these organizations themselves. The first obstacle to popular participation would be largely overcome as farmers realized the new importance of the Farmers' Cooperatives. Overcoming the second obstacle would require encouraging both government officers and farmers to work together in forming local decisions and policies. This would ensure an exchange of information and ideas which in turn would make the programs of the Farmers' Cooperatives more responsive to the needs of the farmers.

Bringing the farmers into the decision-making process also would facilitate the dispersal of information to farm communities and encourage popular support of the decisions made. Farmers' representatives should sit on committees which review production credit applications and help to assess the workings of the crop insurance scheme, again making these programs more responsive to the needs of the farmers and also taking

part of the onus of unpopular decisions away from the government staff. Where irrigation facilities are available, farmers' representatives should be involved in decisions regarding the timing of irrigation and drainage operations.

Acting individually, farmers have little chance to affect the course of development programs. Collectively, however, in an organization which simultaneously encourages their active participation and is responsible for the provision of a number of important services, they can have a strong and positive effect.

Limit Membership to Fishermen's Cooperatives

Many of the recommendations made regarding the JKKS and the Farmers' Cooperatives are applicable to the Fishermen's Cooperatives. However, two points merit emphasis.

Unlike the JKKS, which suffer from a lack of clearly defined goals, the Fishermen's Cooperatives are hampered by the narrow purpose which they serve. At present, Fishermen's Cooperatives are designed as conduits for government initiated programs rather than to elicit the active participation of fishermen in the design and implementation of these programs. At the very least, decisions such as who receives a subsidy or loan should be made by the Cooperatives' membership on the basis of clearly specified guidelines. Ideally such programs and guidelines should be designed in consultation with the fisherman and their Cooperatives.

Secondly, it is important to note that many, and probably most Fishermen's Cooperatives are dominated by non-fishermen whose interests are not the same as, and often are in direct opposition to, those of

the fishermen. Non-fishermen should be excluded from membership in the Fishermen's Cooperatives.

Conclusion

It is argued here that rural development efforts would benefit from the active participation of the rural population, and that to be effective this participation must be channeled through representative organizations. Three organizations were discussed and found to lack a strong participatory character. This in turn was related to reluctance on the part of the government to encourage the existence of strong rural organizations and the commonly-held belief among government officers that they themselves are better equipped to direct the process of rural development. These organizations are further weakened by the absence of effective and representative local leadership, a problem related to the inclusion of local economic elites in these organizations. It was recommended that membership in Farmers' and Fishermen's Cooperatives be limited to active farmers and fishermen, and that the JKKS be given more clearly defined functions and greater material resources with which to work.

Strong organizations which represent the needs and interests of rural Malays can be established, but only once the government is committed to this goal. Even then, and even if the recommendations included here were followed, these rural organizations would not develop a strong participatory character overnight. It will take time for government officers and villagers alike to adjust to relating to one another on the basis of equality. It also will take time to identify and encourage representative and effective local leaders rather than to

simply elevate members of local elites as leaders of these organizations.

A basic cause of systematic differences between rural Malays engaged in rice farming, fishing, and rubber tapping has been pointed out in this study. The existence of socio-cultural diversity based on differing economic and environmental adaptations must be taken into account in the design of rural development programs. Not all rural Malays have the same organizational experience or leadership roles

as those that were found among the rice farmers of Gong Guncil. The production processes and relationships of fishing and rubber tapping require no comparable organizational forms or leadership roles, and to mobilize the energies of these groups will require greater efforts than among rice farmers. Rice farmers are able to act collectively because there are good and practical reasons why they should. Fishermen and rubber tappers have no comparable needs during the course of their day-to-day activities. This does not mean that fishermen or rubber tappers lack the ability to organize themselves; they will be able to do so if allowed the opportunity to share in the design and implementation of rural development programs which serve their interests -- that is, if there are good and practical reasons for cooperation.

By focusing on production processes and the relationships these processes engender, social scientists can contribute to the design of development policies and programs tailored to the differing needs and capacities of rural populations. It has been shown in this study that a careful analysis of differing economic and environmental adaptations allows for the identification of a systematic source of socio-cultural variation. The comparative framework presented here is

considered useful not only for understanding social and cultural processes, but for its practical application to issues of rural development in Malaysia and, by logical extension, to other developing nations.

