

**FEMALE POVERTY IN THE NORTHERN STATES OF MALAYSIA**

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**ABSTRACT:** The male population in Malaysia is higher compared to female, but there are more female in education in comparison with male. According to the Statistics of Higher Education of Malaysia Report 2010, more than 60 per cent of enrolments in Public Higher Education Institutions are female. Even though there are more female in tertiary education, but the wages for female employee are still lower compared to male employee. Somehow, this situation has contributed to female poverty. Among others, the factors known to influence female poverty are low education attainment, poor health, lack of gainful employment due to child rearing responsibility, involvement in low productivity jobs, divorce. While Malaysia has demonstrated successful reduction of poverty from more than 50 per cent in the 1970s to 0.6 per cent in 2014, there is no information on how female poverty has been affected over the years. The main objective of this study is to assess female poverty incidence in the Northern States of Malaysia. Specifically, the study aims to empirically determine the poverty incidences among female and the factors influencing the female poverty in the Northern States of Malaysia. The study found that 0.17 per cent of female in the Northern States are living in state of poverty. Female with lower education have higher incidence of poverty where 36 per cent and 21 per cent of them who have non-formal and primary education respectively are poor. Logistic probability function taking the value of 1 (female living in poverty) and 0 (female not living in poverty) is employed to determine factors influencing female poverty. The independent variables included are per capita income, income inequality by states and education attainment. All variables are found to be statistically significant in influencing female poverty.

*Keywords:* female poverty, Northern States of Malaysia, logistic probability function

**INTRODUCTION**

In the past, many parents believed that education was unnecessary for girls (Kaur, 1988). This was because parents thought that a girl's place was at home in the kitchen. Girls were also not encouraged to go out to the public for the sake of modesty. When education was extended to the girls, separate schools were established as co-education was frowned upon.

According to Musa (2010), when the British ruled Tanah Melayu, they did not encourage females to pursue higher education. This was because they thought females receiving education would not contribute to economic growth. The highest education that female would get during that time was primary education to allow them to work as teacher's assistant after Standard Six. However, the situation was different when the Japanese ruled Tanah Melayu. During that time, the Japanese were viewed as more cruel than the British and parents were constantly living in fear of their daughters being harassed by the Japanese soldiers. However, despite the negative perception, the Japanese were actually the ones who encouraged females to receive education. In fact, the Japanese sent some females from Tanah Melayu abroad, to Japan to be exact, to obtain quality higher education. The females had to learn the Japanese language and culture. This marked the development of females in Tanah Melayu because upon receiving education, most of them became teachers and made huge contributions to the nation. They had encouraged other females to receive education and got involved in the process when Tanah Melayu sought for independence. However, Kaur (1988) mentioned that women were poorly represented at the tertiary education as there were no female taking engineering courses from 1959 until 1963 at the University of Malaya, the only university in Malaysia at that time. In 1970, only 0.4 per cent of female were eligible to enter university.

Even though there are more female in tertiary education, but the wages for female are still lower compared to male. Somehow, this situation has contributed to female poverty. Among others, the

factors known to influence female poverty are low education, poor health, lack of gainful employment due to child rearing responsibility, involvement in low productivity jobs, divorce. While Malaysia has successfully demonstrated reduction of poverty from more than 50 per cent in the 1970s to 3 per cent in 2012, there is no information on how female poverty has been affected over the years. The main objective of this study is to assess female poverty incidence in the Northern States of Malaysia.

### **BRIEF OVERVIEW OF FEMALE EDUCATION AND EMPLOYMENT IN MALAYSIA**

Nowadays, females in Malaysia have become more educated as most of them receive tertiary education. According to the Statistics of Higher Education of Malaysia (2011) as shown in Table 1, more than 60 per cent of the student enrolments in Educational Studies, Arts and Humanities, Social Sciences, Business and Law, Sciences, Mathematics and Computers and Health and Welfare in Public Higher Education Institutions are females. Meanwhile, in Agriculture and Veterinary and Services fields, 59 per cent of the students are female. However, the percentage of female students in engineering, Manufacturing and Construction field is still lower than male, which is 41.85 per cent.

