SOCIAL AMENITIES AND THE QUALITY OF LIFE IN SQUATTER AREAS OF KUALA LUMPUR: SOME PRELIMINARY FINDINGS.

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Introductions

The work discussed in this paper was undertaken as part of Project Ecoville, - an international research programme on the economy and ecology of cities. The Malaysian parts of Project Ecoville are co-ordinated at Institut Pengajian Tinggi, Universiti Malaya (Yip Y.S. and Low K.S. 1985). Our particular research project had as its primary objective an examination of water resources in Kuala Lumpur squatter settlements and the connected social, physical and environmental problems arising from access and use. We stress that this paper offers only preliminary findings and thus only tentative conclusions, but hope nonetheless that these can make a useful contribution to the Seminar proceedings, - not least because they indicate the important part played by social amenities in determining the quality of life over and above basic needs.

The paper will be in three parts. The first will look at the general social and economic situation of the squatters as illustrated in research literature and elsewhere. The second part will discuss water resources generally and our findings in some detail; whilst thirdly we will conclude by relating these to the issue of quality of life and what the implications might be for policy.

Any attempt to assess or discuss the quality of life of any individual or group of people must necessarily address a wide range of social, economic, physical, environmental and administrative issues. We assume that part of the work of this Seminar will be to produce a definition of what constitutes 'quality of life' and thus we do not attempt one; nonetheless, we acknowledge that any definition must take account of the subjective nature of an individual's or group's perceptions of their situation relative to that of others. Thus any definition that ignores concepts such as relative deprivation will be incomplete. This subjective dimension puts limitations on the effectiveness of various forms of measurement. Such limitations are most commonly discussed in the context of measurements of poverty rather than where physical factors

are concerned. Such discussions focus/the unsatisfactory nature of the 'subsistance minimum' or the 'poverty line' as a measure (for example Able-Smith and Townsend 1966; Townsend 1978; Yusof Z.A., Yusof K. and Siti Norizan Zulkifli 1984) and are relevant in this context also. We would hope that any definition of quality of life would draw both on 'objective' physical and social indicators, - such as degree of atmospheric pollution or level of income - unsatisfactory those these may sometimes be, and on subjective indicators which are perhaps most clearly revealed by allowing people to speak for themselves. To adopt, in fact, a holistic approach to definition that utilises both quantitative and qualitative evidence.

I

Within the parameters of these provisions, there would seem to be a general agreement that the quality of life in squatter settlements leaves much to be desired. The Kuala Lumpur Draft Structure Plan, for example has as its long term objective the elimination of all such settlements.

'.... because of their unplanned, unsanitary and congested conditions, the squatter settlements are regarded to be inappropriate in the urban modern setting.' (Pus)

Squatting and spontaneous settlements are characteristic of all the large cities of the world. Northern cities, no less than those of the underdeveloped south experience this problem. Whilst it is true that the bidonvilles of Paris are not as extensive as the favellas of Brazillia there are close similarities in structure and in the income characteristics of the inhabitatants. In London the number of people officially recognised as 'homeless' runs into tens of thousands. The numbers squatting illegally or who constitute the 'hidden homeless' cannot be accurately assessed but their numbers are believed to be far greater (Burke 1981). In the majority of cases civic authorities all over the world adopt the same strategies, - they provide basic amenities in the short-term whilst maintaining that squatting is a temporary phenomenon in the process of being abolished.

Despite the internationality of squatting however, the size and scale of the phenomenon is far greater in the Third World. This reflects the rapid and dramatic increase in the growth of cities due to rural urban migrations plus increases in fertility (World Bank 1980). In some cities - Bogota, Lagos, Cairo, Bangkok, Bombay for example - more than a million people live in illegally developed settlements. In Manila a 1978 report suggested that there were 328,000 squatter families - a population of close to two million - living in 415 cities in the urban region. Smaller cities have similar settlements: Nairobi, Freetown, Colombo, Lusaka have between 30 - 75% of their populations living on illegally occupied or subdivided land (McAuslan 1985). In Kuala Lumpur the squatter populations was estimated in 1984 to be 243,000 persons comprising 48,709 households living in 177 settlements (KLDB). It is estimated that by 2000 half of the population of the Federal Territory will be squatters.