APPENDIX I

METHODOLOGY
OF FIELD RESEARCH

A number of different methods were used to collect data for this study. In each of the communities studied, basic census-like information was collected from each family. In each case this was accomplished at the beginning of residence in a community and was the focus of the research effort for the initial months. The questions asked were prepared in advance by drawing up a formal questionnaire. This questionnaire, however, was not directly used during the individual household interviews. Rather the questions, organized in logical blocks, were committed to memory and were raised in a sequence appropriate to each individual interview. (These questionnaires are included in Appendix II.) As a survey technique this approach is flawed, since to ensure comparability questions should be posed in the same order and with the same phrasing in each interview. Because the data collected were not intended to be analyzed strictly as a survey, the approach adopted introduces few problems and has some very real advantages. Following a strict survey approach would structure the interviews in a manner that would force an external logic (that of the interviewer) upon the data collected. By allowing the interview to flow freely, important additional information was collected and relationships that were not included in the original questionnaire were brought to light. Frequently interviews would begin with a general discussion not directly related to the interview agenda, but gradually

the conversation would drift to a topic which was related. From there further questions could be posed and information collected for inclusion on the questionnaire filled in for each family. This was done each evening. Field notes also were typed each evening. This was necessary because the rough field notes included only enough information to refresh my memory when typing up a full set of notes. Small pocket-sized notebooks were used for the initial recording. Although often the fact that I was taking notes could not be ignored, by using small notebooks and writing as little as possible I tried simultaneously to be unobtrusive and to keep my eyes open to what was going on around me. In addition, a personal journal was kept which recorded general observations and feelings.

Typed notes were kept on IBM punch cards which had forty holes punched along the top and bottom. Periodically the typed notes (and their carbon copies) would be reviewed and coded (see Appendix III for the index code) by simply opening the appropriate hole with a card punch. This facilitated retrieval of information on any particular topic as a thin metal bar run through a stack of cards allowed the punched cards to fall out when the metal bar was lifted.

Gradually basic information was collected on all households within the study communities, including number of people resident, their ages, educational background, village of birth, length of time in present village, economic activities, the ownership of land, boats, or nets, number of livestock owned, and sources of income, including income from secondary economic activities. The amount of time necessary to collect this information varied considerably. In some cases an interview of

one or two hours was sufficient; in others conversations ranged widely and several days were necessary before the information required in the questionnaire was complete. Usually the information acquired during these unstructured interviews was both interesting and valuable.

Occasionally, however, the information provided during these interviews was of dubious quality, for example when relatively wealthy families were asked the extent of their land holdings. Often it was possible to verify or correct information by asking certain key informants, people who became close personal friends and who understood the nature and purpose of the information sought. These key informants also were invaluable in providing a depth of understanding concerning community dynamics which greatly facilitated research as a whole.

In addition to these unstructured interviews, data were collected through participant and non-participant observation. Living in the communities studied provided ample opportunity to engage in a wide range of activities, including transplanting and harvesting rice,

tapping and processing rubber, and joining fishermen at sea. Such participation was valuable both in establishing rapport and in gaining a feel for the kinds of work involved. Less active modes of observation, such as sitting in a coffee shop, under a shade tree, or on the front steps of a house, also provided valuable information.

Neighboring villages beyond the immediate study universe also were visited. Though systematic census-like data were not collected, these visits allowed for verification of the representativeness of the communities studied.

Supplementary data also were obtained from various government

agencies operating in the areas studied. Especially valuable was learning what government officers in the field felt were the important constraints affecting implementation of their development projects. The development programs of the Malaysian government give special emphasis to the rural areas, and the impact of these programs has been considerable. Beyond a basic understanding of the government's development efforts, the various local government agencies were able to provide information on a wide range of topics, including plant varieties, yield potentials, and other types of information unavailable on the village level. For the most part, government officers were quite helpful, and in some cases their general knowledge and experience were quite impressive. Even when this was not the case, interaction with government officers was valuable in increasing my understanding of the developmental constraints faced by government officers and villagers alike.

In addition to interviews and discussions with local government officers, extended discussions were held with government officers at the Federal headquarters of various government agencies and with academicians from a number of local universities. These meetings often took the form of research reports from my field work, but active exchange of views and experiences fortunately made the process much more a two-way exchange. Writing field reports and presenting them to knowledgeable and critical (in the constructive sense of the word) audiences encouraged systematic thought about the on-going research and uncovered certain gaps in my understanding or my data. These presentations, as well as more informal discussions, were valuable in maintaining an

analytical spark, an intellectual edge that can be partially lost over long periods of data collection and interaction with people with less highly developed inclinations towards abstraction.

