ALTERNATIVE ZAKAT POVERTY LINE IN KELANTAN, MALAYSIA

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ABSTRACT

This study attempts to analyse the zakat poverty line between regions (urban and rural) and differences between household head gender (male and female) among the poor and needy zakat recipients in Kelantan. The study is motivated by a few shortcomings of the current zakat distribution as well as an increasing amount of expenditure annually on the two categories of zakat recipients and yet the number of *fuqara* (poor) and *masakin* (needy) households is increasing. The current amount of zakat monthly distribution seems to raise some issues due to its weaknesses. This paper offers several alternative regional poverty line estimations with varying underlying assumptions. Using the Household Expenditure Survey 2014, poverty lines are estimated based on the consumption patterns of regional and gender household per capita expenditure. The regional poverty lines from these reference groups produced robust poverty measurement rankings across regions in the country. This study recommends the method of zakat distribution to be improved in order to strengthen the Muslims economy condition and then, it would facilitate poverty alleviation programs conducted by the zakat department.

Keywords: Zakat poverty line, *had kifayah*, poor and needy, Kelantan

INTRODUCTION

The degree of poverty can be measured at the national level by observing the percentage of the population living under national poverty lines. The usual measurement is by using US$1.25 and US$2 (at 1993 Purchasing Power Parity terms) at reference poverty lines[1], which adjusts for differences in the prices of goods and services between countries. The $1 per day level is generally used for the least developed countries, primarily African; the $2-per-day level is used for middle income economies such as those of East Asia and Latin America.

Islamic principles of poverty alleviation are based on the Islamic views of social justice and the belief in Allah the Almighty. Islamic economy identifies individual differences among people as each person is endowed with different types and levels of human abilities. Thus, even though individuals are provided with equal opportunities, the economic status of two individuals may not be equal (Hassan et.al, 2010). Islamic approach recommends measures for an equitable distribution of income among factors of production such as profit sharing. Islam emphasizes the distribution of profits on the basic definition of ratio, rather than a nominal fixed interest among the stakeholders (Sadeq, 1995).

[1] The World Bank often uses $1.25 a day for cross-country comparisons, which has since 1990 come to be regarded as providing the absolute minimum standard of living. See "*Nature and Evolution of Poverty, 1998–2003*" p.g 49.

In solving the Muslim's poverty and economic problems, Islam had brought a method called zakat[2]. Zakat is one of the five fundamental obligations of Islam. It is an obligatory form of worship (Ibadah) prescribed by Allah s.w.t. Allah commanded in the Qur'an:

> *"… so establish Salat and give Zakat, and hold fast to Allah …"*
>
> *(Al-Qur'an 22:78)*

In determining the qualified zakat recipients, most zakat institutions in Malaysia use the monetary approach in measuring poverty based on Zakat Poverty Line called *Had Kifayah*[3] (HK) method (Mohd Faisol Ibrahim, 2015). It is almost identical as the Government Poverty Line Income (PLI) because it uses income as the variable to determine whether the individual or household is poor or otherwise (Mohamed Saladin Abdul Rasool et al., 2012). PLI is set by the Economic Planning Unit (EPU) of the Prime Minister Department, while *Had Kifayah* is determined by the respective zakat institution. *Had Kifayah* determines the level of necessity needed by a household to sustain daily needs. It is calculated based on various variables such as the number of members in a household as well as the age group of members etc.

The Department of Awqaf, Zakat and Hajj (JAWHAR) (2007) has outlined the main components in determining *Had Kifayah* (necessity) of a household such as shelter, food, clothing, health, education and transportation based on *Maqasid al Sharia* (human needs). The setting of *Had Kifayah* will ease the process of zakat application, whereby the committee will be able to identify the position of the applicants directly, namely whether they are poor, or hard core poor. Table 1 shows the amount of *had kifayah* in Kelantan.

Table 1:

***Zakat* Poverty Line (*Had Kifayah*) Per Month in Kelantan, 2014**

Category	Household Size	Urban (MYR)	Rural (MYR)
Head of Household	1	297.00[1] / 549.00[2]	182.00[1] / 380.00[2]
Employed Adult	1	236.50	146.00
School Adult	1	274.00	203.50
Teenage Schooling	1	236.50	166.50
Children Schooling	1	179.50	130.50
Children	1	103.00	77.50
Total		**1,326.50 / 1,578.50**	**906.00 / 1104.00**

Sources: Majlis Agama Islam Kelantan (MAIK) 1 – free house; 2 – paid house

[2] The system of zakat has been set up with a view to helping the poor. Zakat literally means purity, clarity and rectification. In the terminology of Shariat, a fixed part of the wealth of a Muslim is to be given at the end of every year to the sectors determined by Allah s.w.t.

[3] *Had al-kifayah* is sustainable needs level according to Islamic principles, i.e amount needed by a household to fulfill their basic needs in accordance with the shariah point of view, hereafter termed as *Had Kifayah*.

Table 1 above shows the determination of zakat poverty line based on the necessity of a household in Kelantan. For example, a family with both parents working, an employed adult above 18 years old, a teenager aged 16 and a child aged 6 and live in paid house in urban area suggest the necessity of this household is MYR1361.50. If the monthly household income is RM1500, then this family is not qualified for *zakat* distribution because the household income is more than *had kifayah* of this household (above MYR1361.50). Nevertheless, if the household income is MYR1000, then this household is qualified for *zakat* distribution. MAIK will distribute the shortfall (*had kifayah* gap) of MYR361.50 to this family to fulfil their basic needs. In addition, if there is any situation such as households with a disable person or a person with chronic sickness, the total amount of *had kifayah* increases.

Kelantan's zakat poverty line (*Had Kifayah*) is an absolute poverty line which is based on the gross monthly household income required to meet basic needs, including food and non-food items (MAIK, 2013). The Kelantan State Islamic Religious Department (MAIK) revises the *Had Kifayah* periodically based on the information from the national Poverty Line Index (PLI) (MAIK, 2013). At present, Kelantan Zakat Centre uses the cost of basic needs (CBN) approach for estimating the poverty line (MAIK, 2013). In general, the CBN approach entails stipulating a food consumption bundle anchored to calorie requirementsas an artifice to determining the cost of minimum food nutritional (calorie) requirements of everyone, and adding a non-food allowance based on the non-food budget shares of poor households, to obtain a total poverty line which represents an acceptable standard of living in society.