'Land - its use, abuse, control and ownership - is the central problem of the world city. Neither capitalist nor socialist societies have solved the problem resulting from competition over land; in both societies some people continue to grow wealthy through their control of land while lack of land keeps others poor' (McAuslan 1985.P13)

Much of this competition for land has its historic rootsin colonialism, in Malaysia as elsewhere, as Azizah Kassim has pointed out. The concept of a squatting, - of illegal occupation of land whether alienated or unalienated - was a foreign one to Malay society until the introduction of British land law and administration in the late 19th century. The initial squatters were Chinese mines workers and numbers fluctuated with the fluctuations in the economy. After independence however there was a mass migration into Kuala Lumpur from the rural areas which rapidly led to a breakdown in the urban infrastructure. Since then numbers have grown consistently, see Table 1. There have been two forms of growth of the settlements. In the first form small, but interrelated, groups of people quickly and quietly settled vacant land. Each group had its own plan of action and kin and friends helped each other to quickly erect dwellings and to establish a settlement before the civic authorities were aware of them. The second form of land occupation which began to occur from the 1970's and 1980's, was planned and organised not by the homeless but by people or individuals who hoped to gain financially or politically or both. Azizah Kassim has described one such settlement built by a group of army officers about to retire. This form of 'organised' squatting closely resembles that which often takes place in Latin American countries

POPULATION GROWTH IN KUALA LUMPUR WITH RACIAL COMPOSITION AND DENSITY 1891-1980

Total	19,020	32,381	46,718	80,424	111,419	175,961	316,239	451,977	601,613	1,072,006
Others Number & %	393	1,038	2,272	3,651	7,378	10,672	19,286	6,336	5,938	15.6%
Indians Number & %	2,367	4,435	9,068	20,889	25,342	31,607	53,506	83,349	97,596	167,728
Chinese Number & %	13,927	23,181 71.6%	31,152 66.7%	48,587	67,929	111,693	195,832 62.0%	249,566 55.2%	353,381	601,261
Malays Number %	2,333	3,727	4,226	7,297	10,769	21,989	47,615	112,726 25.0%	144,598 24.0%	303,017
Density Per Sq. Mile	2,377	4,048	5,840	4,731	6,554	9,776	8,784	2,555	6,400	11,404
iles)	Φ	0	8	17	17	18	36	36	94	94
Year	1891	1901	1911	1921	1931	1947	1957	1970	1974	1980

& Dewan Bandaraya Population (Note: Indians & others figures for 1980 combined). Adapted from Amato, P.W. (1976); Lau Lee Ching (1980) Statistics for 1980. Sources:

Let: Azizul Kassin (1985.) Politius of Accommodat

Perpustakaan Undang-Undang

notably Peru (Ray 1969). Both forms of settlement adopted similar types of dwelling, - wooden walls, corrugated iron roofs and the dwelling raised up on piles, - these tended to be scattered in an unplanned manner and were/are generally lacking or deficient in amenities, facilities and basic physical infrastructure.

The basic model for squatter dwellings is that of the rural Malay kampung houses; when perched in the interstices of the city however the degree of congestion and lack of amenities may give the impression of shanty town slums occupied by very poor people. That these settlements are sometimes hidden behind gaily painted hoardings and fences reinforces this image. Official findings add emphasis, for example the Kuala Lumpur Draft Structure Plan indicates the larger number of persons per dwelling unit in the squatments than in the Federal Territory as a whole, - 5.9 persons per dwelling as against 5.5. However, approximately 30% of squatter dwellings have only one bedroom; 32% have two bedrooms, 21% have three bedrooms and only 7% have more than four. Squatters do not regard housing extension, repair or letting as 'illegal' activities, and breaking urban housing regulations is not seen as an offence (Azizah Kassim 1985). However, the high number of single bedroom dwellings would seem to testify to lack of means for extension building since 76% of squatter households are 'owner occupiers'. Furthermore, 91% of all squatter dwellings have wooden walls, and the Kuala Lumpur Plan estimates, that out of the total squatter dwellings 78.6% can be classified as 'old' and 2% as 'dilapidated'.

Khairuddin Yusof and Azizah Kassim, query this image of very poor and marginal people. They point to the heterogeneity of the squatter settlements, indeed one survey found that 4.4% of squatters were in social class I, i.e. professional groups such as architects, engineers, doctors and senior civil servants (Khairuddin Yusof 1984). The majority of squatters were/are low income earners however, and poverty (by various measures) exists; yet despite this the people of the squatter settlements could not be described as 'marginal'. The work they did, - as factory workers, bus and taxi drivers, construction workers or hawkers - was essential to the functioning and the quality of life in Kuala Lumpur. Nonetheless, as squatters they were underpriviledged and deprived in terms of social amenities most particularly with regard to water supply, sanitation and garbage disposal. It was these aspects of urban deprivation that we wish to examine in our research on squatters.

The availability of fresh clean water is a basic human need. The means by which this need is met also provides a simple indicator of life quality as well as a context within which to locate disucssion of wider issues in the area. Such disucssion can provide insights into the multidimensional and sometimes contradictory factors that together contribute to the 'quality of life' debate.

