THE IMPACT OF MIGRATION ON FERTILITY: A CASE STUDY OF TRANSMIGRANTS IN LAMPUNG, INDONESIA

by

Mayling Oey

A thesis submitted for the degree of

Doctor of Philosophy

in the Australian National University

Department of Demography

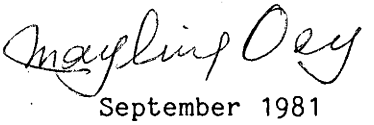
September 1981

THE AUSTRALIAN NATIONAL UNIVERSITY LIBRARY

In memory of my mother

The primary data used in this study were collected under my personal supervision. Except where acknowledged the analysis in this thesis represents my original research.

Mayling Oey



September 1981

ACKNOWLEDGEMENTS

I thank the Dean of the Faculty of Economics, University of Indonesia, Dr. Djunaedi Hadisumarto, for granting me study leave. My appreciation is extended to Dr. S.B. Judono, who was at the time Director of the Institute for Economic and Social Research of the Faculty of Economics, University of Indonesia, for his assistance and support which allowed me to conduct the survey and complete the dissertation, and also to Drs. M. Arsjad Anwar, the current Director of the Institute for his patience while waiting for my return.

Gratefully acknowledged is the financial assistance received from the Ford-Rockefeller Research Program on Population and Development Policy for field work, and from the Australian Development Assistance Bureau for the scholarship during my extended stay in Canberra.

To the Lurah and the people of Tata Karya and Purba Sakti in Way Abung, and Tanggul Angin and Asto Mulyo in Punggur, and the Camat of Batu Retno in Wonogiri, who provided us with hospitality and patiently responded to our questions, I offer my gratitude.

The field work, often carried out under difficult physical conditions, would not have been completed without the help of the interviewers and supervisors. Though not as physically demanding, the work of the coders was equally essential. I thank all those who helped me during this stage of the study.

During my first two years at the Australian National University the warm and friendly atmosphere of the Department of Anthropology, Research School of Pacific Studies, made my adjustment to the Australian graduate student life a pleasant experience.

Without the help of Mrs. J. Widdowson who introduced me to the intricacies of the computer I would not have completed this thesis. Many of the staff and fellow students, especially Peter Gardiner, at the Department of Demography have given me helpful comments, thereby bringing this study into sharper focus. Mrs. W. Cosford gave a helping hand during the final editing of the thesis.

Last but not least, it is Dr. P.F. McDonald, my supervisor, who deserves most of the credit for without his patience and encouragement I would not have reached this stage.

The merits of this study, should those be deserved, are shared with all without whose assistance this dissertation would not have been completed. Obviously, only I am to be blamed for any shortcomings.

Canberra, September 1981

Mayling Oey

ABSTRACT

Since the beginning of this century various governments in Indonesia have looked to the 'outer islands' as the solution to the problem of over-population on Java, an island which covers only seven percent of the total land area but contains nearly two-thirds of the country's population. To date, the emphasis in program execution has been primarily on the sending areas of transmigrants (chapter 2). Recent data, however, indicate that greater emphasis must be given to the receiving areas.

The province of Lampung located at the southern tip of Sumatra, has the longest history of resettlement, and until recently has been the most important receiving area for transmigrants. Lampung has been shown by the last three, i.e. 1961, 1971, and 1980, censuses to have had the highest intercensal average annual rate of population growth among all provinces in Indonesia. Moreover, migrant women in Lampung, mostly originating from Java, have been found to have had higher fertility than their counterparts who remained in rural Java.

This dissertation attempts to bring to light the factors which caused higher fertility among women who migrated to Way Abung, North Lampung, and Punggur, Central Lampung, as compared to that of the stayers in rural Java.

From among a wide variety of studies on the relation between migration and fertility the framework of analysis developed by Hendershot (1970 and 1976), which attempts to examine the consequences of migration on fertility in terms of selection and adaptation

processes, has been selected as the basis of this study (chapters 1 and 3). Set against the background of individual and household characteristics (chapter 4), fertility levels and patterns of transmigrant women in Lampung are examined and related to those of the stayers in rural Java (chapter 5). Explanations of fertility differences are sought in terms of demographic and social indicators of fertility, including patterns of marriage (chapter 6), child mortality (chapter 7), family planning (chapter 8), and education (chapter 9). In addition, the impact of changing environmental conditions on fertility, with specific reference to economic forces, is examined (chapter 10).