However, the estimated zakat poverty line that is used in Kelantan originated from Perak states which violated food consumption among the Kelantan poor and needy. Thus, it failed to fulfil the cost for minimum food requirements based on food items basket that fulfill the standard individual daily requirement determined by nutritionists. People living in different regions, areas as well as being different gender and age have different consumption patterns. For example, urban-rural society and male-female gender will have different consumption patterns. The consumption patterns also changes as income grows. Obviously, the current Kelantan Zakat Poverty Line had failed to tackle two fundamental problems in using the absolute poverty line: (a) the referencing problem, (i.e. what do we mean as minimum basic needs?), and, (b) the identification problem, (i.e. how to estimate the amount necessary to achieve these minimum basic needs?).

Urban-Rural Consumption Pattern

Urban and rural regions have different phenomenon of poverty. Kelantan's zakat state department had recently acknowledged the importance of the urban and rural cost of living differences in constructing Zakat Poverty Line (*Had Kifayah*) (HK), but considered only the possibility of urban-rural differences in housing expenditure (MAIK, 2010). Although a report on Malaysia Expenditure pattern for bottom 40 lowest income in Malaysia shows that the expenditure on housing was only 40 percent, it shows that 60 percent of the expenditure among the *Fuqara and Masakin* were mostly on other items such as food, cloth, medical and education expenditures (Department of Statistics, 2011). While there are convincing arguments in favour of housing prices as a proxy for cost of living differences,

the implicit assumption that the prices of all other goods have no spatial variation greatly complicates the analysis. There is a further need to consider a set of prices including a broader bundle of goods and services representative of the purchases of consumers in different region. For example, in Malaysia, for 2009/2010, the main expenditure for urban household was for housing, water, electricity, gas and other fuel, meanwhile for the rural household, their highest expenditure was for food and non-alcoholic beverages (Department of Statistics, 2011).

Household Head Gender Consumption Pattern

In many parts of the world, households headed by women are at elevated risk of poverty (Kyaw & Routray, 2006). The same holds true for Malaysian society. Female-headed households had a higher probability of being poor than male-headed households. The method in which zakat was distributed has also posed problems for gender comparisons. In the Malaysian context, various problems arise in this respect. The current HK problem failed to differentiate the consumption pattern among the Household head gender that certainly has a different needs and criteria. Women and men are usually poor for different reasons. Women often have to live with greater social constraints such as legal and cultural restrictions, than men do. Women have fewer possibilities than men to improve their lives economically on their own. Further, the estimation of food share has significant implications for the *Had Kifayah* estimation. A low estimate of food share would underestimate the food costs and overestimate the cost of non-food. If it is true that poor people in Kelantan still spend a large proportion of their budget on food, this method of estimating the poverty line fails to accurately identify the poor. The choice of different reference group in estimating the food poverty line would lead to different cost estimations of the food basket (Pradhan et al., 2001). Choosing a higher proportion of the households would include the richer households with more expensive food tastes. Thus a good poverty line should include the right the reference groups that reflect the prior notions of the poverty rate.

LITERATURE REVIEW

The poverty line is intended to serve as an objective standard to determine who is to be deemed poor and who is not. The poverty line is normally defined as either the income or the expenditure necessary for satisfying the basic food and non-food needs. Ravallion (1998) interpreted poverty line as a level on the consumer's expenditure function which gives the minimum cost to a household at a given level of utility at the prevailing prices and for given household characteristics. They can be monetary (for example, a certain level of consumption) or nonmonetary (for instance, a certain level of literacy).

A good poverty line should fulfill both the criteria of specificity and consistency (Mok et al., 2013). Ravallion & Bidani (1994) suggest two key criteria for poverty line which are specificity and consistency. The poverty line is specific when it accurately represents the actual consumption patterns of the target poor in their specific circumstances, given their preferences and relative prices (which is vary across regions and time). The consistent poverty line occurs if all households on the line have the same standard of living regardless of their location;

this requires real poverty lines to be adjusted across regions by a spatial price index, and across time with a chronological price index.

However, Kakwani (2003) argued that this violates the consistency of the poverty lines. Allowing the baskets to differ across regions and areas would not allow the welfare level in different regions to be consistent. Pradhan & Ravallion (2000) proved this method would yield inaccurate measurements of poverty in urban and rural areas. The controversial choice between specificity and consistency has led to different methods in estimating poverty lines and poverty measurements results. To overcome the conflict between specificity and consistency in poverty lines, Kakwani & Sajaia (2007) propose applying standard consumer theory to derive consumption patterns, which yield the same utility level of a consumer regardless of the region in which they reside in Russia. This approach has also been adopted for poverty line estimation in Thailand and Malaysia (Jitsuchon et al., 2004; Mok et al., 2013).

The poor are defined as those who lack command over basic consumption needs, including food and non-food components (Ravallion, 1998). Thus, the poverty line, is obtained by specifying a consumption bundle considered adequate for basic consumption needs and then by estimating the cost of these basic needs. In other words, the poverty line may be thought of as the minimum expenditure required by an individual to fulfil his or her basic food and non-food needs. In defining the food basket, one can determine a commonly consumed, least-cost food basket that yields the nutritional requirement (Asra et al., 2001). Alternatively, food baskets could be identified using a 'reference group', usually defined by the lower deciles (poor and needy) of the population distribution (Duclos, 2007). The latter is preferable as it fulfils the specificity criterion of a poverty line.

The most common welfare indicators for poverty measurement are expenditure on household consumption and household income (Ravallion et al., 1997; Lanjouw, 1995; Pradhan, 2000). However, in choosing a measure of welfare, consumption-based measurement is theoretically preferred by practitioners worldwide. Consumption expenditure is a better measure of both current and long-term welfare (Slesnick, 1993; Boskin et al., 1998; Deaton, 1997; Gibson, 2005). Practically, income is considerably more difficult to measure (Deininger, 1996). In principle, the best measures of a household's long-term economic resources are either wealth or permanent income, which is the yield on wealth. Important components of wealth, such as the present value of expected labour earnings, are unobservable (Lettau, 2003). While current income is observable, it has a transitory component, which obscures any ranking of households based on permanent income (Mincer, 1958). However, consumers have some idea about their permanent income, and so are unlikely to make lasting adjustments to their spending if they believe that the changes in their income are transitory. Consequently, consumption is a function of permanent but not of current income. This reliance of consumption on permanent income also means that consumption levels are less variable over time than are income levels. In other words, because the transitory component of consumption is small, current consumption is a good measure of permanent consumption, which in turn is proportional to permanent income.

