
The Study of Literacy in Relation to Socioeconomic and Nutritional Improvement in a Rural Community

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Kajian ini dijalankan ke atas dua buah kampung di Ulu Trengganu untuk menilai taraf kenal huruf dan perkaitannya dengan taraf sosioekonomi penduduk. Komuniti yang dikaji adalah kampung-kampung yang penduduknya terdiri dari orang-orang Melayu dan aktiviti ekonomi mereka bersumberkan pertanian. Sampel yang dipilih adalah sebanyak 107 (40 lelaki, 67 wanita) dan terdiri daripada etua keluarga atau isteri mereka. Hasil penelitian mendapati lebih daripada 50% responden mengalami buta huruf (markah 20) dan wanita lebih tinggi peratusnya daripada lelaki. Keputusan juga memaparkan bahawa umur boleh menentukan taraf kenal huruf tanpa mengira jantina, umur yang muda bakal menentukan markah kenal huruf yang tinggi. Juga didapati bahawa pendapatan dan kenal huruf adalah berkaitan rapat. Penelitian ini juga mendapati bahawa menghadiri pendidikan formal semasa muda tidak semestinya menjamin seseorang itu untuk kenal huruf dikemudian hari. Terdapat perbezaan sebanyak 14% di antara mereka yang pernah bersekolah dan mereka yang kenal huruf semasa kajian dijalankan. Perkaitan-perkaitan yang bermakna wujud di antara kenal huruf dan saiz keluarga, kenal huruf dan jumlah perbelanjaan untuk makanan dan juga perkaitan negatif di antara kenal huruf dan pendapatan yang dibelanjakan untuk makanan.

Introduction

Advancement in literacy and written language is one of the greatest contributions to human civilization and human knowledge. According to Ibn Khaldun, writing "is a noble craft, since it is one of the special qualities of man by which he distinguishes himself from the animals." (Dawood, 1974). Today, literacy is a yardstick by which personal and national development are measured, and more often those countries which are highly literate are also more "developed" or industrialized. World bodies such as UNESCO has been struggling for years in combating illiteracy in many countries (Unesco, 1976). Literacy is a human right issue, that is, the right to education, knowledge and being able to participate as a contributing citizen. During the mid-century there were about 700 million illiterates, which is about 44 percent of the world population 15 years and older at that period (Unesco, 1957). In 1970, the percentage of illiterates in the world had declined to 34.2 percent, however the absolute number has increased (JAWE, 1979). The most recent figure estimated that there are 824 million illiterates (15 years of age and older), more than 800 million of whom live in the developing countries (Gillette & Ryan, 1983). The number of illiterates is increasing and is projected to reach 1 billion by the year 2000 (ICAE, 1979).

As a result of illiteracy, the benefits of development have tended to enrich the literate sector of the population, while the majority of illiterates have remained deprived, with exacerbating inequalities (JAWE, 1979). Illiteracy is also linked or coincides with poverty, malnutrition, ill health infant mortality, etc; consequently, the illiterates not only devoids reading and writing skills but he or she is also more accustomed to being poor, hungry, malnourished, vulnerable to illness and finally that condition can be life threatening (Gillette & Ryan, 1983).

The overall illiteracy rate for a country can mask extensive disparities existing in different population groups. Those disparities exist between men and women, rural and urban

population and within poverty stricken areas (JAWE, 1979). The rural urban differential has been a severe drag in many national development programs in most countries. Female literacy usually lags behind that of males.

The definition of literacy is varied and difficult to circumscribe. According to Laubach, literacy is "The ability to read a simple newspaper." (Laubach 1970). In the 1970 Malaysian Census, literacy is defined as "the ability to read a newspaper or letter and to write a simple letter." (Sidhu & Jones, 1981). Charnley (1979) categorized the relationship between illiteracy and literacy as a cognation not so much different than between health and disease; rather it is a continuum. A more recent definition of literacy was suggested by Hunter (1979) in the following ways:

1. Conventional Literacy — the ability to read, write, and comprehend texts on familiar subjects and to understand whatever signs, labels, instructions, and directions that are necessary to get along within ones environment.
2. Functional Literacy — the possession of skills **perceived as necessary by particular persons or groups** to fulfill their own self-determined objectives as family and community members, citizens, consumers, job-holders, and members of social, religious, or other associations of their choosing. This includes the ability to obtain information they want and use that information for their own and others the ability to read and write adequately to satisfy the requirements **they set for themselves** as being important for their own lives; the ability to deal positively with demands made on them by society; and the ability to solve the problems they face in their lives.