The Water Supply Survey

The primary objective of our research was to examine water resources in the Kuala Lumpur squatments. The Kuala Lumpur Dewan Bandaraya provides stand-pipes as a short term objective to improve general amenities whilst working towards the long term objective of integrating the squatters into the rest of the community of the Federal Territory' (Kuala Lumpur Draft Plan pp 118-119). The utilisation and use patterns of this provision had not previously been examined at any other than a most general level. wished also to investigate problems and issues connected with water supply and use, such as possible difficulties of access, patterns of health and illness and the wider environmental health issues of sanitation and garbage disposal. In view of our limited resources we decided upon a short questionaire survey, but one with many 'open ended' questions that would allow respondents an opportunity to speak as fully as possible. This way we hoped to avoid the worst superficialities of the 'quick-in-and-out' survey method rightly castigated by Khairuddin Yusof VISIS Poverty Conference 1986) whilst acknowledging the lack of in-depth evidence that could be gained through long term qualitative or anthropoligical work. We felt that if this survey yielded any degree of useful information it would justify our extending the work on a more comprehensive basis.

We chose to survey four Malay squatter kampungs. We hoped to obtain a sample of fifty respondents in each kampung giving an overall sample population of two hundred. This would allow us to draw reasonably valid statistical conclusions without loosing sight of the respondents own viewpoints. Since, of the 177 KL squatments all save 29 are mono-ethnic, the choice of one ethnic group reflected this and enabled comparisons between

the survey kampungs to be made. 32.8% of the Kuala Lumpur squatments are Malay, the majority are Chinese (42.9%), but, since many researchers previously have found the problems of information gathering from Chinese squatters 'intractable' we preferred to draw upon the skills and experience of two of the team members who had already done extensive survey work in Malay kampungs.

We asked respondents where they got their water from, whether they had any problems getting it; what they used water for: what they did with their rubbish; and where they went to the toilet. We questioned them about what illnesses they and their families had had during the past month. In addition, we asked a range of socia-economic questions about the squatter household, to enable us to build a social profile we could compare with that found by other researchers. We choose specifically to interview women. There were two reasons for this, - firstly it is the women who have the task of maintaining family health and hygience and who bear most of the burdens this task involves. Secondly, we were concerned to limit social distance and establish rapport between interviewer and respondent both in order to obtain full responses to our questions and in view of the difficulties some researchers have experienced in the past. Thus our interviewers were also all women, predominantly Malay. Our interviews were conducted by 2nd Year Anthroplogy/Sociology students from Universit Malaya. We gratefully acknowledge their help and also the helpful reception they were given by respondents in the four kampungs. Fieldwork took place in October 1985.

As with other Kuala Lumpur squatter settlements, the four kampungs were highly unified, cohesive, and politically organised. Each had a Ketua Kampung and a Kampung Committee. During fieldwork at each kampung, whilst the interviews were taking place, the four members of the research team would call upon the Ketua Kampung and discuss the project with him, and in one instance with members of the committee also. All were interested, helpful and encouraging. Such interest reflects, we feel, the fact that water is perceived as an important amenity by the squatters, the part it plays in maintaining the quality of life and people's concern to live cleanly and decently despite low income or adverse circumstances.

The follow-up survey

We were offered an opportunity to extend our study, when, following very heavy rains on 12th December 1985, two of our surveyed kampungs

flooded and a third suffered a water-caused landslide. Two members of the team visited these kampungs the following day and were greeted by respondents drying flood damaged bedding and household goods. Many pointed out to us the level of flood waters had reached. The severity of the flooding had such clear environmental health implications that we decided to do a follow-up survey of the same respondents to examine these. We delayed fieldwork until 11th January 1986 to allow an incubation period for possible flood-related illnesses. We did not survey the fourth, unflooded, kampung. Out of a potential sample of 150 we obtained 121 responses, using the same interviewers. We are sufficiently encouraged by this, to hope to return.

The Survey Squatments

Kuala Lumpur squatter settlements are far from being environmentally homogeneous. The physical locations and thus the nature of the kampungs differ markedly. Our four surveyed kampungs were typical examples of this.

Kampung A. Located in the north-east of the city towards Ampang, this kampung was densely packed wedge tucked in a hollow behing 'ordinary' streets and houses and between a mine pool and built up hill. It was this that suffered the landslide. Even before the heavy rains drainage was bad with the central area of the kampung acting as a sump. A stream ran through the middle over which many households had built their toilets. Overcrowding, both of dwellings and households, was considerable. Following the rains the Dewan Bandaraya evacuated several families whose homes were endangered by the landslip, and subsequently evacuated several more. They were rehoused in low cost flats in the Cheras district and their kampung homes demolished. Thus, by the time we did our follow-up there was a large derelict open space in the centre of the kampung awash with planks and the debris of demolished dwellings.