The World Bank argues, based on the permanent income hypothesis, that households smooth their consumption in the course of one's lifetime, whereas income faces higher fluctuations. The variability of the income, especially in the agricultural sector, is another important factor. Measuring incomes, especially in rural areas, where most households earn their incomes from self-employment in agriculture, poses much greater difficulties as compared to measuring consumption (World Bank, 2005). To monitor poverty, the poverty profiles should be comparable over time. This requires that the real poverty line be fixed over time, adjusting to the cost of living index. Thus, consumer price indices play an important role in obtaining poverty lines that are consistent over time (Mok et al., 2013).

DATA AND METHODOLOGY

This study explored the implications of different method in estimating the *Had Kifayah* using expenditure methods. The reference groups for this study were the zakat recipients in Kelantan. This study used Per Capita Expenditure (PCE) as a measure of welfare. The measure included the total value of food and non-food consumption items (purchases, home-produced items and gifts, as well as the imputed use-values for owner-occupied housing. Durable goods which are bought at a point in time would be consumed over a period of several years and certain household's durable goods consumption. To construct *Had Kifayah*, this study used the cost of basic needs method proposed by Rowntree (1901) which include the cost of a food basket that meets the predetermined minimum daily nutritional requirement, plus the cost of non-food consumption. The average prices of the food items in the basket for each region and area were obtained from the Statistics Department of Malaysia and Ministry of Domestic Trade, Co-Operatives and Consumerism of Malaysia. The year of 2014 was chosen as the base year to tally with the household expenditure survey.

The food poverty line relies on the calorie requirements of individuals. Individual calorie requirements were obtained from the Malaysian Ministry of Health. The calorie costs were estimated from the food consumption patterns per capita expenditure households which fulfil the calorie requirements. In order to estimate the calorie cost, prices of food are needed to convert the household's food expenditure into food quantities, which were then converted into calories using food calorie conversion factors obtained from the Malaysia Institute for Medical Research. The Kelantan average prices of each food items were used for this purpose. Household calorie costs were estimated by dividing their food expenditure by the calorie intake. The calorie costs for each region and area were then adjusted by the spatial price indices, which measure the relative costs of living in different regions and areas. The non-food expenditure were acquired from nine sources (EPU, 2006): (1) Housing, including household utilities and housing contents and services; (2) Clothing and Foot wear; (3) Medical; (4) Transportation; (5) Education; (6) Religious; (7) Miscellaneous goods and services, including recreation and insurance; and (8) Other Expenditure, including other payment, saving, fines and money given to others.

Ravallion's lower and upper bound poverty lines

Ravallion (1998) proposes upper and lower

bounds when setting the Poverty Line Index (PLI), bounds that reflect the preferences of different groups of households. The lower bound is the food poverty line itself, with no allowance for non-food expenditure. At this point, any non-food expenditure can be viewed by definition as essential because it requires food consumption to fall below the required minimum. This corresponds to the official Malaysian definition of hard-core poverty. The upper bound includes the non-food expenditure of those households whose food expenditure just meets the food poverty line. The following specification was formulated that best fit the poverty line estimation:

$$s_i = \alpha + \beta_1 \log(y_i / b^f) + \beta_2[\log(y_i / b^f)]^2 + \gamma(d_i - \overline{d}) + residual_i \quad (1)$$

where s_i denotes food budget share; b^f denotes food poverty lines; y_i is total expenditure for *i*th household; *d* denotes the vector of demographic variables with means *d*; and α is the average food share of those households who just meet basic food needs.

The allowance for non-food goods can be estimated from equation **(1.0)** by substituting $y_i = b^f$ into the equation. Thus, $si = \alpha$ represents the average food share of those households who can just afford the basic food needs. The average non-food share of those households who can just afford basic food needs is $(1-\alpha)$. The non-food allowance is defined as the typical non-food expenditure by households who can just afford basic food needs, which could be written as $(1-\alpha)b^f$. Hence, the total poverty line = food poverty line + non-food allowances. This can be written as $b^f + (1-\alpha)b^f = (2-\alpha)b^f$. This denotes the lower bound of the poverty line. The upper bound poverty line is b^f/α^*, where α^* is defined as:

$$\alpha^* = \alpha + \beta_1 \ln(\frac{1}{\alpha^*}) + \beta_2[\ln\frac{1}{\alpha^*}]^2 \quad (2)$$

Kakwani & Sajaia's (2007)

Kakwani & Sajaia's food poverty line method is estimated based on household calorie requirements which are the standard approach of estimating the food poverty line. The calorie costs are measured by cost per calorie. As the food poverty line depends on the calorie requirement of the household, it varies between households and regions. The average price of the *i*th food in the whole country is estimated from the following equation:

$$\overline{p_i} = \sum_{j=1}^{N} a_j p_{ij} \quad (3)$$

where *pij* is the average market price for *i*th food in *j*th region; and *aj* is the population share of *j*th region. Below is the formula for the regional spatial price indices with the spatial price index of 100 for the country, used as the base.

$$P_j = 100 \times [\sum s_i p_{ij} / \overline{p_i}] \quad (4)$$

where *si* denotes the share of *i*th food in basket of *n* food. Translating to the Malaysian context, the food poverty line, $FLine_{hj}$ is the amount of money needed to purchase the total calorie requirement if the food cost is $RMcal_{hj}$.

$$FLine_{hj} = Calreq_h * RMcal_{hj} * P_j \quad (5)$$

where $Calreq_h$ is per capita calorie requirement of household *h*; $RMcal_{hj}$ is the calorie cost of the *h*th household in *j*th region, in Malaysia currency (Ringgit Malaysia); and *Pj* denotes the regional spatial price indices. Kakwani-Sajaia suggested the use of the bottom quintile as the reference group to represent the poor household. This is represented by the *h*th household in *j*th region.