The literacy rate in Peninsular Malaysia from 1931 to 1970 is shown in table 1. The increase in the number of literates in Malaysia has been mainly attributed to the greater accessibility to educational facilities. The increase was most rapid between 1957-1970 for the 15 to 24 age group — 63.8 percent to 80.2 percent (see table 2). In 1961 Adult Education Classes (Kelas Dewasa) were launched in Malaya as part of the development strategies for the eradication of illiteracy. Abubaker (1982) estimated that by 1971, about half a million people (adults) were made literate. In 1978 a Functional Literacy Program (Rancangan Pedoman Tugasan) was implemented at various local sites in Malaysia by the Community Development Department (KEMAS). The main objective of the Functional Literacy Program (FLP) is to eradicate illiteracy among adults and to provide knowledge and training which are beneficial for day-to-day living. Since its inception, the FLP enrolled 15,102 participants (KEMAS, 1981).

There is one important point which need to be distinguished, that is, the attainment of literacy and its retention. Attending literacy classes and schooling can produce literacy, but reports have shown that the ability to read and write is perishable if no opportunities are given to use or sharpen that skills (Gillette and Ryan, 1983; Gugnani, 1975). Therefore it is not correct to assume that those people who have attended primary schooling or literacy classes will retain their literacy acquirments. A literacy test is needed to ascertain the level of literacy in the population. In this study an indicator of literacy test was constructed to assess the literacy level of respondents and to establish the relationship between literacy and several selected socioeconomic variables.

Table 1: **Peninsular Malaysia: Literacy of Population Aged 15^s by Race and Sex, 1931—1970.**

| Race and Sex | Percentage | | | |
|--------------|------------|------|------|-------------------|
| | 1931 | 1947 | 1957 | 1970 ^a |
| Malays | | | | |
| Males | 30.8 | 49.2 | 60.9 | 72.1 |
| Females | 3.7 | 11.4 | 22.4 | 45.2 |
| Both Sexes | 17.4 | 30.0 | 41.3 | 58.4 |
| Chinese | | | | |
| Males | 48.6 | 63.7 | 69.7 | 71.3 |
| Females | 9.7 | 21.5 | 29.5 | 43.6 |
| Both Sexes | 37.8 | 45.4 | 50.4 | 57.3 |
| Indians | | | | |
| Males | 37.5 | 59.8 | 68.7 | 74.7 |
| Females | 7.2 | 19.7 | 30.8 | 49.0 |
| Both Sexes | 28.7 | 45.5 | 54.3 | 63.1 |

a — 'Literates' excludes the category of 'semi-literate,' inclusion of which would have raised the overall literacy rate from 58.5 to 62.8 per cent.

Source: 1931, 1947, 1957 and 1970 Census.

Adapted from Manjit S. Sidhu and Gavin W. Jones **Population Dynamics in a Plural Society: Peninsular Malaysia**, Univ. of Malaya Co-op Bookshop, Kuala Lumpur, 1981, p. 212.

Table 2: **Percentage Distribution of Literate Population by Age Groups and Community, Peninsular Malaysia: 1957, 1970**