The higher fertility experienced by transmigrants relative to the stayers is partly attributed to selection but more so to adaptation processes for there are indications that transmigrant women raised their fertility after resettlement. Due to the similarity of the studied groups of women, their demographic and social characteristics failed to explain the observed fertility differences. There is also suggestive evidence that different economic forces from those found on Java operate in the transmigrant areas, and that these may have induced the transmigrant women to raise their fertility after resettlement.

CONTENTS

	Page
ACKNOWLEDGEMENTS	iv
ABSTRACT	v
CONTENTS	vii
LIST OF TABLES	xi
LIST OF FIGURES	xvi
Map of the Republic of Indonesia	
CHAPTER 1. ON THE RELATION BETWEEN MIGRATION AND FERTILITY	1
CHAPTER 2. THE TRANSMIGRATION PROGRAM	27
2.1. An Historical Synopsis of Resettlement Programs in Indonesia	27
2.1.1. The Colonization Program	27
2.1.2. The Transmigration Program	31
2.2. Targets and Achievements	37
2.2.1. 1950-1959 - Tamboenan's Plans	38
2.2.2. 1960-1968 - Pembangunan Nasional Semesta Berentjana Delapan Tahun	40
2.2.3. 1969-1974 - REPELITA I	41
2.2.4. 1974-1979 - REPELITA II	42
2.2.5. 1979-1984 - REPELITA III	45
2.3. Origins and Destinations	46
2.4. Eligibility Requirements	49
2.5. Government Assistance	54
2.6. Past Problems Related to the Transmigration Program	58
2.6.1. Problems of Management	58
2.6.2. Difficulties Experienced by the Transmigrants	60
Consequences of lack of interdepartmental cooperation and synchronization	60
Problems of resettlement	62
Site selection	62
Cultivated area	65
Land rights	66
Income	69
Social services	73
Integration with local people	74
2.7. Corrective Measures	77
2.8. Concluding Remarks	81

Page

CHAPTER 3. THE PRESENT STUDY 87

3.1. Objectives of the Study 87
3.2. Survey Design 103
3.2.1. The Survey Areas 104
Way Abung 106
Punggur 113
Java 118
Wonogiri 124
3.2.2. The Sample 127
3.2.3. The Data Collected 129
Demographic information 129
Transmigration information 131
Housing information 134
Attitudinal and household economic information 135
Individual economic activities 138
Marriage histories 140
Pregnancy histories 141
Family planning 144

CHAPTER 4. ENVIRONMENTAL INFLUENCES ON INDIVIDUALS AND HOUSEHOLDS 146

4.1. Demographic and Social Characteristics 148
4.2. Economic Activities of Individuals 162
4.3. Household Level Economic Indicators 174
4.4. Summary and Conclusions 191

CHAPTER 5. FERTILITY OF TRANSMIGRANT WOMEN 198

5.1. Introduction 198
5.2. The Framework 205
5.3. Methodology 207
5.4. Differential Fertility 211
5.5. Interrelation between Selection and Adaptation 215
5.5.1. The Effects of Selecton 216
5.5.2. The Effects of Adaptation 220
Consequences of age at transmigration 221
Consequences of duration of stay in the transmigration area 229
5.6. Summary of Findings 233

Page

CHAPTER 6. NUPTIALITY 237

6.1. Current Marital Status 239
6.2. First Marriage 242
6.2.1. Age at First Marriage 243
6.2.2. Age at Birth of the First Child 255
6.3. Marital Instability 264
6.3.1. Multiple Marriages 264
6.3.2. Duration of Marriage 273
6.4. Summary and Conclusions 280

CHAPTER 7. CHILD MORTALITY 286

7.1. The State of the Art on the Relation between Mortality and Fertility 286
7.2. Child Mortality in Java 291
7.3. Child Mortality Experienced by Transmigrant Women 295
7.4. Concluding Remarks 302

CHAPTER 8. FAMILY PLANNING 304

8.1. The National Family Planning Program 304
8.2. Knowledge of Contraception 309
8.3. Use of Contraception 313
8.4. Breastfeeding Practices 321
8.5. Concluding Remarks 326

CHAPTER 9. EDUCATION 328

9.1. Introduction 328
9.2. The Relation between Education and Fertility in Indonesia 330
9.3. Educational Achievements of Transmigrants and Stayers 331
9.4. The Impact of Education and Age at First Marriage on Fertility 334
9.5. Concluding Remarks 342