This study is, then, based on a wide mix of field methods. No single strategy could have provided the wealth of data of which this study is but a part. The weaknesses of each particular method were, insofar as possible, countered by the use of another field technique. In this manner systematically collected numerical data were augmented and fleshed out by more general observations collected in the course of daily wanderings. Also of importance was the fact that multiple approaches to the topic at hand kept the effort enjoyable. There was room for exhaustion, but never boredom.

APPENDIX II

QUESTIONNAIRES

The questionnaires presented here were not directly administered during interviews, as noted in Appendix I. The boxes for recording basic census data herein were abbreviated for Mangkok and Kampung Dusun.

Gong Guncil

Date of Interview _____
House Number _____
Section of Village _____

Names of Household Residents	Male or Female	Age	Where born	How Long Here	Literate or Non-lit.	Main Occupation

- I. 1. How many people live in this house? _____
 2. How many children are in school? _____
 3. How many children have already married? _____
 4. If any children are employed, what do they do? _____
5. If any children live outside of the village, where do they live?
 6. Do you receive money or other material support from these children or from other relatives, and if so, how much?
- II. 7. How many acres of rice do you plant?
 8. Of this, how many acres do you own?
 9. In whose name is the land registered?
 10. How many acres of land do you sharecrop?
 11. How many acres of land do you rent?
 12. If you rent land, how much per acre per season?
 13. If you sharecrop, under what system?
 14. If you sharecrop, is the owner of the land related to you?

<p>III.</p> <p>15. How many members of this household help in cultivating rice?</p> <p>16. Do you customarily or regularly hire help to transplant or harvest?</p> <p>17. Have you used pinjam orang for transplanting or harvesting within the last five years?</p> <p>18. Have you used tolong-menolong for transplanting or harvesting within the last five years?</p> <p>19. If you have hired help or used tolong-menolong, are these people kinsmen or not?</p> <p>20. Do you customarily or regularly hire help for harvest?</p>	<p>IV.</p> <p>21. Is your land plowed with tractor or water buffalo?</p> <p>22. If tractor, whose tractor do you hire?</p> <p>23. If water buffalo, is the animal yours?</p> <p>24. What type of rice did you plant during the main season of 1976-77?</p> <p>25. What type of rice did you plant during the off season of 1977?</p> <p>26. Is all of your land planted twice a year?</p> <p>27. If you are double cropping, for how long have you been doing so?</p> <p>28. If you are planting only once a year, why?</p> <p>29. Do you harvest enough rice for household consumption needs?</p> <p>30. Do you harvest enough rice to sell a surplus, and if so, how much do you customarily sell per season?</p> <p>31. Do you use chemical fertilizers?</p> <p>32. If so, how many bags and what kind per acre?</p> <p>33. Where do you buy this fertilizer?</p> <p>34. How much money do you spend for fertilizer per season?</p> <p>35. Do you buy this fertilizer directly or obtain production credit?</p> <p>36. Are you a member of the Farmers' Cooperative?</p> <p>37. Are you a member of any other local organizations?</p>	<p>V.</p> <p>44. Are the trees recently replanted with high yielding materials?</p> <p>45. Where is the latex processed?</p> <p>46. Where is the rubber sold?</p> <p>47. Who sells the rubber?</p>	<p>VI.</p> <p>48. Do you own either village or orchard land, and if so how many acres?</p> <p>49. In whose name is this land registered?</p> <p>50. During fruit season, do you have enough fruit to sell?</p> <p>If so, how much do you earn per season?</p> <p>51. Do you raise any cattle or water buffalo, and if so how many head?</p> <p>52. Do you raise any goats, and if so how many?</p> <p>53. How many chickens and ducks do you raise?</p> <p>54. Do you have any other sources of income, such as employment with the government, pensions, or involvement in a service occupation?</p>	<p>VII.</p> <p>55. If you own land, did you inherit or buy this land?</p> <p>House Plot _____ Orchard Land _____ Rice Land _____ Rubber Land _____</p>	<p>VIII.</p> <p>Remarks, additional comments</p>
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Mangkok
 Section of Village _____ Date of Interview _____ House Number _____
 Names of Household Residents Male or Female Age Where born? How literate Main Occupation
 Non-lit. Here

1. Do any members of this household customarily seek employment outside of the village? _____
2. If so, who, where, and how often? _____
3. How many people live in this house? _____
4. How many children are in school? _____
5. How many children have already married? _____
6. If any children are employed, what do they do? _____
7. If any children live outside of the village, where do they live? _____
8. Do you receive money or other material support from these children or from other relatives, and if so, how much? _____
9. Do you own your own boat; own a boat in partnership? _____
10. Particulars of boat(s) owned.