| Age Group | Malay | | Chinese | | Indians | | Others | | Total | |
|-------------|-------|------|---------|------|---------|------|--------|------|-------|------|
| | 1957 | 1970 | 1957 | 1970 | 1957 | 1970 | 1957 | 1970 | 1957 | 1970 |
| 10 - 14 | 75.0 | 76.9 | 64.9 | 61.4 | 72.8 | 65.3 | 76.1 | 66.8 | 70.7 | 70.0 |
| 15 - 24 | 59.3 | 83.1 | 67.5 | 77.1 | 66.9 | 77.2 | 84.4 | 77.3 | 63.8 | 80.2 |
| 25 - 34 | 43.0 | 64.4 | 53.8 | 64.0 | 63.8 | 68.8 | 81.0 | 73.6 | 50.0 | 64.7 |
| 35 - 44 | 33.6 | 46.0 | 45.8 | 47.5 | 47.5 | 60.3 | 77.3 | 65.0 | 40.7 | 48.3 |
| 45 - 54 | 25.4 | 34.0 | 38.2 | 40.3 | 39.2 | 48.6 | 70.5 | 57.5 | 33.4 | 37.9 |
| 55 - 64 | 19.9 | 24.6 | 31.6 | 30.7 | 33.9 | 35.6 | 60.2 | 48.1 | 27.4 | 28.5 |
| 65 and over | 11.3 | 16.0 | 21.8 | 19.2 | 28.8 | 29.3 | 46.3 | 40.3 | 17.2 | 18.7 |
| TOTAL | 46.8 | 62.1 | 52.9 | 58.1 | 56.7 | 63.5 | 77.8 | 67.2 | 50.8 | 60.8 |

Source: General Report, 1970 population census of Malaysia, p.324 Adapted from **The Future of the Health Services in Malaysia**, Kuala Lumpur: MMA, April, 1980 p.108.

Methodology

The study was conducted in 2 rural villages in Ulu Trengganu. These villages are Kampong Pasir Nering and Kampong Kuala Por. The inhabitants of the community are Malay families who are mainly peasant farmers. The population sample was 107, which consists of 75 families (86% of total village households) from Kampong Pasir Nering and all the 30 families (100% of total village households) from Kampong Kuala Por. Interviews and an indicator of literacy tests were carried out during the month of June through September 1982.

Data Collection

A survey format was employed to gather the necessary information through questionnaires. Each respondent was interviewed by a trained enumerator. The respondents are made up of adult males or females who are either heads or spouses from each household. Socioeconomic and related indicators which are taken into consideration during the interviews are:

1. Sex
2. Age
3. Education in years
4. Household size
5. Income/month
6. Occupation
7. Land ownership in acres
8. Food expenditure/month
9. Percentage of monthly income spent on food
10. Per capita food expenditure
11. Number of child death in the family

Indicators of Literacy

A test to indicate the degree of literacy was constructed by the investigator. The test is based on the definition of functional literacy as defined by UNESCO (Gray, 1956) — A person is functionally literate when he has acquired the knowledge and skills in reading and writing which enable him to engage effectively in all those activities in which literacy is normally assumed by his cultural group.

The indicator of literacy test consisted of four parts, each part has a full score of 10 marks.

1) Writing

The respondent was asked to write his/her name and address.

2 Reading

The respondent was asked to read a newspaper headline five words long. The newspaper headline was in the Malaysian National Language — **Bahasa Malaysia** (Romanized or Arabic characters, which ever was preferred by the respondent).

3) Arithmetic

Arithmetic problems were asked verbally or in writing, whichever the respondent requested. This section consisted of four fundamental operations:

- i) Addition
- ii) Subtraction
- iii) Multiplication
- iv) Division

The above section was based on part of the Functional Literacy Experiment Document Arithmetic Card which has been used in Mexico, Tunisia, and Madagascar (UNESCO, 1973). Some modifications were made to suit the local situation in the Malaysian villages.

4) Interpreting Road Signs.

Pictures of road signs which are most frequently seen on the roadside were shown to the respondents. Their responses are scored based on the right interpretation.

Ten scores were randomly selected from the indicators of the literacy test results to estimate the reliability of the test using the split half technique. The estimated reliability of the test was calculated to be 0.99.

Data Analysis

The collected data was analyzed using the computer by employing the software package, SPSS.

Results

The respondents of the study were adult males and females who were either head of households or their spouses. Table 3 and 4 show the distribution by sex and age of the respondents. The majority of the respondents are between the age of 20 and 60. Literacy scores for those who sat for the literacy test are presented in table 5. The maximum score is 40. Each section of the test can have a score from 0 to 10, depending on how many correct answers they have. The scores in table 5 will serve as an indicator of the degree of literacy attained by the respondents.