As the food poverty line varies between households and regions, Kakwani-Sajaia introduced the food welfare index $Fwel_h$,

which is the ratio of a household's actual food expenditure ($FExp_h$) to the food poverty line, which takes the value of 100 when per capita food expenditure is equivalent to the per capita food poverty line (Kakwani & Sajaia, 2007). Households whose food welfare index lies between 90 and 110 are chosen to estimate the average non-food poverty line. The per capita non-food expenditure on the items mentioned above for these selected households will represent the average per capita non-food poverty line for different reference groups. The food welfare ratio is a ratio of the households' actual food expenditure to the households' respective food poverty line, multiplied by 100 shown below:

$$Fwel_h = FExp_h / Fline_h * 100 \quad (6)$$

$$MNFPL_{nj} = \underset{h \in \Psi}{average}\,(MNFPL_{hnj}) \ldots n=1,\ldots,\ 8.. \quad (7)$$

where $MNFPL_{nj}$ denotes the average expenditure on all non-food items by region and area; and ψ is a set of household whose $90 \leq Fwel_h \geq 110$. Next, the non-food poverty line derived below takes into consideration of the economies of scale in household consumption.

$$NFPL_{hnj} = \kappa * MNFPL_{nj} * HS_h^{(\theta n-1)} \quad (8)$$

where θn is the economy of scale for non-food items; HS_h is the size of the hth household; and K denotes the parameter to scale up all the non-food items (so that the mean of $NFPL_{hnj}$ across households is equal to $MNFPL_{nj}$). The total per capita non-food poverty line for the hth household is given as follows:

$$NfLine_h = \sum_{n=1}^{N} NFPL_{hnj} \quad (9)$$

Finally, the total poverty line is derived as follows:

$$PLine_h = FLine_h + NfLine_h \quad (10)$$

where $FLine_h$ and $NfLine_h$ denote the food and non-food poverty lines, respectively.

In estimating the non-food poverty lines, the non-food expenditure are household's actual expenditure on items which includes clothing and footwear; housing, water, electricity and gas; furnishing and household equipment; health; transport; communication; education and personal goods. The average non-food expenditure was similar to the non-parametric upper bound poverty line proposed by Ravallion (1998) where the households' per capita food expenditure is equal to per capita food poverty line.

METHOD OF DATA COLLECTION

This study utilized the the HES, which was collected between June 2014 and December 2014. The reference groups for this study were the zakat recipients in Kelantan. There are ten districts in Kelantan, namely Kota Bharu, Pasir Mas, Tumpat, Bachok, Pasir Putih, Tanah Merah, Kuala Krai, Gua Musang, Machang and Jeli. For this study we used the monthly expenditure to analyse the monthly effect of zakat distribution. In order to solve the recall problem, respondent were requested to participate every two weeks, that was, 2 times for one month as a full cycle. The optimal length of the diary keeping period has received a lot of attention. It has been found that reporting is generally higher at the outset, and declines after 2-3 weeks. At that point, cooperation becomes difficult to maintain, so most authors recommend

2-3 weeks as the optimal record keeping period. As a rule, households were asked to participate in the HES by filling out daily expenditure records for a period of two weeks, that is, for one entire cycle.

The stratified multi-stage probability (proportional to the households and collector's districts) sampling procedure was followed for selecting the households, who were interviewed evenly throughout the survey. A set of questionnaire was set up as a survey module. The target population was the zakat recipients of the MAIK from the *Fuqara* and *Masakin* categories. There are five major parts of the questionnaire.

The *first part* (Part A) is on the background, size and basic information of the head of households and their household's members. This includes the gender, relation to the head of household, marital status, and occupation of all the household members. Household size and number of dependents of the household's head are also asked in this part. The *second part* (Part B) is on the sources of monthly household's income. Sources of income are divided into four, i.e. income from wages or salary, transfer payment and contribution from others (such as their relatives), income from property, and income from any economic activities. To get the amount of total household income, all types of income of all the household members are transformed into money value. The *third part* (Part C) is on monthly food and non-food expenditure of household. Expenditure data for food are acquired from two sources: (1) food purchases, including food purchased and (2) consumed away from home. To calculate daily energy availability for a household, the quantities of each food item were first converted to kilocalorie values using conversion tables. The kilocalorie values were then summed and divided by the number of days in the reference period. This figure was then divided by the number of people or adult-equivalent persons living in the household in order to assess the sufficiency of available energy to meet the dietary needs of household members. The non-food expenditure were collected on non-food acquired from nine sources (EPU, 2006): (1) Housing, including household utilities and housing contents and services; (2) Clothing and Foot wear; (3) Medical; (4) Transportation; (5) Education; (6) Religious; (7) Miscellaneous goods and services, including recreation and insurance; and (8) Other Expenditure, including other payment, saving, fines and money given to others. The *forth part* (Part D) is details on job involvement, the level of nutrition and health of the household head which will only focus on the household head. It includes the number of different type of work per week, number of days working, number of working off days, type of nutrition and health condition of the household and medical insurance of the family.

RESULTS AND DISCUSSION

Sample of the study were 983 households (12 percent) of the total population of 8188 *fuqara* and *masakin* (poor and needy) households in Kelantan for 2014. Samples selection ranged 56 percent (550) for urban and 44 percent (433) for rural area for individual unit. Based on the household unit, the respondent for urban area consisted of 271 families (53.7 percent) and 234 families (46.3 percent) in the rural area. Overall respondent in the urban area were higher as compared to rural area in both units (refer to **Table 2**).

Table 2:

Number of Respondent based on Region Area

		Frequency[1]	Percent	Frequency[2]	Percent
Valid	Urban	550	56	271	53.7
	Rural	433	44	234	46.3
Total		983	100.0	505	100.0

Sources: Research questionnaire
[1]Individual unit; [2]Household unit

From the sample, it is shown that the gender in the sample is characterized by 503 females (51 percent) and 480 males (49 percent) (refer to **Table 3**). While for household unit, female headed household represent 74.3 percent (375 families) while male headed household represent 25.7 percent (130 families) so, giving a total of 505 respondents.

Table 3:

Number of Respondent Based on Gender

		Frequency[1]	Percent	Frequency[2]	Percent
Valid	Female	503	51	375	74.3
	Male	480	49	130	25.7
Total		983	100.0	505	100.0

Sources: Research questionnaire
[1]Individual unit; [2]Household unit

Out of this 503 individual female respondents, 295 (59 percent) came from urban area and 208 respondent (41 percent) came from rural area, as shown in **Table 4**. Further, 53 percent (255 respondents) were male respondent from urban area and 225 (47 percent) were from rural area. Generally, from the household unit, 201 (54 percent) respondents were drawn from urban female headed household and 174 (46 percent) were rural female headed household. The remaining 130 household unit came from male urban (70 families) and male rural (60 families).

