

## CHAPTER 3

### DATA SOURCES AND METHODOLOGY

#### 3.1 DATA SOURCES

The data for this research paper come from a household survey conducted in Kerian, Hilir Perak, Sabak Bernam and Rembau. The survey was conducted in 1997 by a group of researchers from the University of Malaya, as part of an IRPA project (Identification of Research on Priority Areas) on 'Consequences of Rural Depopulation on the Agricultural Communities in Peninsular Malaysia'. The main objective of the survey was to examine the socio-economic conditions of districts with negative rate of population growth during the 1980-1991 inter-censal period.

Members of the Study Advisory Committee comprising representatives from Economic Planning Unit, Ministry of Rural Development, Ministry of Agriculture, Ministry of Primary Industry, the Farmers' Associations Authority and the National Union of Plantation Workers provided various suggestions and inputs in the drafting of the questionnaires. The household survey elicited socio-economic information of household members and that of migrant children.

The survey covered a sample of 1022 households. The sample was selected based on a multi-stage sampling. The sample size was fixed at about 250 households per district. In each of the four selected districts, the mukim with negative population growth were listed and 2 - 4 mukim were selected with probability proportional to size to yield a

self-weighting sample. The sampling frame for these mukim was obtained from the Department of Statistics (Tey et al., 2000). Table 3.1 summarizes the various stages of sample selection.

Table 3.1 : Sample selection in the four districts under study

Information used in sample selection	Kerian	Hilir Perak	Sabak Bernam	Rembau
Number of mukim selected	3	3	2	4
Number of enumeration blocks	10	14	17	14
Number of kampongs/ sub-divisions	44	67	81	54
Number of living quarters	1050	1253	1731	1054
Selection interval	1:3 or 1:4	1:4	1:5 or 1:6	1:3
Number of households expected	266	273	272	267

Source : Tey et al., 2000

Basic socio-demographic data from each household member was recorded in a household schedule. A host of open-ended and close-ended questions were used to collect detailed information from the heads of households. The information collected includes respondent's socio-demographic background and work status of each adult member in the household, information pertaining to migrant children, and perceived impact of out-migration, as well as income, remittances and expenditure.

To ensure the quality of the data collected, all completed questionnaires were checked for completeness and consistency of responses. The interviewers were required to revisit the respondents to rectify mistakes that were detected.

Tally counts of the responses to the open-ended questions were made for all open-ended responses. Variables with different units of measurements were edited for uniformity of codes. For example, all income data were recoded with month as the reference period, while remittances reported on monthly basis were annualized.

The SPSS statistical program was used for data entry and analyses. Computer editing was carried out to check for inconsistency of responses and out-of-range codes.

### **3.2 ANALYTICAL FRAMEWORK**

This study is aimed at examining the transfer of money in the form of remittances from migrant children to their parents who stayed back in the rural areas. Socio-demographic factors affecting remittances will be examined in terms of:

- The proportion of heads of household who had received remittances and the amount received
- The proportion of migrant children who had sent remittances to their parents and the amount sent, and
- The contribution of remittances to household economy, that is the proportion of remittances to total household income

Diagnostic, exploratory and descriptive analyses will be performed to examine the data distribution. In view of the severe skewness in the amount of remittances received and sent, the median values will also be used in addition to the mean values as measures

of central tendency. The sampling errors for mean, skewness and kurtosis will be presented along with the sample estimates.

The agricultural households are vulnerable to unforeseen circumstances such as weather and economic vagary of the economy. In many instances, remittances received from migrant children contribute significantly to household income and expenditure. In this study, the proportion and amount of remittances received will be examined in terms of the number of migrant children, the number of household members remaining in the households and their activity status, along with other socio-demographic variables. Household income has been found to be an important determinant of the amount of remittances received by households, and it would also be used as an explanatory variable in this study.

Two measures will be used in analyzing the amount of remittances received by heads of rural households. The first will be confined to those who had received remittances from their children. This approach reduces the sample size to 522 heads of households. The second will be based on all heads of households in the study areas, taking the value of "0" if the household did not receive any remittances.

Past studies have found that the proportion and amount of remittances tend to vary with age, gender and marital status of migrant children as well as their current activity status, length of absence and intention to return home. As such, the proportion of migrant children who remitted and the amount remitted by them will be examined in

terms of these variables. In this study, the gross and net effects of these variables on the propensity to remit will be examined.

### **3.3 STATISTICAL METHODS**

Exploratory analyses will be done on both the amount of remittances sent by individual migrant children and the total amount of remittances received by households over a period of one year. The data will be examined to ascertain if it conforms to the normality assumption. In this sample, the amount of remittances received is not normally distributed with skewness of 2.639. As such, the median values will be used along with the mean values as measures of central tendency since the former are not affected by skewness of data.

In the bivariate analyses, the proportion of household heads receiving remittances and the proportion of migrant children who had sent remittances will be examined across socio-demographic variables. The median amount of remittances received and sent for each category of selected variables will also be examined. Cross-tabulations, with appropriate tests will be performed to analyze the relationship between two categorical variables. Chi-square statistics will be used to test for independence and relatedness. Mann-Whitney-U test for two independent variables and Kruskal-Wallis test for more than two independent variables will also be conducted.

At the multivariate level, a logistic model will be developed to study the effects of socio-economic factors on the likelihood that a migrant will remit and also on the likelihood that a household will receive remittances from migrant children. The models will be estimated using the standard maximum likelihood procedure.

Multiple regression analyses and multiple classification analyses will be applied to develop models that relate the natural logarithm of the amount of remittances with the relevant independent variables.

The effect of each variable on the amount of remittances is assessed net of the effects of other variables in the models. These models also allow for an analysis of the combined effects of several variables on amount of remittances. In addition, the regression models may also be used for prediction.

Marital status is dichotomized into two categories taking code “1” for those who were married and “0” for those who were not currently married. Gender is coded into a dichotomous variable with “1” for male and “0” for female. Education of heads of household is categorized into 3 categories – “0” for no schooling, “1” for primary and “2” for secondary and above. Education level of migrant children is grouped into 4 categories – “0” for no schooling, “1” for primary, “2” for secondary and “3” for tertiary. The education level of heads of household and migrant children<sup>4</sup> are categorized as follows :

- No formal schooling
- Primary – referring to those with 1 – 6 years of education

- Secondary – referring to those with 7 –13 years of education
- Tertiary – referring to those with more than 13 years of education

In this survey, work is defined as activity performed either full time or part time in the farm, business or any other economic activity for payment in cash or kind. However it is deemed important to distinguish agricultural workers from non-agricultural workers.