The results from table 5 indicate that 54.2 percent of the respondents scored 20 and below. About 46 percent had a score of 10 and below. Figure 1 shows a histogram of the distribution of literacy scores from table 5. In figure 1 we can see a bimodal distribution of the scores; the scores tend to aggregate around 10 and near 40. The findings from both table 5 and figure 1 revealed a substantial level of illiteracy among the respondents. Respondents who attained a score of 10 or less were only able to provide correct answers to arithmetic problems. They also fall under the category of those who cannot read and write. However, those who score above 10 but under 20, possessed some degree of literacy even though they cannot be classified as being literate. Those respondents who had a score of 30 can be classified as moderately literate, since in order to obtain 30 one has to fulfill at least three of the sections correctly. On the other hand a score of 20 can be classified as being minimally literate, corresponding to being able to answer two sections satisfactorily or providing parts of each section with correct answers.

Table 3. Frequency Distribution of Sex of Respondents (N^s107)

| | Absolute Frequency | Relative Frequency | Adjusted Frequency (%) | Cumulative Frequency (%) |
|---------|--------------------|--------------------|------------------------|--------------------------|
| MALE | 40 | 37.4 | 37.4 | 37.4 |
| FEMALES | 67 | 62.6 | 62.6 | 100.0 |
| Total | 107 | 100.0 | 100.0 | |

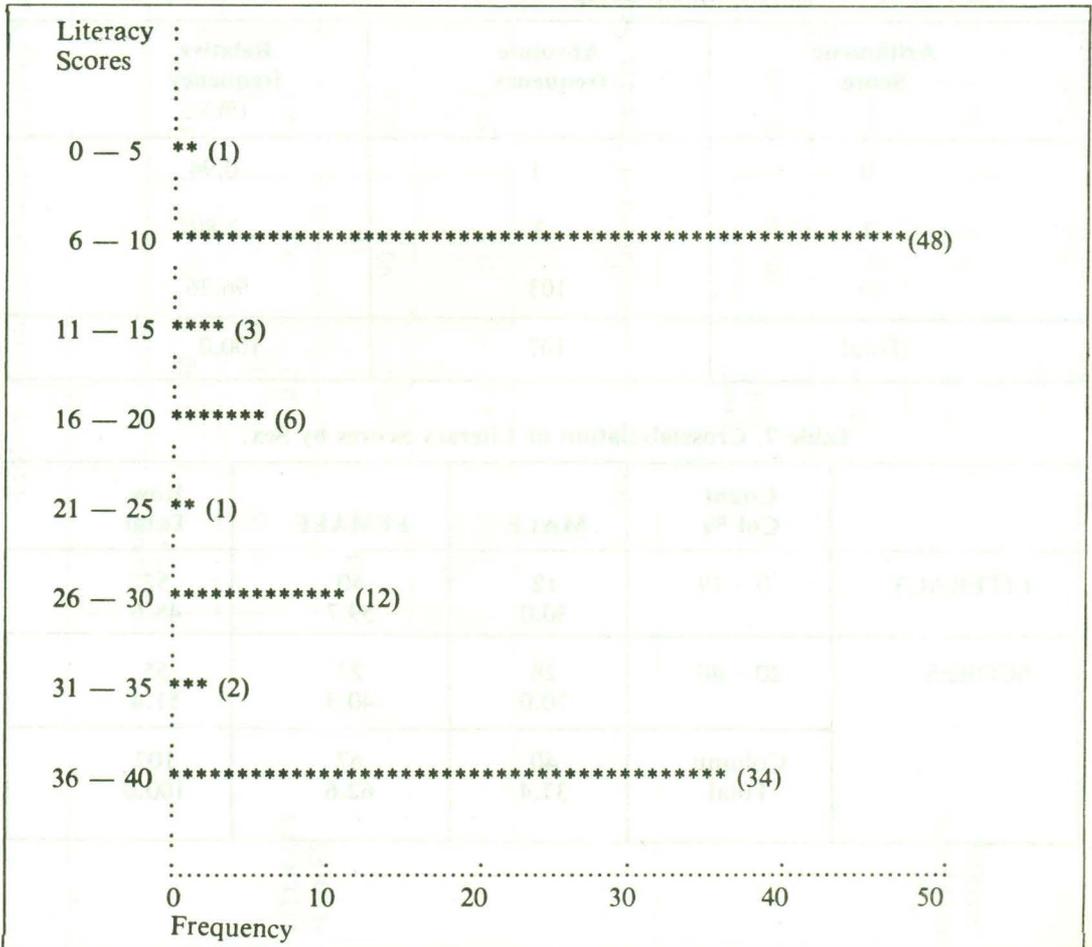
Table 4. Frequency Distribution of Age of Respondents