Table 4:

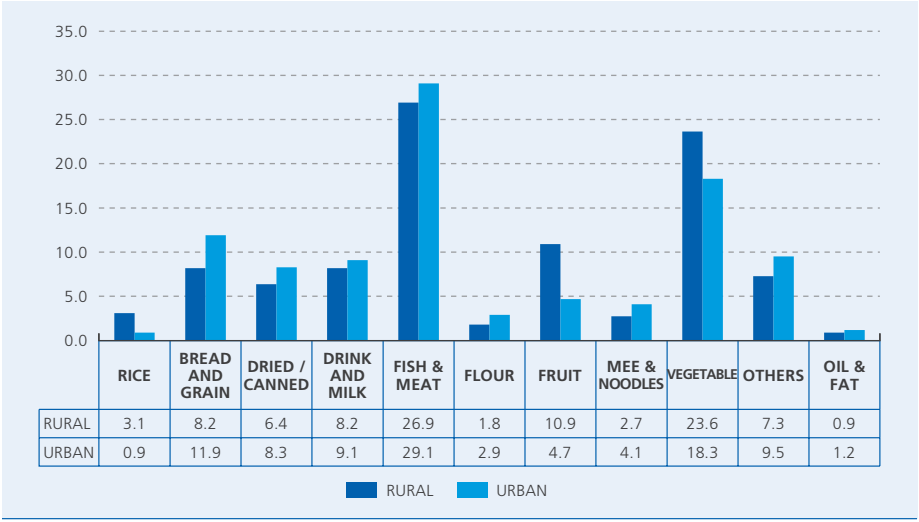
Crosstab between Region and Gender

		Gender							
		Female[1]	%	Male[1]	%	Female[2]	%	Male[2]	%
Region	Urban	295	59	255	53	201	54	70	54
	Rural	200	41	225	47	174	46	60	46
Total		505	100	480	100	375	100	130	100

Sources: Research questionnaire
[1]Individual unit; [2]Household unit

Figure 2:

Food Items Consumed Among the Poor and Needy by Urban-Rural in Kelantan, 2014 (%)



	RICE	BREAD AND GRAIN	DRIED / CANNED	DRINK AND MILK	FISH & MEAT	FLOUR	FRUIT	MEE & NOODLES	VEGETABLE	OTHERS	OIL & FAT
RURAL	3.1	8.2	6.4	8.2	26.9	1.8	10.9	2.7	23.6	7.3	0.9
URBAN	0.9	11.9	8.3	9.1	29.1	2.9	4.7	4.1	18.3	9.5	1.2

Sources: Research questionnaire

The food items in this study were based on per capita consumption expenditure as a measure of welfare which relies on the calorie requirements of individuals. Figure 2 explains the portions of food items consumed among the poor and needy in Kelantan based on urban/rural, poor and needy.

For the rural household food PCE, about 160 most important items that gave 91 percent of the total cost of the food basket while the urban PCE displays a wider variety of food consumption. They consumed about 167 food items which gives the same proportion of total cost of the food basket as the rural reference group. The food items based on 91 percent of the total cost was chosen as the additional food items increased less than 0.01 percent of the total expenditure. The portion of food consumed among the urban and rural poor and the needy show similar pattern with the urban area had a higher food items consumed compared to rural area (Figure 2). The highest items of food consumed among the poor and needy in Kelantan was Fish and Meat (26.9 – 29.1 percent). The difference between the urban and rural food items show that the urban area consumed a higher or more luxurious food (i.e: meat, bread and noodles) while a low price of fruits in rural area had make the rural poor and needy had a higher percentage of fruits items.

Results from Food Spatial Price index between urban and rural in Table 5 show a variation of prices by locality within urban and rural areas which measure the relative costs of living in different regions and areas. The food spatial price index shows that the urban area had a higher cost for food spatial price 99.80 compared to rural area 98.53.

Table 5:

Food Spatial Price and Calories Cost per day in Kelantan, 2014

Region/Area	Food Spatial Price[1]	Calorie costs (MYR)[2]
Rural	98.53	1.78
Urban	99.80	1.97

Note: [1] Estimated with adopting Malaysia as the base (Malaysia =100)
[2] MYR per 1000 calories

Higher food spatial price and calories cost are displayed for the urban area as this area offers a much more expensive food while in rural area, a significant fraction of foods are produced at home, and these provide a price advantage to rural consumers. The calorie costs for the respective reference groups were estimated using the most important food items identified from the concentration curves.

Table 6 shows that the calories consumed per day for male gender were higher compared to female as they consumed more calories due to metabolism and their job factor (income breadwinner activity). Results from Table 6 shows that the calorie per day also increased as the age of the family member increases. It shows that as the age of the family gets older, they require more calories.

Table 6:

Per capita Calories per day

Variables	Calories Per Day	
	Male	Female
Age (Household Members)		
> 6[1]	971	912
7 - 12	2093	1970
13 - 18	2620	1993
19 - 24	2340	1982
25 - 59	2270	2030
< 60	1963	1420
Household Head	2590	2180
Pregnancy		
2nd trimester	-	+ 236
3rd trimester	-	+ 430
Infant		
0 - 5 months	+ 580	+ 520
6 - 11 months	+ 629	+ 590
Lactation		
1st six months	-	+ 467

Note: [1] Based on Option 1 of the 2 methods used by the official calculation, which includes diet with milk powder.

Further, the total amount of grams requires for each food items can be calculated by multiplying the grams per calories table by household's total calories needs per month, which would vary according to the household size and composition. By multiplying the total amount of grams required for each food by its price, the result is the food PLI for each family. And since the price of these food items vary by region, the PLI also varies according to locations. **Table 7** shows the per-capita food poverty line among the male-female and urban-rural area in Kelantan.

Table 7:

Per capita Food Poverty Line (MYR Per month)

Variables	Food Poverty Line (MYR)			
	Urban		Rural	
	Male	Female	Male	Female
Age				
> 6[1]	57	54	51	48
7 – 12	123	116	110	104
13 – 18	155	118	138	105
19 – 24	138	117	123	104
25 - 59	134	120	119	107
< 60	116	84	103	75
Gender	153	129	136	115
Size				
1 - 4	194	189	167	187
5 - 8	117	113	104	86
9 and above	111	107	97	97
Status				
Non Married	127	170	186	152
Married	132	177	111	129
Married (live separate)	172	110	161	161
Widow / widower	181	190	144	146
Divorced	229	151	214	230
Pregnancy				
2nd trimester	-	+ 14	-	+ 12
3rd trimester	-	+ 25	-	+ 23
Infant				
0 - 5 months	+ 31	+ 34	+ 27	+ 31
6 - 11 months	+ 35	+ 37	+ 31	+ 33
Lactation				
1st six months	-	+ 28	-	+ 25

Source: Research questionnaire
Note: [1] Includes diet with milk powder.