Table 1: Enrolment of Students, Ratio and Percentage of Female Students in IPTA and Fields of Study, 2010

<b>Fields of Study</b>	<b>Ratio (M:F)</b>	<b>Percentage of Female (%)</b>
Education	1:2.26	69.36
Arts & Humanities	1:1.70	63.03
Social Sciences, Business and Law	1:2.05	67.24
Sciences, Mathematics & Computers	1:1.63	61.93
Engineering, Manufacturing & Construction	1:0.72	41.85
Agriculture & Veterinary	1:1.44	59.08
Health & Welfare	1:2.33	69.99
Services	1:1.46	59.29
Total	1:1.51	60.14

Source: Statistics of Higher Education of Malaysia Report (2011)

A high percentage of female enrolments within the field of education proves that females in Malaysia still prefer teaching as their job. Besides that, female also choose to study in health and welfare field, where it can be seen that most of the nurses are female. Table 1 also shows that there are fewer female in practical type of studies such as engineering, manufacturing and construction field perhaps due to the high risk involved, in which these fields had the least percentage of female.

Percentage of female in Malaysia who received tertiary education kept increasing throughout the years. Being well educated led females to participate in the labour force and thus decrease their unemployment rate. Nowadays, it can be seen that there are many females in the labour force unlike in the past where most of the females stayed at home and were merely in charge of house chores.

Table 2 shows the labour force participation and unemployment rate of females in Malaysia and the Northern States for the year 1990, 2000 and 2010. The labour force participation of females in Malaysia decreased from 47.8 per cent in 1990 to 47.2 per cent and 46.8 per cent in 2000 and 2010 respectively. However, Malaysian female unemployment rate fluctuated from 5.4 per cent in 1990, then decreased to 3.1 per cent in 2000 and increased to 3.6 per cent in 2010.

An increase of unemployment rate in 2010 may be due to the financial crisis in 2008, because the pattern of the unemployment rates of the females in Malaysia were also the same as the one observed in the Northern States of Malaysia. Penang has the lowest unemployment rate among all the Northern States, which was 3.4 per cent in 1990, 1.3 per cent in 2000 and 2.4 per cent in 2010. However, in 1990, females in Kedah has the highest unemployment rate, which was 6 per cent, followed by Perlis and Perak where the unemployment rate were 4.4 per cent and 4.3 per cent respectively. Females in Perak have the highest unemployment rate among the Northern States of Malaysia in 2000 and 2010, which were 4.2 per cent and 3.6 per cent respectively. The unemployment rates for the females in Kedah and Perlis during 2000 were 2.9 per cent and 3.5 per cent respectively, and 3.2 per cent and 2.9 per cent respectively in 2010.

Table 2: Labour force participation and unemployment rate of the females in Malaysia and the Northern States, in the year 1990, 2000 and 2010

State	1990		2000		2010	
	Labour force participation (%)	Unemployment rate (%)	Labour force participation (%)	Unemployment rate (%)	Labour force participation (%)	Unemployment rate (%)
Malaysia	47.8	5.4	47.2	3.1	46.8	3.6
Perlis	34.1	4.4	40.9	3.5	34.8	2.9
Kedah	40.7	6.0	43.2	2.9	41.3	3.2
Penang	49.2	3.4	58.9	1.3	56.2	2.4
Perak	45.8	4.3	42.8	4.2	40.2	3.6

Source: Department of Statistics, Malaysia (2011)

Usually, female employees are paid lower than their male counterparts (see Table 3) and their pays are used to meet the basic needs in the household. However, these pays are not sufficient to pull the households out of poverty. If poverty is analysed from a gender perspective, it is found that female is more vulnerable to poverty. This is because of the inequality in different socio-economic aspects and the culture. This was agreed by Alam (2011) who state that females share more burden of productive and household work, and if those burdens are shared equally, it could help in poverty alleviation. According to Table 3, in 2010, 2011 and 2012, the mean monthly wages for male are RM 1,862, RM 1,845 and RM 1,947 respectively while for female are RM 1,734, RM 1,752 and RM 1,861 respectively.