| Age In Year | Absolute Frequency | Relative Frequency (%) | Cumulative Frequency (%) |
|-------------|--------------------|------------------------|--------------------------|
| 10 — 20 | 4 | 3.7 | 3.7 |
| 21 — 30 | 19 | 17.8 | 21.5 |
| 31 — 40 | 32 | 29.9 | 51.4 |
| 41 — 50 | 24 | 22.4 | 73.8 |
| 51 — 60 | 15 | 14.0 | 87.9 |
| 61 — 70 | 10 | 9.3 | 97.2 |
| 71 — 80 | 1 | 0.9 | 98.1 |
| 81 — 90 | 2 | 1.9 | 100.0 |
| TOTAL | <u>107</u> | <u>100.0</u> | |

Table 5. Frequency Distribution of Literacy Scores

| Scores | Absolute Frequency | Relative Frequency (%) | Cumulative Frequency (%) |
|--------------|--------------------|------------------------|--------------------------|
| 0 — 5 | 1 | 0.9 | 0.9 |
| 6 — 10 | 48 | 44.9 | 45.8 |
| 11 — 15 | 3 | 2.8 | 48.6 |
| 16 — 20 | 6 | 5.6 | 54.2 |
| 26 — 30 | 12 | 11.2 | 66.4 |
| 31 — 35 | 2 | 1.9 | 68.2 |
| 36 — 40 | 34 | 31.8 | 100.0 |
| TOTAL | 107 | 100.0 | |

Figure 1. Literacy Scores Histogram



In table 10 the frequency distribution of respondents' education is tabulated. Education in this context means the number of years spent in formal schools. From the table, 35 percent of the respondents never attended any form of formal schooling. More than 90 percent had 7 years of education or less. Only about 10 percent have more than 7 years education which is equivalent to entering secondary school education. Respondents' level of education shows the inaccessibility of formal education in previous decades and explain the present status of literacy among the adult population.

The majority of the villagers considered literacy and education as important attributes in life (table 11). They also viewed literacy and education as skills which lead to wider knowledge of the secular world (table 12). More than half of the respondents agreed that education and literacy are essential for preparing oneself to acquire new skills and a secure jobs.

Several respondents reported that they had attended **Kelas Dewasa** in the 1960s when the program was in effect in the rural areas of Malaysia. In table 13, the total number of people does not tally with the sample size of 107; this is because there were people who attended formal schools in their childhood years and on the top of that they also enrolled in the literacy class (**Kelas Dewasa**) in their adult years. There were 10 respondents who did that. For further discussion of the interaction between literacy and education please refer to the discussion section.

Table 10. Frequency Distribution of Respondents' Education.

| Education (No. of years) | Absolute frequency | Relative frequency (%) | Cumulative frequency (%) |
|-----------------------------|-----------------------|------------------------------|--------------------------------|
| 0 | 37 | 34.6 | 34.6 |
| 1 - 3 | 15 | 14.0 | 48.6 |
| 4 - 6 | 45 | 42.1 | 90.7 |
| 7 - 9 | 3 | 2.8 | 93.5 |
| 10 - 14 | 6 | 5.6 | 99.1 |
| 15 - 20 | 1 | 0.9 | 100.0 |
| Total | 107 | 100.0 | |

Table 11. Respondents' Response to the Importance of Literacy and Education.

| | Absolute frequency | Relative frequency (%) |
|------------|-----------------------|------------------------------|
| Important | 80 | 75.0 |
| No Opinion | 27 | 25.0 |
| Total | 107 | 100.0 |

Table 12. Respondents' Response on the Role of Literacy and Education.