The food poverty line in Kelantan (**Table 7**) shows that food expenditure was higher in urban area. These differences could be attributed to the relatively higher amount of consumption from own production of basic food items in rural area compared to urban area. Higher amount of food poverty line are shown in all genders and variables. The estimated food poverty line will be applied to equation (3) to estimate the Engel food budget share for each reference group and region as shown in **Table 8**.

Results on Engel food ration for Kelantan PCE households were between 0.45 to 0.49. On the average, most of the Engel

Table 8:

Engel Food Ratio for Kelantan

Variables	Food Share			
	Urban		Rural	
	Male	Female	Male	Female
Age				
> 6	0.69	0.75	0.62	0.65
7 – 12	0.60	0.65	0.57	0.60
13 – 18	0.55	0.60	0.52	0.56
19 – 24	0.52	0.45	0.49	0.48
25 - 59	0.43	0.41	0.46	0.49
< 60	0.49	0.48	0.51	0.49
Pregnancy				
2nd trimester	-	0.51	-	0.49
3rd trimester	-	0.53	-	0.51
Infant (Baby)				
0 - 5 months	0.88	0.87	0.89	0.87
6 - 11 months	0.75	0.73	0.79	0.80
Lactation				
1st six months	-	0.49	-	0.47
Size				
1 - 4	0.46	0.47	0.49	0.49
5 - 8	0.44	0.46	0.46	0.46
9 and above	0.43	0.42	0.42	0.42
Status				
Non Married	0.49	0.47	0.51	0.51
Married	0.44	0.44	0.46	0.47
Widow / widower	0.47	0.46	0.47	0.47
Married (live separate)	0.41	0.40	0.45	0.45
Divorced	0.49	0.38	0.41	0.42
Kelantan	**0.45**	**0.47**	**0.47**	**0.49**

Source: Research questionnaire; 1 - Age: 25 to 59

food shares were above 0.4 with and the rural region had a higher amount of Engel food shares compared to urban region. This had proven the results from previous results (Figure 2) that the food expenditure for rural region was higher than the urban area. Only the size of household (9 and above) and age (19 - 24) had a higher amount of Engel food shares in urban region compared to rural region. This can be due to a higher

Table 9:

Per capita Expenditure between Urban and Rural, 2014 (MYR per month)

Variables	Kakwani method		Ravallion Lower Bound		Ravallion Upper Bound	
	Urban	Rural	Urban	Rural	Urban	Rural
Age						
> 6	102	94	98	88	132	112
6 – 12	154	175	121	111	193	181
13 – 18	193	188	136	115	224	200
19 – 24	284	234	198	173	297	246
25 – 59	257	225	153	191	302	253
< 60	234	204	141	136	258	245
Gender						
Male	233	228	195	182	325	273
Female	244	239	234	213	314	320
Pregnancy[1]						
2nd trimester	271	237	167	203	316	265
3rd trimester	282	248	178	214	327	276
Infant (Baby)						
0 - 5 months	288	259	83	76	87	81
6 - 11 months	292	262	103	94	108	97
Lactation[1]						
1st six months	285	250	181	216	330	278
Size						
1 - 4	388	383	358	304	389	352
5 - 8	289	301	233	191	364	299
9 and above	136	289	172	93	219	302
Status						
Non Married	263	220	242	172	309	290
Married	335	247	221	176	321	234
Married (live separate)	343	286	263	181	384	267
Widow / widower	246	220	151	138	314	225
Divorced	351	301	349	186	253	266
Kelantan	**268**	**240**	**242**	**215**	**372**	**286**

Source: Research questionnaire; [1]Age: 25 to 59

amount of mouth to feed which urged them to spend more on food items. Overall in Kelantan the Engel food shares in urban region was 0.45 (Male), 0.47 (Female) and 0.47 (Male), 0.49 (Female) in rural region. This suggests that the rural area had a higher amount of food expenditure compared to urban area which was concentrated more on non-food items.

Further, the gender variables show that the female household head (0.47 – Urban; 0.49 - Rural) had a higher amount of Engel food shares compared to male household head gender (0.45 – Urban; 0.47 - Rural). This was caused by the fact that the female household head was more concerned on providing more nutritious food which made them to concentrate more on food items as compared to male-headed household. A high amount of Engel food shares for infant baby was caused by the high cost of milk and the fact that most of the expenditure on infant babies were on food items which increased their food shares. The size of the family suggests that the Engel food shares were decreasing as the size of the family increases. It shows that as the expenditure/ income of the family increases, the food shares of the family will decrease and the non-food shares will have to be satisfied before basic food needs as stated in Engel Law. Results from method proposed by Ravallion-Bidani, upper and lowe poverty lines and Kakwani are shown in **Table 9** reflect differing results depending on the reference group chosen.

The Kelantan per capita expenditure estimated from the Kakwani-Sajaia and Ravallion-Bidani upper bound method was higher, respectively than the Ravallion-Bidani lower bound. The per capita expenditure in urban region was higher than rural region in Kelantan. **Table 10** shows that Kakwani-Sajaia's poverty lines were always in between Ravallion-Bidani's lower and upper bound. Based on other variables, the female household head had a higher amount of per capita expenditure compared to male-headed household, 3rd trimester pregnancy person required a higher per capita expenditure compared to 2nd trimester pregnancy and older infant baby required higher per capita expenditure. Size of the family shows a negative correlation between size and per capita expenditure. We can see that as the size of the family increases the per capita expenditure for the family decreases. Lastly for status variables, the divorced household head required a higher amount of per capita expenditure compared to other household head status.

Further, to see the differences between the household head gender among the regions this study extended the results based on region and gender of household head. Analyses of the results were based on four major gender head and regional which are male-headed household and female-headed household in urban area and male-headed household and female-headed household in rural area. **Table 10** below shows the per capita consumption pattern between region and gender of the household head from different poverty line estimation methods.