Table 3: Mean monthly wages (RM) by gender, Malaysia, 2010–2012

Year	Male	Female
2010	1,862	1,734
2011	1,845	1,752
2012	1,947	1,861

Source: Department of Statistics (2013)

## METHODOLOGY

This research project uses Household Income Survey (HIS) data in year 2009 and only covers Northern States of Malaysia which consist of Penang, Kedah, Perlis and Perak. From the HIS data, only data of female head of household will be used because this study only focus on female poverty. The information on income for members of household is based on the income of the head of household so that is why only data of female head of household will be used. The statistical package STATA 13 is used for the analysis.

Analysis on female in poverty in the Northern States of Malaysia has been divided into several categories which are:

- a) Strata: Urban and rural areas
- b) Ethnicity: Bumiputera, Chinese, Indian, Others
- c) Education: primary, secondary, tertiary, non-formal
- d) Marital status: never married, married, widowed, divorced, separated, no information
- e) Age Group: 15-25, 26-36, 37-47, 48-58, 59-69, 70-80, more than 80 years

The logistic regression model is defined as

$$L_i = \ln Y_i = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + \alpha_4 X_4 + \alpha_5 X_5 + \epsilon_i \quad (1)$$

Where,  $L_i$  is the log of the odds ratio and  $Y_i$  is the income which is the dependent variable of this research.

$Y_i = 1$ , if income falls below PLI, which means that the female head of household is poor.  
 $Y_i = 0$ , if income is above PLI, which means that the female head of household is non-poor.

Explanation based on the marginal effect is given in order to determine how different values of an independent variable will impact a particular dependent variable. The independent variables are strata, ethnicity, education, marital status and age.

Sensitivity analysis is conducted to determine how different values of an independent variable will impact a particular dependent variable under a given set of assumption. The analysis conducted based on 2009 PLI, and when the PLI is being shift upward to 5, 10, 15, 20, 25 and 30 per cent.

## **POVERTY INCIDENCE**

The study conducted for this research project is to determine the poverty incidence among the females in the Northern States of Malaysia. Poverty incidence is the percentage of people living in poverty. The poverty incidence will be explained according to strata, ethnicity, education, marital status and age group in next sections. Table 4 summarise the poverty incidence of female head of household in the Northern States of Malaysia in 2009.

According to Table 4, it shows that all Northern States of Malaysia have higher poverty incidence of females in rural areas more than urban areas. In Perlis, the poverty incidence of the females in urban areas is 21 per cent compared to 32 per cent in rural areas, while in Kedah, the poverty incidence in urban and rural areas are 10 per cent and 33 per cent respectively. Poverty incidence in the rural areas in Penang is 16 per cent compared to urban areas, which is only 5 per cent, while in Perak, the poverty incidence in rural and urban areas are 29 per cent and 14 per cent respectively. Both Perlis and Kedah have higher poverty incidence in both urban and rural areas compared to Penang and Perak because they are less developed states. As we can see, Penang has the lowest poverty incidence of the females because it is a more developed state in comparison with the other states.

Table 4: Poverty Incidence of Female Head of Household in the Northern States of Malaysia in 2009

<b>Percentage of poor population 2009 (%)</b>		<b>Perlis</b>	<b>Kedah</b>	<b>Penang</b>	<b>Perak</b>
<b>Strata</b>	Urban	21	10	5	14
	Rural	32	33	16	29
<b>Ethnicity</b>	Bumiputera	30	26	8	25
	Chinese	0	5	5	12
	Indian	-	26	8	9
	Others	0	-	-	-
<b>Education</b>	Primary	35	21	11	23
	Secondary	15	12	6	9
	Tertiary	0	0	0	0
	Informal	43	60	6	34
<b>Marital Status</b>	Never married	15	7	7	0
	Married	20	4	1	3
	Widowed	31	29	6	28
	Divorced	30	34	9	8
	Separated	0	100	22	-
<b>Age Group</b>	15-25	0	20	0	0
	26-36	12	9	5	0
	37-47	10	15	15	7
	48-58	14	7	2	13
	59-69	36	35	2	18
	70-80	35	54	10	45
	>80	100	46	0	39