| | Absolute frequency | Relative frequency (%) |
|--------------------|---------------------------|-------------------------------|
| Knowledge & Skills | 54 | 50.5 |
| Reading | 3 | 2.8 |
| Future use | 2 | 1.9 |
| Occupation | 1 | .9 |
| Progress | 1 | .9 |
| Counting | 1 | .9 |
| No Opinion | 45 | 42.1 |
| Total | 107 | 100.0 |

Table 13. Respondents' Attendance in Kelas Dewasa (Literacy Class) and Formal School.

| | No. |
|---------------------------------|------------|
| Kelas Dewasa | 17 |
| Formal School | 70 |
| No Kelas Dewasa & Formal School | 30 |

This study also aims to examine the relationship of literacy with socioeconomic variables. Correlation between literacy and socioeconomic variables (including two selected nutritional variables — percent of monthly food expenditure and actual food expenditure in dollars) are constructed into a matrix in table 14. As expected, the correlation between literacy and education exhibits a strong positive relationship ($p < .001$). The second variable with strong positive correlation is income, $r = .473$ ($p < .001$). The higher the income the greater the literacy scores tend to be and vice versa. Household size and literacy have a moderately positive relationship ($p < .05$), where it indicates that the larger the household size the greater the literacy score. Actual food expenditure in dollars and literacy had a positive relationship ($p < .001$). Dollar amounts spent on food are much higher in the more literate households than among those who are less literate.

Discussion

Literacy is an important factor which is essential in the process of national development, socioeconomic upgrading and cultural enrichment. This study had identified several variables which are closely associated with literacy.

The major form of occupation in the community under study is agriculture based, therefore income is largely determined by their productivity and yields. Income can vary

Table 14. Pearson Product Moment Correlations Among
Socioeconomic Variables And Literacy (N = 107)

| Literacy Score | Age | F-Sex | Occup. | Income | Househ. size | Land owned | Educ. | Child | % Food | Dollar |
|----------------|-----------|-----------|---------|-----------|--------------|------------|----------|--------|-----------|----------|
| Literacy Score | -.4149*** | -.4013*** | .2467** | .4738*** | .2251* | -.0980 | .6480*** | -.0947 | -.0947** | .3688** |
| Age | | .2267* | -.1319 | -.4499*** | -.2483 | .2406* | -.6841 | .3596 | .2417* | -.2541 |
| Female Sex | | | -.2262 | -.2585** | .0085 | -.1974* | -.0490 | -.1205 | .0050 | -.2612** |
| Occupation | | | | .4262 | .0498 | -.1181 | -.0426 | -.0780 | -.1941 | .1774 |
| Income | | | | | .1183 | .0082 | .4541*** | -.1701 | -.5264*** | .4604*** |
| Household Size | | | | | | .0231 | .2340* | -.1090 | .3148*** | .4868*** |
| Land Owned | | | | | | | .0893 | .0114 | .0240 | .0509 |
| Education | | | | | | | | -.2321 | -.1814 | .2237 |
| Child Death | | | | | | | | | -.0075 | -.2137 |
| % Food | | | | | | | | | | .3722*** |

*** P .001

** P .01

* P .05

% Food – Percent of monthly food expenditure
Dollar – Actual food expenditure in dollars

seasonally in relation to the agricultural cycle. Substantial number of households in the two villages live in poverty; this is based on the third Malaysia Plan. Official poverty line (Young et al. 1980) and also on Anand's poverty line of M\$25/— per capita income per month in 1970 prices (Anand, 1983).

More than three quarters of the respondents are self-employed farmers and they do not receive a regular fixed income. Farming activities cannot guarantee a farmer an adequate cash income as the total earnings from farming depend very much on the amount of crop harvested, the prevailing market value and climatic circumstances. The underlying reasons why these people do not pursue other forms of occupation other than farming may be due to lack of skills in other profession, illiteracy and environmental encroachment.