Boat No.	H.P. new or used?	Bought No. of years used?	Bought with cash?	Out-standing debt?	Length of boat	Boat style	

11. Do you own any fishing nets either individually or in partnership with others? _____
12. Particulars of net(s) owned.

Type of net	Bought new or used?	No. of years used?	Bought with cash?	Out-standing debt?	Length of net	Who uses net?	

13. Over the past twelve months, what kind of gears have you operated at sea? _____
14. Over the past twelve months, what is the highest income you received for any one fishing period (kelam)? _____
15. Over the past twelve months, what is the lowest income you received for any one fishing period (kelam)? _____
16. Does your wife or do any of your daughters work in bangsal bili? _____

Rice

17. If you plant rice, how many acres? _____
18. Who owns the land? _____
19. If owned by other than yourself, is the owner a kinsman? _____
20. Where is this rice land located? _____
21. If the land is owned by someone else, is the land rented or sharecropped? _____
22. If the land is rented, how much is charged? _____
23. If the land is sharecropped, under what system? _____
24. Does the rice harvest provide all of your household's consumption needs? _____
25. How much rice do you bring home per year? _____

Livestock

26. Of the following animals, which do you own, and how many?

Cattle	_____
Water buffalo	_____
Goats	_____
Chickens	_____
Ducks	_____
Others	_____

Land and Resources of the Land

27. How many acres of village land do you own? _____
28. In whose name is this land registered? _____
29. How many coconut trees do you own? _____
30. Do you harvest enough coconuts to sell? Do you harvest only enough for household consumption? Or do you have to buy coconuts for household use? _____
31. If you sell coconuts, approximately how many per year? _____
32. Did you purchase or inherit the land upon which your house is located? _____
33. Did you purchase or inherit land planted with coconuts? _____
34. If you own either rice or rubber land, did you buy or inherit this land? _____

Remarks, additional comments

Kampung Dusun

Section of Village _____ Date of Interview _____ House Number _____

Ownership of Other Land

28. Do you own either village or orchard land, and if so, how many acres?
 29. In whose name is this land registered?
 30. During fruit season, do you have enough fruit to sell?
 31. If so, how much do you earn from the sale of fruit per year?

1. How many people live in this house?
 2. How many children are in school?
 3. How many children have already married?
 4. If any children are employed, what do they do?
 5. If any children live outside of the village, where do they live?
 6. Do you receive money or other material support from these children or from other relatives, and if so, how much?

Rubber

7. If you own rubber land, how many acres?
 8. In whose name is this land registered?
 9. Who taps this land?
 10. If you sharetap land owned by others, how many acres do you tap?
 11. If you sharetap, who owns the land; is this person a kinsman?
 12. If you tap your own land, how many acres do you tap?
 13. If you employ a sharetapper, is this person a kinsman?
 14. How many kati of rubber is produced each day?
 15. In what form is this rubber sold?
 16. Where is the rubber sold?
 17. Who sells the rubber?
 18. Are the trees which you own and/or tap high yielding varieties?

Rice

Rice

19. How many acres of rice do you plant?
 20. Of this, how many acres do you own?
 21. In whose name is the land registered?
 22. How many acres of land do you sharecrop?
 23. How many acres of land do you rent?
 24. If you sharecrop, under what system?
 25. If you rent land, how much per acre per season?
 26. If you sharecrop or rent, is the owner of the land related to you?
 27. How many members of this household help in cultivating rice?

Livestock

32. Do you raise any cattle or water buffalo, and if so, how many head?
 33. Do you raise any goats, and if so how many?
 34. How many chickens and ducks do you raise?