Table 10 above displays a different pattern of consumption between male and female in urban area and male and female in rural area. Inclusively in Kelantan, female-headed household who live in urban area spent a higher amount of consumption and male-headed household expended the lowest amount of expenditure. The urban area among the female household head gender

had a higher amount of consumption compared to rural and male household head gender. This can be the reasons of a higher cost of living in urban area and the different pattern of expenditure between gender household head. For urban area, female-headed gender had a higher amount of expenditure compared to male-headed household. We can see the results of their expenditure in all method and variables. This can be explained that the female household head was more concern about the expenditure on family needs as compared to individual needs. For example

Table 10:

Zakat Poverty Line based on Household Head Gender between Urban and Rural, 2014 (MYR per month)

Variables	Kakwani method				Ravallion Upper Bound				Ravallion Lower Bound			
	Urban		Rural		Urban		Rural		Urban		Rural	
	M	F	M	F	M	F	M	F	M	F	M	F
[1]Age												
> 6	113	94	98	88	132	112	102	94	91	100	78	84
6 – 12	174	175	121	111	193	181	172	163	186	203	163	176
13 – 18	225	188	136	115	247	200	185	170	183	248	160	215
19 – 24	284	234	198	173	297	246	284	234	178	200	164	182
25 – 59	295	225	153	191	302	253	257	225	172	189	166	177
< 60	234	204	201	146	258	245	234	204	125	172	113	153
[2]Gender	244	288	177	146	344	320	307	288	129	153	115	136
[2]Pregnancy												
2nd trimester	214	222	147	135	233	243	223	228	195	176	104	86
3rd trimester	225	260	162	153	241	262	252	288	213	221	124	103
[1]Infant (Baby)												
0 - 5 months	97	77	83	79	110	93	89	83	86	73	77	71
6 - 11 months	103	101	94	88	126	117	98	92	94	97	88	83
Lactation												
1st six months	106	113	82	92	121	129	102	105	92	102	79	84
Size												
1 - 4	388	403	308	340	425	452	337	357	283	278	249	279
5 - 8	289	301	233	191	297	321	277	212	168	165	152	126
9 and above	136	229	122	93	219	262	147	99	159	152	138	74
[2]Status												
Non Married	225	212	249	247	298	323	233	252	189	161	162	190
Married	382	412	292	394	376	430	327	424	341	266	302	327
Married (live separate)	363	290	220	255	371	380	347	378	253	208	237	237
Widow / widower	333	431	282	287	381	422	333	350	255	250	209	212
Divorced	385	373	301	332	462	385	351	372	250	255	281	230
Kelantan	**332**	**420**	**257**	**326**	**364**	**429**	**372**	**389**	**159**	**160**	**139**	**134**

Note: M – Male Household Head; F – Female Household Head
[1] Household Members; [2] Household Head

the female-headed household may expend more on family food compared to male-headed household who expend some of the family resources on tobacco and cigarettes which were not included in this table.

Based on age variables, we can see the difference between the highest amounts of expenditure between the genders of the urban region in Kelantan. In urban area, the age variable show that age range between 19 to 24 had the highest amount of expenditure among the male-headed household while in female-headed household, those who were at the age of 60 and above has the highest amount of expenditure compared to other age. This was due to those who among those ages started living outside their family (e.i: living in university hostel) which required higher expenses for transportation and other fees. Further, by living outside their family, they had lost the economies of scale (sharing opportunity between family members) among the family members which caused them to spend more. While for the female-headed household, their priority was for the elders and old folks who need special attention in terms of household facilities and medication. It also shows that most of the female-headed household had an old folk as part of their family members.

Female household head show a higher amount of spending compared to male headed household head in Kelantan. We can see that in every method that used the urban female-headed household has a higher amount of spending. However in rural area, the male headed household had a higher amount of spending compared to female-headed household. This is caused by their capability of spending which were limited by their income capabilities for spending. In rural area, the female household head had a few limitations of gaining income due to type of job in rural area which require a lot of energy and strength (farming in forest) which they were not capable in doing. Thus with a limited job that suits them, it affected their income and further affects their expenditure.

Pregnancies variables show that the 3rd trimester period require a higher amount of expenditure compare to 2nd trimester period in Kelantan. During the 3rd trimester, the expenditure for food items was higher due to food requirements of pregnant women who consumed more during that time. Further, the non-food item during that period also increased as they required medication items (i.e: medicine and supplement), clothings (i.e: pregnant clothing) and transportation (i.e; cost for going to medical check-up). Thus, this additional requirement had increased their expenditure at that period of time.

Infant baby require a special milk which is more expensive than adults milk. Although most of respondent and current mother breastfeed their baby which can lower their expenditure, the fact that not all mothers were capable in breastfeeding their baby due to work and health problems. From Table 11 we can see that older infant baby required a higher amount of expenditure because at this age they are growing and consume milk more often as compared to toddlers. Further, they also require diapers and baby cloth which increased the expenses for infant baby. We can see that the urban area expended the highest amount for infant baby while based on household head gender, the male household head expend spent more on infant baby which were shown in all methods.

In terms of lactating mothers category, it shows that female-headed household spent more compared to male-headed household among the poor and needy in Kelantan. This can be a fact that mother is more concerned on the health of the baby. The results also show that during this time the expenditure among this category was less than other adult's average expenditure. During this period, they were in healing proses which limited them in consuming food and other non-food items.

Based on family size, those who had 1 to 4 household members spent more based on per capita compared to bigger household family. Although higher size household required a higher consumption mostly on basic items such as food but through savings, sharing and bulk buying, they managed to create economies of scale in family's expenses. We can see this that household with size 9 and above spent less of their income while those who has family with size 1 to 4 spend more on their expenses. Based on gender, the female-headed household expended more compared to male-headed household and urban area had a higher amount of expenditure compared to rural area. Higher cost of living in urban area had increase the expenditure for urban family.

Based on marital status, those who were divorced spent the highest amount of their expenses compared to other marital status. While widow/widower had less expenditure compared to other marital status. A high expenditure among divorced family was caused by high number of family members. Thus, this had created a numbers of mouths to feed. Further, most of this marital status category had a young age of children which were still in their parent's custody. The results also show that the married female household had the highest expenditure both in urban and rural area. This suggests that although the male spouse was present in their family members, they did not contribute to family income. Further, most of the male spouse in married female household head was disable (sick) which denied them from playing their parts as the household head. This had also caused additional expenses on medication which increased their expenses. Lower expenditure among the widow/widower status was caused by most of the respondent in this study among this category were old folks who did not have many family to be supported and most of them live single. Further, the female-headed household and those who live in urban area spent more on family items as compared to male-headed household and live in rural area.

CONCLUSION

Results from regional (urban-rural) expenditure in Kelantan show that the urban area had a higher food items consumed compared to rural area where the people in urban area consumed a higher or more luxurious food (i.e: meat, bread and noodles) while a low price of fruits in rural area had caused the rural poor and needy has a higher percentage of expenditure on fruits items. The food spatial price index shows that the urban area had a higher cost for food (99.80) as compared to rural area (98.53). The food poverty line in Kelantan shows that food expenditure is higher in urban area which are caused by high consumption from own food production in rural area as compared to urban area. The Kelantan regional estimated food poverty line shows that the estimated Engel food ratio above 0.4 in which the rural region

has a higher amount of Engel food shares as compared to urban region. This had corroborates the previous results that the food expenditure for rural region is higher than urban area. Only the size of household (9 and above) and age (19 - 24) had a higher amount of Engel food shares in urban region as compared to rural region. This can be due to a higher amount of mouth to feed which urged them to spend more on food items. The female household head was more concerned on providing more nutritious food which makes them to concentrate more on food items as compared to male-headed household.