Kampung B was nearby, but across the Kelang river. Here there was far less overcrowding and much more space between the dwellings. There were broad tracks leading through and into the kampung and many shrubs and mature trees between the dwellings. This kampung was badly flooded in

its lower lying areas. This kampung was particularly unified and had acted collectively to enhance the quality of life with regard to one important social amenity, - electricity. 280 of the 400 hundred households in the kampung had raised \$250 each towards the cost of renting a new electricity generator. In addition they pay \$42 per month towards running costs. As more households save the necessary monies so the schemes can be expanded. This action was planned within the kampung and the Ketua Kampung then approached the Electrical Company.

Kampung C. This was to the south-west of the city lying between the Old Klang Road and the river. This kampung was densely built, although less dense than Kampung A. There were some car-width roads through the kampung. There was a community hall, a football pitch and a concrete rubbish dump close to the main entrance road. At the back of the kampung was a high bank leading to the river. This bank served a variety of functions, including locating toilets, sites for burning or burying rubbish and for growing bananas trees. This kampung was the most badly flooded. All 42 of the respondents located in the follow-up survey said that the flood waters covered their steps and came into their houses. 28 of them said they had had to temporarily move out because of flooding.

Kampung D. High up on a hill on the southern outskirts of the city this kampung appears to retain many of the more pleasant aspects of rural life. The houses were well built and widely spaced amidst trees and greenery. Due to the height there were difficulties getting sufficient water pressure which had led the kampung committee to decide to strictly limit numbers and discourage any new dwelling. The height also provided good depth of seepage to filter human waste, - unlike the other three kampungs. Whilst the heavy rains caused some erosion to the road leading up to the kampung, this was nothing compared to the experiences of the other three. This kampung had originally been one of those built on an 'organised' financial basis during the 1970's (Azizah Kassim 1985 p. 99).

The kampungs all had communal open-air bathing places, - tempat mandi. These were fenced round with sheets of corrugated metal and were served either by an adjacent stream or by hose or bucket from a nearby stand-pipe. All four kampungs had a fresh water suply laid on by the KLDB by means of stand-pipes, - pili air, - intersperced throughout the settlements. Households then attached hosepipes to these. The water from the stand pipes does not appear to be metered in any way and is provided free.

All four surveyed kampungs had small shops, usually incorporated in a dwelling. The dwellings were all of wood and corrugated metal and were raised up on piles in rural style with a flight of steps leading up to the front door. Only in Kampung A, where space was at a premium did some squatters forgo the near ubiquitous array of flowering plants in pots and forgo attempts to imprint something of themselves on their environment. Everywhere else, - and in the less congested parts of Kampung A, - the decoration, adornment and condition of the dwellings showed evidence of concern and care. Doors were often brightly painted. One door in Kampung C had a small notice down at step level which read:-

'Nadir's House. Home Sweet Home'.

Social and Economic characteristics of the squatters

Our sample population matched the social and economic characteristics of earlier research findings in many ways (Wehbring 1976; Sen 1979; Khairuddin Yusof 1981; Azizah Kassim 1985), in that they consisted mainly of women under 40 years of age, (72%) who were married and raising families. 35.5% had families with more than five children and 2% had more than 10 children. The child population was evenly spread amongst the four kampungs. Husbands were, on the whole, older than their wives.

Most of the respondents had their husbands and children living with them, but 2% had husbands living away, - either because of work or another wife:-

'.... jadi dia duduk di ruman isteri yang kedua di Cheras'.

Rather surprisingly, there were 12% of respondents whose children were living away from home. Some of these were grown up, but most were not. Some were staying with grandmothers, some away at school and were elsewhere in the Federal Territory or in other states. One respondents, with nine children, had:-

'Anak I belajar di England, 3 - sekolah di Melaka, dan 4 sekolah Agama Wilayah'. In addition to husbands and children, 44% of our respondents had other people living in the house with them. These mainly were relatives, parents, younger siblings, grandchildrens, or children of relatives. But there were also non-relatives, that is people who worked with members of the household, or were friends, 'other kampung people'. Such living patterns obviously re-inforce the community co-hesiveness of the squatment.

The popular image of urban squatters as people at the bottom of the economic heap, in marginal or transitory occupations, - an image already challenged by other studies. - was not borne out by our findings. 95% of our respondents husbands were in full time paid employment. Their occupations covered a wide range of skills and expertise. About 45% of husbands could be classed as skilled or semi-skilled. Some were supervisors, foremen, instructors, driving instructors; but most were factory workers, mechanics, policemen, soldiers. 13% were drivers of one sort or another, - chauffeurs, company drivers, bus or taxi drivers. In addition, about 9% were in 'white collar' occupations, - clerks in both the public and private sector. There was even an artist. A further 9% were said by their wives to have their own businesses. Clearly these men contribute to the maintainence of life in Kuala Lumpur to an important degree. 25% of working husbands could be classed as unskilled. This category included men who were security guards/sentries, storekeepers, or labourers in the construction industry. There also postmen and gardeners. In our survey we found only 2% who could be classed as 'Professional' and members of a higher social class. These were beachers, an Administrative Officer and a Director of a Charitable Foundation. One or two other men joined these as relatively high earners although not in professional occupation. These will be discussed below.