Inheritance

35. If you own land, did you inherit or buy this land?
 House Plot _____
 Orchard land _____
 Rice land _____
 Rubber land _____

Other Sources of Income

36. What other sources of income do you have (employment outside of village, involvement in service occupations, etc.)?
 Remarks, additional comments

APPENDIX III

INDEX CODE USED FOR FIELD NOTES

The following index code was used for organizing data which were typed onto IBM cards. These cards had a total of eighty holes along the top and bottom. Initially only sixty holes were assigned; as field work progressed the remaining twenty holes were used. The manner of data retrieval from these cards is discussed in Appendix X.

The Index Code

1. Local history and culture change
2. Immigration, migration, population change, and labor supply
3. Aquisition and relinquishment of property
4. Marriage and divorce
5. Adoption and fictive kinship
6. Family structure
7. Friendship, hospitality, and visiting
8. Small-scale reciprocal labor exchange (tolong-menolong)
9. Large-scale reciprocal labor exchange (gotong-rotyong)
10. Large-scale reciprocal labor exchange (pinjam orang)
11. Hired labor
12. Organization of labor for transplanting
13. Organization of labor for harvest
14. Land preparation
15. Agricultural machinery, tools, and other implements
16. Chemical inputs (fertilizers, insecticides, weedicides) and costs
17. Production credit and repayment
18. Farmers' Association and Cooperatives; Fishermen's Cooperatives
19. Dealing with government agencies
20. Government research, development, and extension activities
21. Traditional agricultural practices and rice varieties
22. Sharecropping arrangements
23. Fixed rents of land
24. Pajak and gadai, lending and borrowing, indebtedness
25. Marketing of production
26. Fish buyers and other middlemen
27. Organization of labor for rubber tapping
28. Organization of labor for fishing crews (bot)
29. Organization of labor for fishing crews (kapal)
30. Economic specialization
31. Roles of women in economy and society
32. Hunting and gathering
33. Vegetable and fruit production
34. Tobacco production
35. Livestock and poultry
36. Local industries
37. Retail shops and businesses
38. Service occupations and working outside the village
39. Buying and selling by small-scale entrepreneurs
40. Case study materials
41. Social status and prestige
42. Influence and power
43. Age stratification, aging, problems of adolescence

- 44. Economic stratification
- 45. Local headman and other leadership roles
- 46. Local committees (JKKK, etc.)
- 47. Political parties
- 48. Social welfare organization, government and private
- 49. Education
- 50. Socialization of cultural norms, skills, beliefs
- 51. Ceremonies and rites of passage
- 52. Radio, newspapers, and other sources of information
- 53. Entertainment
- 54. Fine Arts
- 55. Religion and belief systems
- 56. Zakat and fitrah
- 57. Inter-community and ethnic relations
- 58. Police
- 59. Social control and mediation of disputes
- 60. Nutrition, sickness, death, injury, and health
- 61. Advantages of single versus double cropping of rice
- 62. Factors limiting production
- 63. Irrigation systems
- 64. Partnerships
- 65. Coconut production, consumption, and processing
- 66. Agroeconomic information from government sources
- 67. Miscellaneous cooperative activities
- 68. Storage of rice
- 69. Vagaries of weather and the seasonality of production
- 70. Boat owners, boat captains, and crewmen
- 71. Shared ownership of boats and nets
- 72. Distribution of the catch
- 73. Traditional fishing techniques and fishing lore
- 74. Technical innovations
- 75. Beach economy, drying fish and prawns
- 76. Types of boats and gears, and maintenance thereof
- 77. Consumption needs of households
- 78. Cheating
- 79. Methodology of field work
- 80. Miscellaneous observations