Kelantan per capita expenditure that is estimated from the Kakwani-Sajaia and Ravallion-Bidani upper and lower bound method show different results where the Kakwani-Sajaia and Ravallion-Bidani upper bound method is higher, respectively than the Ravallion-Bidani lower bound. The Kakwani-Sajaia's poverty lines are always in between Ravallion-Bidani's lower and upper bound. The Ravallion-Bidani first divides the food component of the poverty line by the mean of food share of households whose actual food spending is in a neighbourhood of the food poverty line. The second method uses mean of non-food spending of households whose total sending is in the neighbourhood of the food poverty line. Ravallion argues the first method gives a reasonable upper bound to the allowance for non-food needs while the second gives a lower bound. The Almost Ideal Demand System (AIDS) model proposed by Deaton & Muelbauer (1980) sourced from the Engel method played an influential role in the poverty line estimation proposed by Ravallion & Bidani (1994). Kakwani & Sajaia (2004) were inspired by standard consumer theory when they proposed a new approach to poverty line estimations.

The difference between urban-rural expenditure depends on factors such as the palates of the household, the level of activity of household members, the relative prices of different foods, and food to non-food items and the presence of publicly provided goods.

The difference between urban-rural expenditure depends on factors such as the palates of the household, the level of activity of household members, the relative prices of different foods, and food to non-food items and the presence of publicly provided goods. Rural households can obtain food more cheaply, both because food is typically less expensive in rural areas and also because they are more willing to consume foodstuffs that are cheaper per calorie, urban consumers on the other hand, are more likely to buy higher quality foodstuffs, which raises the cost per calorie. It follows that the calorie income function for rural households will typically be higher than that for urban households. The implication is that for a given level of food energy intake, the poverty line in the rural area will be lower than in the urban area.

Results from this objective reveal that in Kelantan, urban female-headed household had the highest spending while rural male-headed household had the lowest amount of expenditure in all methods. Higher cost of urban living and the fact of higher family expenditure among the Kelantan's female-

headed household had caused the urban female household to spend more. Higher job opportunities in urban area produce no unemployment problem which the majority of the urban female head work in factories. Almost all of the women were working, they were either engaged in formal or informal economic activities largely to supplement their family income. Some of the residents carried out informal economic activities such as the sale of *kuih* (*cakes*), food catering and child care services. Further, female-dominated professions tend to be less paid. Women who work full-time make only 85 percent of their male counter- parts. Women who rely on government benefits for their income (for example, many women with disabilities and single mothers), has a higher poverty gap because most welfare and disability benefit programs in the urban area fall far short of any poverty line.

The main cause of poverty among the rural male head in Kelantan was the lack of skills and job opportunity in the rural area which encouraged most of them to migrate to urban area. Although male head had more advantage as compared to female head in terms of energy and high wage, poverty situation in rural areas was severe that it drove a majority of them to innovate means of survival. Hence, engaging in subsistence farming, petty trading, public alms begging, selling of personal belongings and engaging in menial jobs were some of the identified means of coping strategies adopted. These activities were found to be detrimental to their health and living conditions. Recent transformation in job process has altered the sexual division of labour and exacted a huge toll on traditional conceptions of masculinity which reduce the chances of male workers in rural area. The microelectronics and the information technology revolution have automated (through labour-saving technologies) several aspects of the work practice such that there has been the de-skilling of working-class jobs in manufacturing and services. Along with the process of de-skilling, these jobs have been made more flexible and responsive to the demands of the new technologies and shifts in the marketplace, as is evident in the growth of subcontracting and part-time labour practices. Most of these new jobs have seen rapid growth in women's participation in occupations that were formerly dominated by men. For example, women predominate the low-wage, low-skill jobs in rural area that are to be found in many Asian and South American economies.

This study also reveals that the highest amounts of expenditure occured at a productive age (25 to 59). Living outside the parents' house due to marriage and work require higher expenses. Further, by living outside their family, they had lost the economies of scale (sharing opportunity between family members) among the family members which caused them to spend more. The pregnancies variables show that the 3rd trimester period required a higher amount of expenditure as compared to 2nd trimester period. It also shows that the urban female-headed household was more concerned on providing the need of pregnant women where the rural female had less concern on providing the need for this category. Although in Malaysia, the government had provided huge medical aids for pregnant women, the urban female were more exposed and attracted to additional supplements and vitamins which caused their expenditure on this category to be higher.

The infant baby category shows that higher expenditure was provided by male gender mostly by urban male gender. Although results show that the female-headed household had a higher expenditure and they tended to spend mostly on family needs, lower expenditure on infant baby showed that male-headed household was more concerned on providing for the younger age children in their family. Due to missing female spouse or lack of time for lactation in the urban area due to work had made the male urban family to spend more on buying milk and nursery items. We can see that older infant babies require a higher amount of expenditure because at this age they are growing and consume milk more often as compared to toddlers. In the lactating mothers category show that female-headed household was more concerned on the health of the baby. The results also show that during this time the expenditure among this category was less than other adult's average expenditure. During this period, they were in healing proses which limits them in consuming food and other non-food items.

In Kelantan, lower size family require a higher consumption while higher size family spent less. The presence of economies of scale in family's expenses had managed a bigger family to save through sharing and bulk buying. Higher expenditure among divorced family was caused by high number of family members. Most of divorced parents in Kelantan had children of young age, who were still in their parents' custody. Married female household had the highest expenditure both in urban and rural areas in Kelantan. This suggests that although the male spouse was present in their family members, they did not contribute to family income. Further, most of the male spouse in married female-headed household was disabled (sick) which deny them from playing their parts as the household head. This had also caused additional expenses on medication which increased their expenses. Lower expenditure among the widow/widower status was caused by most of the respondent in this study among this category were old folks who do not have many family members to be supported and most of them live alone. Further, the female-headed household and those who live in urban area spend more on family items as compared to male-headed household and people who live in rural area.

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Received Date: 10th September 2015
Acceptance Date: 4th May 2016