Only 30% of our respondents themselves worked outside the home, and half of these only worked part-time. The main full-time occupation was factory work; although a small number worked full-time as seamstresses or cleaners. 16% of the women said they had businesses, connected either with food (jual nasi) or clothing (kain baju). There were a few who had white collar jobs as Clerks, one of whom was an Immigration Officer at Wisma Pahlawan. Two respondents were teachers (and were married to the teachers mentioned above).

Those repondents who worked part-time did sewing, helped with husbands businesses or looked after children. One woman worked part-time selling necessaries required in the kampung:-

Jual/Berniaga kecilan, - ikut kehendak orang yang mahu benda itu, - beli barang itu dan jual kepadanya misalnya kain.

It is often acknowledged that data on earnings and income is suspect. People, whether rich or poor, have a reluctance to reveal their true income levels. We did not go fully into the complexities of income, but asked for occupation as well as earnings and, since the former could be checked at a general level, feel that our earnings data is probably reasonably accurate for the full-time occupations, within a range +/- \$100 per month. It is the evidence of extra earnings that is more problematical, not least because very few respondents (12%) confessed to there being any.

The occupations of our respondents husbands may be crucial to the life of Kuala Lumpur, but they do not seem to be well paid for the work they do. In terms of cash income alone, - 74% of male earnings were below the \$500 per month estimated by the KLDB as necessary to sustain a family with five children. 60% were in the \$300 - \$500 per month band, including most of the skilled men and the white collar workers. The unskilled workers were worse paid, usually under \$300 per month. One respondent pointed out that although her husband earned about \$300 as a construction labourer he was paid on a daily basis and his days of work varied. All save one of the self employed businessmen earned less than \$500. Most respondents putting these earnings at \$350 - \$450. One respondent however claimed that her husband's business (Berniaga kedai minat dan ikan) brought in \$3,000. This was the highest figure given, although one housebuilder earned \$1,600 and one storekeeper \$1,000. In contrast, there was one man who, apparently, kept his wife (who did not go out to work) and six children under 15 years on the \$100 - \$200 per month he made selling roti canai. Thus on the evidence of income from full-time employment, the squattters in our survey constitute the low income and poor members of Kuala Lumpur society rather than the very poorest.

These low incomes did not appear to be augmented on any scale. Few of the respondents worked full-time themselves and those that did mostly earned

below \$400 per month. Only 18% of our respondents added that other members of the household also made contributions to the budget, and these were not necessarily money but might be food or vegetables. However, in view of the empahsis placed on community and family support by some commentators (Azizah Kassim 1985 it is perhaps reasonable to expect a degree of input beyond the figures we were given. Also, of course, much unpaid labour would be added by family members towards the food selling businesses.

Possibly the constraints of full-time employment explained why so few respondents said their husbands did extra work as well. Those that did generally brought in less than \$300 per month more. There seemed little or no relationship between level of full time earnings and extra work. The artist supplemented his earnings by free-lance work and cartoons for \$100 per month; a soldier who earned \$600 also sold rice for a further \$300; one electrician for LLN whose regular earnings were \$290 added a further \$600 per month, presumably also from electrical work. Taking all sources of income together the majority of our sample still did not manage to have an earned income of over \$1,000 per month. The value of this would, of course, be nigher in real terms than for people with similar incomes in, say, low cost flats since the majority of our sample had built their own houses, and only 10% paid rent. Also about 25% kept chickens, a very few kept ducks, and a small amount, 13%, of vegetables and spices were grown for household consumption. We had expected more people to grow vegetables, but many respondents commented that they had 'no time' and anyway there was no room. This was particularly the case in Kampungs A and C, - where some mentioned that flooding prevented it. One respondent suggested that the closeness of squatters life prevented this:-

'Budak-budak ramai, kawasan kecil'.

Water Supply

The KLDB has carried out a series of interim measures in areas not targeted for immediate development to make squatting and squatter settlements more tolerable. These include the provision of facilities such as community halls and children's playgrounds, the improving of access roads, some refuse collection and the provision of water standpipes. This last

provision is a vital basic need. We found that 85% of our respondents got their water from these standpipes. Some got additional water from wells, but very few - less than 10% got their water only from wells, or mine pools or used rain water. Access to the standpipe was mainly by rubber hose, although newcomers often had to use buckets.

It is at the point of access that issues of basic need and quality of life intermingle. There were immense problems in actually getting water.

These problems could be physical, - hosepipes could become damaged and dirt get into the water with concommitant health risks; or social, - disputes could arise over use patterns. These problems added considerably to the workload and stress of women in the squatments.