GLOSSARY

- Alor: A low-lying natural drainage channel of importance for draining rice fields and as wallowing grounds for water buffalo.
- Ani-ani: The small hand-scythe used for harvesting traditional rice varieties, more commonly known in Malaysia as the ketam.
- Ayer jernih: Literally "clear water," used here to refer to the calm and clear seas between the Northeast and Southwest monsoons.
- Ayer keroh: Literally "turbid water," used here to refer to the turbid conditions of the sea during the Northeast monsoon when the water contains high levels of suspended matter.
- Bagi dua: Literally "equal division," a system of sharecropping used by both rice farmers and rubber tappers whereby both owners and tenants equally share the production.
- Bagi tiga: A sharecropping system used by rice farmers which divides the production into three parts, one part each going to the owner and the tenant, and the third part going to whichever party pays for production costs (e.g., fertilizers, etc.).
- Bahagian bawa: The extra share of the catch which a boat captain earns for the added work and responsibility of managing the boat and net and selling the catch. In Mangkok, this extra share amounts to twenty percent of the owner's share.
- Bangsai bilis: The processing shed where small prawns, anchovies, and other fish are processed and dried; located near the beach.
- Belachan: A thick paste of prawns and salt used as a spice in cooking, or eaten as a condiment together with rice.
- Berdebau: A form of labor organization whereby a group of women hire themselves out as a group to transplant rice; most common in Kedah.
- Beris: A sandy soil type common near the coast, especially on the East Coast of Peninsular Malaysia, and of limited agricultural potential.
- Bilal: A mosque official who gives the Friday call to prayer.
- Borong: A form of auction used for selling fish whereby the seller starts with a high price, gradually lowering this price until it is acceptable to one of the buyers.
- Cabut semai: The pulling of rice seedlings from the seedbed before transplanting.
- Cedung: The transplanting of rice seedlings from seedbed to field.
- Dagangan: Intermediate buyer who assures fishermen of a final buyer and for this and other services obtains a part of the sale as a commission. Rarely used in the Mangkok area.
- Durian: A large fruit with a spine-covered skin whose unique taste is highly prized by most Malaysians.
- Dusun: Literally means "orchard."
- Gadai: A form of lease whereby the leaseholder retains use of the land that serves as collateral until the sum of money advanced to the owner is repaid.
- Gantang: A volumetric unit equivalent to one Imperial gallon (1.2 U.S. gallons).
- Gelam: A type of tree (Melaleuca leucadendron) found on poorly drained coastal soils and used primarily for making charcoal.

Gemai: A bundle of rice formed after harvesting a traditional rice variety. The grain is left on the panicle and the panicles are tied together with rice straw.

Hari: The honorific title of a man who has made the pilgrimage to Mecca.

Hajjah: The honorific title given to a woman who has made the pilgrimage to Mecca.

Ikan bilis: The anchovy, of which several species are recognized.

Imam: The leader of the congregation at a Muslim mosque, and the top official of the mosque. In Malaysia, imam's are confirmed in their position and paid a small salary by the government.

Jala: A type of circular net cast by one person. The net is weighted by lead sinkers and is normally used close to the shore.

Jerengang: This term refers to boat captains of small fishing boats. Kati: A measure of weight equal to 1.33 pounds.

Kawah: A large cooking pot with sides which slope to a deep center, like a "wok." Kawah are used for preparation of food for feasts and for the cooking of anchovies and trash fish in bangsal bilis.

Kebun getah: This term literally means "rubber stand."

Kelam: The term used to refer to a fishing period, and literally meaning dark or obscure. A kelam usually includes approximately twenty nights of fishing; only when the moon is at its brightest does fishing cease. Occasionally if rough seas break up a fishing period there may be two or more kelam per lunar month.

Kesin: The rice bug (Leptocoris acuta), the most serious insect pest in the Gong Guncil area up to and through the period of research.

Keping: Used here to refer to rice land within bunds which control water in the rice fields. There may be as many as seven or eight keping per acre.

Kerut: A type of sedge (Scirpus mucronatus) found in coastal swamps. The long slender leaves are collected, pounded, and woven into mats and baskets.

Ketam: A small hand-scythe used for harvesting traditional rice varieties. Ketua kampung: The formal village headman, usually a government recognized position.

Ketua pinjam orang: Leader and organizer of cooperative labor groups; see pinjam orang.

Kolek: A small boat powered by sail or paddle and usually capable of carrying one or two fishermen. Now for the most part displaced by powered boats.

Kongsi: A partnership or cooperative association. The word is of Chinese origin, and most commonly used on the East Coast of Peninsular Malaysia to refer to joint ownership of boats and nets.

Madrassa: A typically small building for religious instruction and worship.

Mas kahwin: Literally "wedding gold," the bride-price paid by the groom. Nipah: A type of palm (Nipa fruticans) used for a wide variety of purposes, most notably as roofing material.

Padi: This is the origin of the English word paddy, or unmilled rice. Pajak: A form of lease whereby the leaseholder pays a landowner in return for use of land, usually for several years at a time.

Pantat potong: This term refers to the "square-sterned" boats most commonly used in the Mangkok area.

Partai Islam: Literally, the "Islamic Party," the most important competitor of the ruling UMINO.

Pawah: A term which refers to the arrangement between owner of a cow and the person who takes over responsibility of raising and feeding the animal. The latter party thus obtains a half-share in the ensuing progeny, and in this way may begin to increase his own herd.