Source: Authors own calculation based on HIS 2009

Note: '0' means 0 per cent people who are poor, '-' indicates there is no population in that group

The result in Table 4 above shows that there are zero poverty incidences of female Chinese in the Northern States of Malaysia. In addition, there is also no poverty among other ethnic group female. In general, it can be seen that female Bumiputera has the highest poverty incidence for all Northern States of Malaysia. The poverty incidences of the female Bumiputera are 30 per cent, 26 per cent, 8 per cent and 25 per cent for Perlis, Kedah, Penang and Perak respectively. However, Kedah and Penang have the same poverty incidence for both female Bumiputera and Indian. Both states also have the same poverty incidence for female Chinese, which is 5 per cent. Besides that, in Perak, the poverty incidences of Chinese and Indian females are 12 per cent and 9 per cent respectively.

Females who received informal education have the highest poverty incidence in all Northern States, except in Penang. It is possible that those who received informal education are given low wages because they could not work as professionals. The poverty incidence for those who received informal education in Perlis, Kedah, Penang and Perak are 43 per cent, 60 per cent, 6 per cent and 34 per cent respectively. In addition, Penang has the same poverty incidence of 6 per cent for both informal and secondary education. The poverty incidence for females who received primary education in all Northern States is higher than those who received secondary education. In Perlis, the poverty incidence for females who received primary education is 35 per cent compared to 15 per cent for those who received secondary education, while in Kedah, the poverty incidence is 21 per cent for those with primary education compared to 12 per cent for those who received secondary education. Besides that, the poverty incidence for females in Perak who received primary education is 23 per cent compared to 9 per cent for those who received secondary education. In addition, the poverty incidence for female in Penang who received primary education is 11 per cent. There is zero poverty incidence for females in the Northern States of Malaysia who received tertiary education. This is clearly because people who received tertiary education will get a good job and wages so they will not be poor.

Poverty incidence for the females in Penang who are divorced is only 22 per cent, while in Kedah, all female divorcees are poor. However, in Perak, there is zero poverty incidence for the females who are never married. In general, widowed female has the highest poverty rate, except in Kedah and Penang. This is because the female depends on their husband for source of income. Therefore, when the husband died, the widows do not have any source of income and hence, face difficulties in starting a new life without a husband. If they want to get a job, it is impossible for them to get high wages. The poverty incidence among females who are widowed in Perlis, Kedah, Penang and Perak are 31 per cent, 29 per cent, 6 per cent and 28 per cent respectively. Besides that, females who are divorced also have almost the same poverty rate with those who are widowed, except in Perak due to the same reason. For females who are divorced, their poverty incidence in Perlis, Kedah, Penang and Perak are 30 per cent, 34 per cent, 9 per cent and 8 per cent respectively.

All females aged above 80 years old in Perlis are poor, while none of those who are in age group 15-25 are poor except for females in Kedah. Besides that, there is also zero poverty incidence for female in age group of 26-36 in Perak and above 80 years old in Penang. In Perlis, the highest poverty incidence of the females following those aged above 80 years old is those in age group 59-69, which is 36 per cent, followed by 35 per cent for those in age group 70-80. Female in younger age groups have almost the same poverty incidence. In Kedah, females in age group 70-80 have the highest poverty incidence which is 54 per cent, followed by those aged above 80 years old and age group 59-69. The lowest poverty incidence is female who is in age group 48-58, followed by those in age group 26-36. Female who are in age group 37-47 has the highest poverty incidence in Penang, which is 15 per cent, followed by those in age group 70-80 and 26-36. In Perak, the females have the same first three highest rank of poverty incidence as Kedah. This is followed closely by those in age group 48-58 and age group 37-47. Females who are in the range of age 26-58 years old usually have quite low poverty incidence because they are still young and able to work.

## **LOGISTIC PROBABILITY FUNCTION**

The logistic probability function for female head of household in the Northern States of Malaysia will be analysed based on marginal effect that was calculated. The analysis will be divided into when using normal Poverty Line Income (PLI) and also when PLI is being shifted upward by 5 per cent, 10 per cent, 15 per cent, 20 per cent, 25 per cent and 30 per cent respectively. From there, it can be seen if there are any changes on the inequality, income and education as the PLI has been shifted upwards.