One standpipe was shared between many households. Usually there were rules as to when a household could have its turn and for how long. These rules were most effectively enforced in Kampung D. Numbers per standpipe varied. In kampung D all respondents agreed that each standpipe served between 5 and 15 others. In the other three kampungs the spread was far wider. Some respondents exclaimed there were 'too many' people using the pipes, and estimated at between 5 and 50%. Three respondents each in kampungs A and B thought that over 50 other households used their standpipe. In kampungs A and C, 24% and 36% said they did not take turns but went when they liked.

Most of the problems arose from this heavy demand:-

'Getah biasa di cabut, getah bocor sebab orang memijak'

People would find others taking their turns. Sometimes alloted turns would be at inconvenient times of day. Newcomers would queue jump. All this led to frequent conflict. Mostly these disputes were simply rows, but sometimes actual fights broke out:-

'Bila balik rumah orang cabut paip getah. Rasa marah bila orang cabut, kita cabut balik Sekuli-Sekuli adapergaduhan'.

'Pergaduhan kerana tak cukup air. Budak-budak cabutkan paip getah. Masalah air, selalu gaduh'.

Some respondents attributed the problems to newcomers. In Kampung A, the Indonesians got blamed for pulling off a hosepipe. Also:-

'Ada orang kacau, orang Boyan selalu membawa baldi besar-besar'.

That this form of amenity provision did little to enhance the quality of life was eloquently put by one respondent:-

'Semua getah jiran tumpant salur getah bawah tangga. Kalau bocor, basah semuanya. Kadang-kadang terpancut kealas rumah. Jiran tumpang kerana rumah sebelah pili air'.

Despite the difficulties with pipes and hoses a great deal of water was used by our respondents. This was stored in a wide variety of containers, - buckets (37%) plastic drums (29%) bottles (22%) tempayan (9%) metal drums (9%) and so forth. Our respondents were very health conscious, 97% of them said they boiled their water, whilst many added that they kept specially boiled drinking water in seperate small bottles.

'Takut anak-anak sakit perut kalau minum air mentah
... kena penyakit bila minum air mentah'.

We did not try to measure the exact quantity used, but rather explored usage patterns. Our respondents used water for washing clothes, selves family, houses and doorsteps. 9% specifically mentioned watering the flowers. A few commented that they tried not to store water but to use it fresh every day.

'Tempayan kecil untuk satu hari saja, kemudian keesokannya air di ganti yang lain'.

Adequate refuse disposal is essential for the maintainence of public, health. Rubbish left around attracts flies and rats; bags get broken open and their contents distributed. The KLDB sends its refuse disposal lorries to the squatter settlements, and 44% of our total sample said that their garbage was collected in this way:

'Buang sampah di depan kampung ini - lori datang ambil sampah 2 atau 3 hari sekali

51% of respondents said that they burned their rubbish, - a concientious but less effective method since the whole amount may not be fully destroyed. Almost all the respondents in Kampungs C and D disposed of their garbage in these ways. In Kampungs A and B however there was a far wider range of methods of disposal although the majority there also preferred burning and there was some KLDB collection. 20% of respondents in Kampang A buried their rubbish in a hole in the ground, 28% at Kampung B threw it into the old mine pool. A few threw their rubbish away at the back of the house, or in a drain or in the river; some said they had a 'special place' where they took it - one of those being the market. Some respondents commented that 'most people' were not concerned about village cleanliness, implying that they themselves were.

In Kampung A attempts had been made to improve the muddy centre by building low banks and channels for the mater-using plastic bags of refuse. Imaginative though this was, the scheme did seem to us to pose a health hazard since, although leakages from the bags could hardly further pollute the already black and fetid water, there had been no attempt to 'compost' the refuse, by covering it with earth for example, and the plastic bags themselves affected decomposition. In some cases hosepipes from the standpipes to dwellings lay along the top of these 'walls'.

Sanitation

The people in the kampungs we surveyed took considerable care to provide themselves with decent and private places to go to the lavatory. The kampungs are not connected to the Kuala Lumpur sewage system. People therefore have to construct their own system. 58% of our total sample had their own 'pour flush' toilets - tandas curah. A further 7.5% had pit latrines, whilst 13% said they placed their toilets over the river or the stream (these last were mainly in Kampung A). All had built special huts for the purpose, quite near to their homes. The remaining 28% shared similar facilities

with others, either 'public' toilets - tandas ramai, or with near neighbours. This was not always seen as satisfactory:

'Tandas curah awam - 8 keluarga yang guna, tandas kadang-kadang kotor'

These toilets were generally constructed over drains or at the mine pool:
'Tandas tepi lombong, kongsi ramai-ramai'

Children were encouraged to use the same toilet facilities as their parents, but 14% went outside the house as well:

'Longkang kecil dibelakang, tidak selemat gunakan tandas curah'

A further 3% said their children used the tempat mandi. Some respondents who had very small children (8%) made special arrangements with pot and paper and buried this afterwards, and as one woman commented:

'Anak masih kecil buang dalam seluar'

In all these patterns of usage there were few if any variations across the four kampungs, save, of course, that Kampung D had no drains, streams or mine pools. During the floods, 47% of respondents said that the waters reached their toilets, and that some were covered to a depth of several feet. Kampung C was the most severaly affected, with 73% of respondents having their toilets flooded.