Penghulu: A government official who acts as headman of a sub-district.

Perahu: A general term used for various small boats powered by sail or paddle.

Pikul: A measure of weight equivalent to 133.33 pounds.

Piriam orang: Literally "borrow people," this term refers to a type of reciprocal labor exchange whereby a farm family may mobilize a large number of helpers for one afternoon, usually to help with transplanting.

Praih moto: Operators of small motorcycles who buy fish from fishermen and sell this fish in other villages.

Praih van: Fish buyers who operate on a larger scale than the praih moto, transporting the fish they purchase to urban markets in small pick-up trucks.

Pukat dalam: A type of net used to encircle schools of fish which are then frightened and become enmeshed in the net when they attempt to swim out of the trap.

Pukat hanjut: Literally the "drift net," this net is the most common in Mangkok. The net is as long as 1,000 yards and typically has mesh sizes ranging from 2½ to three inches.

Pukat hijau: A type of drift net with a larger mesh size than the pukat hanjut (usually four inches). This net takes its name from the typically green coloration of the netting; also known as the pukat tenggiri.

Pukat jerit bilis: A purse-seine net used to capture anchovies.

Pukat jerit udang baring: A small purse-seine net used to capture the small prawn known as udang baring.

Pukat kilat: A large purse-seine net which uses a powered winch to close the "purse" at the bottom of the net.

Pukat kokoh: A small trawl net towed behind boats powered by small diesel engines of six to eight horsepower and used to capture trash fish.

Pukat tandok: A lift net previously used by fishermen in the Mangkok area.

Pukat tansi: A drift net made of clear monofilament nylon. In Mangkok this net recently was adopted for use during and immediately after the Northeast monsoon. Unlike the pukat hanjut, which hangs just below the surface, the bottom edge of the pukat tansi is weighted with lead sinkers and drifts at the bottom.

Pukat tenggiri: A synonym for the pukat hijau.

Pukat tiga lapis: A small net used to capture large marine prawns. The name (tiga lapis) indicates that this net has three different mesh sizes.

- Pukul padi: Literally "striking paddy," or threshing rice.
- Raga: The large baskets of woven split bamboo used for hauling fish and udang baring.
- Rambutan: A fruit (*Nephelium lappaceum*) whose outer skin is covered with hair-like follicles. The skin is usually red when ripe, though there also are yellow varieties. The flesh is soft and juicy and there is a large pit in the center.
- Belong: A unit of areal measurement equivalent to seven-tenths of one acre.
- Remis: A small edible bivalve shellfish found along the coast.
- Ru: The casuarina tree (*Casuarina equisetifolia*), which grows along Malaysia's coastlines.
- Rumah padi: The "rice house" or grainery used for storing unmilled rice. It is usually a separate structure from the family's house.
- Sauk: A scoop net used by one person to capture small fish in the shallow waters along the coast.
- Sekelam: One fishing period; see kelam.
- Semoh bendang: A propitiatory rite in the past used to ensure a good harvest of rice.
- Sireh: The betel vine (*Piper betle*) which is eaten together with the areca nut.
- Surey: A building devoted to religious meetings and worship by Muslims, but which is smaller than a mosque.
- Rajak: A large and heavy tool somewhere between a hoe and a scythe used for preparing weedy and waterlogged soils for rice cultivation.
- Tanah dusun: Literally "orchard land."
- Tanah kampung: Literally "village land," this term refers to land around a family's house upon which typically there are planted a number of fruit trees and vegetables.
- Tanah Padi: Literally "rice land."
- Teksi: A colloquial term used on the East Coast for pedicab.
- Tolong-menolong: A form of reciprocal labor exchange which typically is used to mobilize a few friends and kinsmen (e.g., for transplanting rice).
- Tuai: A synonym for the ketam.
- Tuntong: A type of large river turtle (*Callagur picta*).
- Udang baring: A type of small prawn used for making belachan or which are dried and sold.
- Unting: A bundle of rice seedlings; 400 unting are enough to transplant one acre.
- Upah: The term for wage labor or piece-rate work.
- Walaf: This refers to the roadside shelters which are especially prevalent on the East Coast.
- Wayang kulit: The "shadow play" which uses puppets behind an illuminated screen. Stories often are based on the Hindu epics of the Mahabaratha and Ramayana, but with local embellishments.

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