For normal PLI, an increase in inequality reduces the probability of female head of household to be poor by 0.04, whereas if their income increases, the probability will reduce by 0.17. The probability of female head of household who received at least a secondary education to be living in poverty is 0.05 less than those who received primary education while for females who received informal education, the probability is 0.12 greater.

When the PLI is shifted upward by 5 per cent, an increase in inequality reduces the probability of female head of household to be poor by 0.05, whereas if their income increases, the probability will reduce by 0.18. The probability of female head of household who received at least a secondary education to be living in poverty is 0.07 less than those who received primary education while for females who received informal education, the probability is 0.14 greater.

However, when the PLI is shifted upward by 10 per cent, an increase in the inequality reduces the probability of female head of household to be poor by 0.04, whereas if their income increases, the probability will be reduced by 0.20. The probability of female head of household who received at least a secondary education to be living in poverty is 0.09 less than those who received primary education while for females who received informal education, the probability is 0.11 greater.

Besides that, when the PLI is shifted upward by 15 per cent an increase in the inequality reduces the probability of female head of household to be poor by 0.05, whereas if their income increases, the probability will reduce by 0.22. The probability of female head of household who received at least secondary education to be living in poverty is 0.12 less than those who received primary education while for females who received informal education, the probability is 0.11 greater.

When the PLI is shifted upward by 20 per cent, an increase in the inequality reduces the probability of female head of household to be poor by 0.05, whereas if their income increases, the probability will reduce by 0.24. The probability of female head of household who received at least secondary education to be living in poverty is 0.15 less than those who received primary education while for females who received informal education, the probability is 0.09 greater.

An increase in inequality when the PLI is shifted upward by 25 per cent reduces the probability of female head of household to be poor by 0.06, whereas if their income increases, the probability will reduce by 0.26. The probability of female head of household who receive at least a secondary education to be living in poverty is 0.16 less than those who received primary education while for females who received informal education, the probability is 0.08 greater.

When the PLI is shifted upward by 30 per cent, an increase in the inequality reduces the probability of female head of household to be poor by 0.07, whereas if their income increases, the probability will reduce by 0.28. The probability of female head of household who received at least a secondary education to be living in poverty is 0.13 less than those who received primary education while for females who received informal education, the probability is 0.10 greater.

## **CONCLUSION AND RECOMMENDATIONS**

Education plays an important role as determinant of female poverty in the Northern States of Malaysia. Secondary education has negative coefficient with normal PLI and even when PLI shift upwards. This means that the higher the level of education of a female head of household, the lower the chances for her to live in poverty. This contradicts with females who received non-formal

education where it has positive coefficient as they will be more prone to poverty. However, tertiary education has zero coefficient because there is no female who received tertiary education living in poverty.

Besides that, income also plays important role in determining whether a female head of household live in poverty or vice versa. Income has negative coefficient which means that the higher the income of the females, there is less chances for them to be poor. In conclusion, when female head of household in the Northern States of Malaysia receive high level education, they will get better job with higher income. Therefore, it will prevent them to live in poverty. Moreover, even if some of them are poor, they have skills and knowledge to use in order to get out of poverty.

The government has introduced Amanah Ikhtiar Malaysia (AIM) to provide micro credit scheme and 1Azam to provide the opportunities to generate higher income for the poor. However, based on the findings of this research, the following recommendations are proposed:

- i. Females should receive education regardless of their background or where they come from. This is because education plays an important role in affecting the poverty among the female in the Northern States of Malaysia. The education they receive must be of high quality so that they can improve their lives as well as getting jobs with good payments and no longer be in poverty. Therefore, government must take actions to make sure all females in Malaysia received high level of education and parents have to make sure that their daughters get tertiary education.
- ii. Females are in high position in workforce. Good educations will even the field for the females. It will make female's credibility equal to her male counterpart. Thus, they will be able compete fairly with each other in securing high positions in their workplace. This will in turn prevent females from depending on males and living in poverty. Therefore, government must enforce policies to make sure females get the same chance as males to climb up to higher position in the workforce.

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