Health in Squatter Households

on the relationship between smoking and lung cancer, and indeed the long and convoluted progress of legislation to compensate occupational diseases in industrial nations (Burke 1986), emphasises the difficulty of attributing direct causal relationships between certain phenomena and individual ill health. In the context of the Kuala Lumpur squatter settlements, if the floods had been followed by a cholera epidemic there would have been good evidence for a direct causal relationship; but at the more general level such relationships between environmental pollution and individual health are more difficult to establish. Nonetheless, much valuable work has already been done to broadly establish patterns and types of health and illness amongst squatters notably as a consequence of the establishing and evaluating of the Sang Kancil centres (Khairuddin Yusof 1981, 1984).

These noted particularly the low levels of immunisation protection and thus the high risk of contracting communicable disease; that cases of polio were common said and there was a high level of worm infestation amongst children (kan P.S 1985).

When certain illnesses occur with above average frequency, it is possible to suggest that there may be links with social or environmental conditions (Sibaya 1980). Thus high incidences of coughs, colds or fevers for example can be associated with overcrowding, congestion and lack of ventilation; running bowels, upset stemachs, sores and itchy skin can be associated with polluted water, bad drainage or with contaminated food. We asked our respondents whether they, their husbands or their children had been ill during the past month with these and other conditions. We subsequently repeated the question in our follow-up survey of the three kampungs.

Despite the lack of comparable data, we suggest that the squatter population is more frequently ill than other groups (although this assertion would need to be tested against other low income groups in different forms of housing). 42% of all children, 17% of husbands and 9% of our respondents had been off school or workthrough illness during the month preceeding our survey. A further 39% of respondents stated there had been illness in their wooseholds since the floors.

The most common illnesses were coughs and colds, - 43% of children had had these and 15% had had fevers. Far fewer children had upset stomachs (7%) running bowels (4%) vomiting (4%) or itchy skins (2%). Children were, understandably, more frequently ill than their parents, but 15% of husbands and 15% of respondents had also had coughs and colds and a few - less than 3% - had upset stomachs, running bowels, fever or vomiting. After the floods there was further illness. Amongst children 9% had upset stomachs, but the incidence of coughs and colds was lower than in the previous survey. More husbands had upset stomachs after the floods (19%) perhaps reflecting their greater role in moving soiled and muddy belongings.

However, given the levels of environmental pollution and problems of water supply we were surprised that there was not a higher incidence of illness 295 and that there were few variations between the kampungs. In our first survey 45% of the children, 81% of husbands and 75% of respondents had had no illness at all during the previous month. More people were ill after the floods but even so 56% of respondents said that they had had no subsequent illness in their households at all. We feel this can be attributed in a large measure to the cleanliness and hygiene measures undertaken by women in the kampungs.

III

Conclusions

four squatter settlements we surveyed the were a part of a settled, hard working community. They endeayured live cleanly and decently and to raise their families most adverse circumstances. The manner in which their water resources are supplied are far from satisfactory. stand-pipe method is both a potential health hazard and a source of constant stress and friction. The organisation of turns and limits on the amount of time at a stand-pipe, where these are imposed by the kampung organisation shows a keen awareness of the problems involved and attemnpts to forestall them. These rules however are constantly infringed, -especially by children who pull off the hoses. They may perhaps have sent by their parents to do this, but ostensibly it is because they do not know or understand the "rules". That difficulties over obtaining water have be and yet still lead to fricition indicates the importance of understanding the social as well as the technical dimension when planning social amenities. Quality of life is lowered when neighbourly relations are under constant strain. Opinions may differ as to the frequency of actual physical conflict.some may say they are "occassional" - sekali-sekala, and others may claim they are "Often", -selalu, but the real point is that these should not have to occur at all. In addition refuse disposal works imperfectly, and where rubbish is used to stabilise the ground, brings added health risks. Lack of adequate drainiage and sanitation puts the squatters -and other people downstream, at risk from water bourne diseases.

It would be true to say that lack of social amenities resulted in considerable environmental deprivation. Furthermore, the squatter population, very large numbers of people, are mainly concentrated in very fragile physical environments. The location of squatments on river banks, alongside railway lines and on abandoned mine sites are highly risk prone. The fragility of the physical environment was exemplified by the landslip in one of the surveyed kamungs.