Findings from the educational data can help to predict the level of literacy and income. More education means greater literacy and higher income. This pattern is not surprising considering a strong relationship between the three variables. However, it is interesting to distinguish the level of literacy and levels of education from table 5 and table 10. Both tables (5 and 10) disclose that not all those respondents who have attended formal schools, are able to read and write. Table 5 reveals that only 51.4 percent of the respondents are minimally literate (scores 20), while table 10 testifies that 65.4 percent of the respondents have received formal education for a minimum of 1 to 3 years. There is a difference of 14 percent between those who attended formal schools and those who are literate. Hence 14 percent of those respondents who have had formal education (1-3 years) are still minimally illiterate. This result is in conformance with the work of Gugnani (1975), who call attention to that the retention of literacy is not permanent. Such condition can be due to neglect of reading and writing, and also to economic pressure which preclude the allocation of time to retention of literacy in favour of economic activities which are urgent to survival.

These economic activities include subsistence agriculture or working outside the village as natural labourers which does not demand reading and writing. There are people who are well off who are too busy with their work OR business (buying/selling) to practice reading and/or writing. They also lack the urgency to acquire literate knowledge, though they would like to, but the social environment does not allocate them the avenue to take advantage of the development in the literate world.

Another factor which may not be true in all cases of rural living or why literacy is not actively pursued is their medium of communication, which is the radio. They frequently listen to radio programs. One does not have to be literate to listen and understand radio program. If television were to be the major means of entertainment and communication people would at least realised that literacy is essential in following TV program.

The correlation of literacy with a number of socio-economic variables in table 14 indicates that they are closely linked. The level of literacy corresponds very well with the level of education and income. Indeed better income comes from a better job which requires higher degree of literacy and education. Chances of being employed by the government and private sectors where fixed regular income is guaranteed are greater for those who are literate and educated. This sector of employment normally received better income than agricultural work. But it cannot be denied that there are a number of illiterates who are employed by the government or construction companies as laborers.

A significant relationship exists between literacy and household size (table 14), which suggests that people who are more literate and educated are inclined to have bigger household than the illiterates. This relationship should not be misunderstood with the popular belief in family planning sizes. The household size in this study refers to both nuclear family and extended family. Respondent who are more literate tend to have higher income and in time they are capable of supporting their parent and they live in an extended

family home. Herefrom, their household sizes are larger than average. The above explanation may not be correct in all instances, because there are cases where younger adults may still live with their parents and in-laws until they are capable of building their own dwellings. While they are with their parents or in-laws, their total household income will be higher since there are more than one family who earn an income or salary.

Another interesting relationship to note from table 14 is the negative correlation between income and percentage of income spent on food ($p < .001$) and also a positive relationship between income and actual food expenditure ($p < .001$). Literacy also has a strong positive relationship with actual food expenditure but not percentage of income spent on food. Respondents whose remuneration (earnings) are higher have a lower percentage of income spent on food than those with smaller earnings. While income rises the actual food expenditure also rises albeit the percent value decreases. This trend is in accord with other reported studies elsewhere (Solimano and Hakim, 1978; Thimmayamima, 1973). The above relationship also conforms to Engel's Law which states that as income rises, the percentage of income allocated for food declines, but the absolute expenditure rises (Engel, 1857). Literacy does have a significant relationship with actual food expenditures but not significant relationship between literacy and percent of monthly food expenditure is a question to be answered with further studies. It can be speculated that the sample size is too small to observe any meaningful relationship between literacy and percent of monthly expenditure spent on food.

Conclusion

The present study is an attempt to unfold various links of social (including nutritional) variables, which are pertinent to human development with respect to their economic, social and health improvements. Literacy has been seen as a key which can unravel certain intertwined causal association of underdevelopment in peasantry societies.

Literacy was found to be more prevalent among the younger adults of both sexes. Higher percentage of female are illiterate as compared to their male counterparts. The advantage of being literate cannot be ignored since being literate is positively related to income level. The finding from this study did infer that exposure to primary school education in children years does not necessarily correspond to being a literate persons in later years. However, in most cases primary education is antecedent to literacy, with the exception of adult literacy classes.

The study in this underdeveloped Malay villages have untangled several interconnected social variables which can be useful in preparing strategies for literacy campaigns and national development.

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- The Study of Literacy in Relation to Socioeconomic and Nutritional Improvement in a Rural Community 93
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Catatan Mengenai Penulis-Penulis

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