Yet, it could also be argued that there were many positive aspects to life in the squatter settlements. When a kampung was well sited, as in the case of Kampung D and to some extent Kampung B, the surrounding aspect was one of space and greenery. People could be said to have far greater control over their lives and their environment than might be the case in other forms of urban living. They could extend or modify their dwellings as desired without regard of planning regulations,providing they had the means. They could join with neighbours to improve the social amenities, as was the case with Kampung B's electricity generator. They could raise poultry, - even in congested Kampung A there were ducks and chickens poking about beneath the dwellings, and often had space to grow fruit and vegetables. They could surround their dwellings with flowering plants. The sense of community, which many argue breaks down with urbanisation, was very strong.

This sense of community is often fostered and enhanced by political forces. (Azizah Kassim 1985). This also has both positive and negative aspects. The organisation of kampungs on political party lines, more marked in some settlements than in others, can help generate social cohesion that enables people to act collectively to overcome difficulties Political allegiance upwards, however, carries with it implications of reciprocity downwards. Failure to acknowledge or satisfactorily assist squatter consituents may sow seeds of later trouble.

Much current literature on squatters in developing countries identifies them as the worst of the urban poor (Juppenlatz, 1970). We did not find that this was the case. As other Malaysian writers have suggested, the squatter population spans a wide and varied range of economic activity. Nor do the squatters themselves feel that they are 'dagang hanyut' - people without roots (Azizah Kassim 1985). Indeed, it might be suggested that in many cases the income of even the poorer squatters is higher in real terms than low income households in other forms of dwelling. Such a suggestion however immediately poses questions regarding comparisons. What is the reference point for measures of poverty and deprivation? Against whom do the squatters themselves compare their situation? Azizah Kassim suggests:-

'The squatters recognise the prevelant differentials in their income. However in relation to the rest of the urban population they see themselves as poor,... kita orang miskin (we the poor people). The fact that a few of them may be financially better off than some other people in Kuala Lumpur - the flat dwellers for instance, is of no consequence. They feel poor because they live in poor conditions and because they compare themselves with the urban rich.

Thus any conclusions about the quality of life in the squater settlements must take these various aspects into account. Above all, there is one factor that can be said to have overiding importance in determining quality of life and peace of mind. Unlike the rest of the urban population, the squatters live in a perpetual state of insecurity: they are in constant fear of being evicted from their homes. The provisions of social amenities, so clearly a temporary measure, in many ways underlines this fear. The social cohesiveness of the squatter settlements, and their strong political links, are ways in which the squatters seek protection from this insecurity.

Analysis of the positive and negative aspects of life in the squatter settlements leads inevitably to consideration of policy and politics. If housing provides the best visible evidence of whether urban land policy is working, indeed whether a society is working, the massive extent of squatting indicates that all is not well. McAuslan suggests that there are lessons that policy makers can learn from the squatments:-

'The true builders and planners of the Third World cities are the urban poor. They build their houses and establish their settlements where they can, largely illegally:... the houses ignore building and health codes; the settlements ignore zoning and subdivision regulations and the 'Master Plan' beloved of city planners.

This city building of poor - the majority in all Third World cities - overwhelms the efforts of city administrators, planners taxmen and health and building inspectors... but the illegal settlements themselves often match the real needs and priorities of the poor far better than government housing schemes supposedly meant to help them.

From this it would seem that policy makers face a choice of strategy,

- whether to demolish or rehabilitate the settlements. There are arguements
in favour of the latter. Firstly, the problem of urban migration is not
finite. People will continue to come to Kuala Lumpur. They will crowd into
existing settlements or, when these are bulldozed, build new ones. Secondly,
where greater security of tenure has been provided, - with the issue of
Temporary Occupation Licences-enormous improvements in the environment take
place. Metal water pipes replace the rubber hoses for example, metal roofs
are replaced by tiles, wooden walls are strengthened and improved. This
type of temporary upgrading carries relatively low costs for the authorities
and brings a greatly enhanced quality of life.

Improvements in health or housing can often be effected by the introduction of policies not specifically aimed at these areas. Policies with regard to income or education can bring major changes to an individual's situation and ability to secure better housing or to lead a healthy life. Some writers suggest that the combination of social, economic and environmental factors that produce inequality and deprivation call for a far more integrated approach for social policy (Townsund and Davidson 1982), but integration of implementation may be less than easy to achieve, not least since the issues are, at base, highly political.

There needs to be more information in order to compare the differences in quality of life between different modes of living in Kuala Lumpur. A more detailed picture needs to be made of the type and extent of urban poverty. This, in turn must be located and examined in the wider context of rural and Malaysian society as a whole, if effective policies for action are to be formulated. In the meantime, we conclude that the provision of social amenities to squatter settlements whilst meeting basic needs does little to enhance the quality of life.

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