Page

CHAPTER 10. ECONOMIC FORCES 344

10.1. Introduction 344
10.2. Theories Linking Development and Population Growth 345
10.2.1. Selected Macro Theories 345
10.2.2. The New Household Economics - Highlights and Reasons for Its Inapplicability to Poor Societies 350
10.2.3. The Value of Children - Non-Economic Interpretations 353
10.3. Empirical Findings on the Value of Children among Javan Parents 356
10.4. Labor Requirement and Fulfillment in Transmigrant Households 369
10.4.1. Labor Utilization in Transmigrant Peasant Households 369
10.4.2. Fulfillment of Labor Requirements within the Household 373
10.5. Summary and Conclusion 379

REFERENCES 384

GLOSSARY 408

Appendices

LIST OF TABLES

Table		Page
2.1	Planned and Realized Number of Transmigrants During the Period 1950-1959 (individuals).	39
2.2	Targets and Achievements of the Transmigration Program During REPELITA I, 1969/70 - 1973/74 (families).	42
2.3	Targets and Achievements of the Transmigration Program During REPELITA II, 1974/75 - 1978/79 (families).	43
2.4	Target of Tramsigration During REPELITA III OF 1979/80 - 1983/84 (families).	45
2.5	Distribution of Resettled Families by Province of Origin, 1951-1979.	46
2.6	Distribution of Resettled Families by Province of Destination, 1951-1979.	48
2.7	Population, 1961, 1971 and 1980 and Average Annual Growth Rate, 1961-71 and 1971-80, by Province and Region.	86
4.1	Percentage Distribution of People by Current Age, Sex and Residence.	149
4.2	Percentage Single by Current Age, Sex and Residence.	150
4.3	Percentage Distribution of People 10 Years and Over by Current Marital Status, Sex and Residence.	152
4.4	Percentage Distribution of People by Relation to Household Head, Sex and Residence.	154
4.5	Percentage Distribution of People Aged 10 Years and Over by Educational Attainment, Sex and Residence.	156
4.6	School Attendance Ratios by Current Age, Sex and Residence.	159
4.7	Percentage Distribution of People Aged 10 Years and Over by Usual Activity During the Previous Year, Sex and Residence.	164
4.8	Percentage Participating in Household Maintenance Activities by Current Age, Sex and Residence.	166
4.9	Percentage Distribution of People Aged 10 Years and Over Who Worked for at Least Two Months During the Previous Year by Occupation, Sex and Residence.	168

Table		Page
4.10	Percentage Distribution of Accessible Agricultural Land to Households by Size and Type of Land.	179
4.11	Percentage Distribution of Households by Cultivated Area and Residence.	182
4.12	Percentage Distribution of Households by Annual Expenditures and Residence.	185
4.13	Percentage Distribution of Households by Per Capita Annual Expenditures and Residence.	188
5.1	Percentage Distribution of Transmigrant Women in the Studied Areas by Age at Transmigration and Current Age.	201
5.2	Percentage Distribution of Transmigrant Women in the Studied Areas by Current Age and Age at Transmigration.	203
5.3	Percentage Distribution of Transmigrant Women by Province of Birth and Current Residence.	209
5.4	Percentage Distribution of Ever Married Women Aged 25-44 Years by Parity and Residence.	212
5.5	Mean Numbers of Children Ever Born by Current Age and Residence.	214
5.6	Cumulative Mean Numbers of Children Ever Born up to Exact Ages for Transmigrant Women Who Arrived in Lampung Aged 30+ and Women on Java Aged 35-44 Years.	217
5.7	Cumulative Mean Numbers of Children Ever Born up to Exact Ages by Age at Transmigration.	222
5.8	Differences in Cumulative Mean Numbers of Children Ever Born between Exact Ages by Age at Transmigration.	224
5.9	Cumulative Mean Numbers of Children Ever Born Up to Exact Ages by Current Age for Women in Java and Bali.	227
5.10	Cumulative Mean Numbers of Children Ever Born Up to Exact Ages by Current Age for Transmigrant Women.	228
5.11a	Percentage Distribution of Transmigrant Women by Duration of Stay in the Transmigration Area and Current Age.	230
5.11b	Percentage Distribution of Transmigrant Women by Duration of Stay in the Transmigration Area and Age at Transmigration.	230

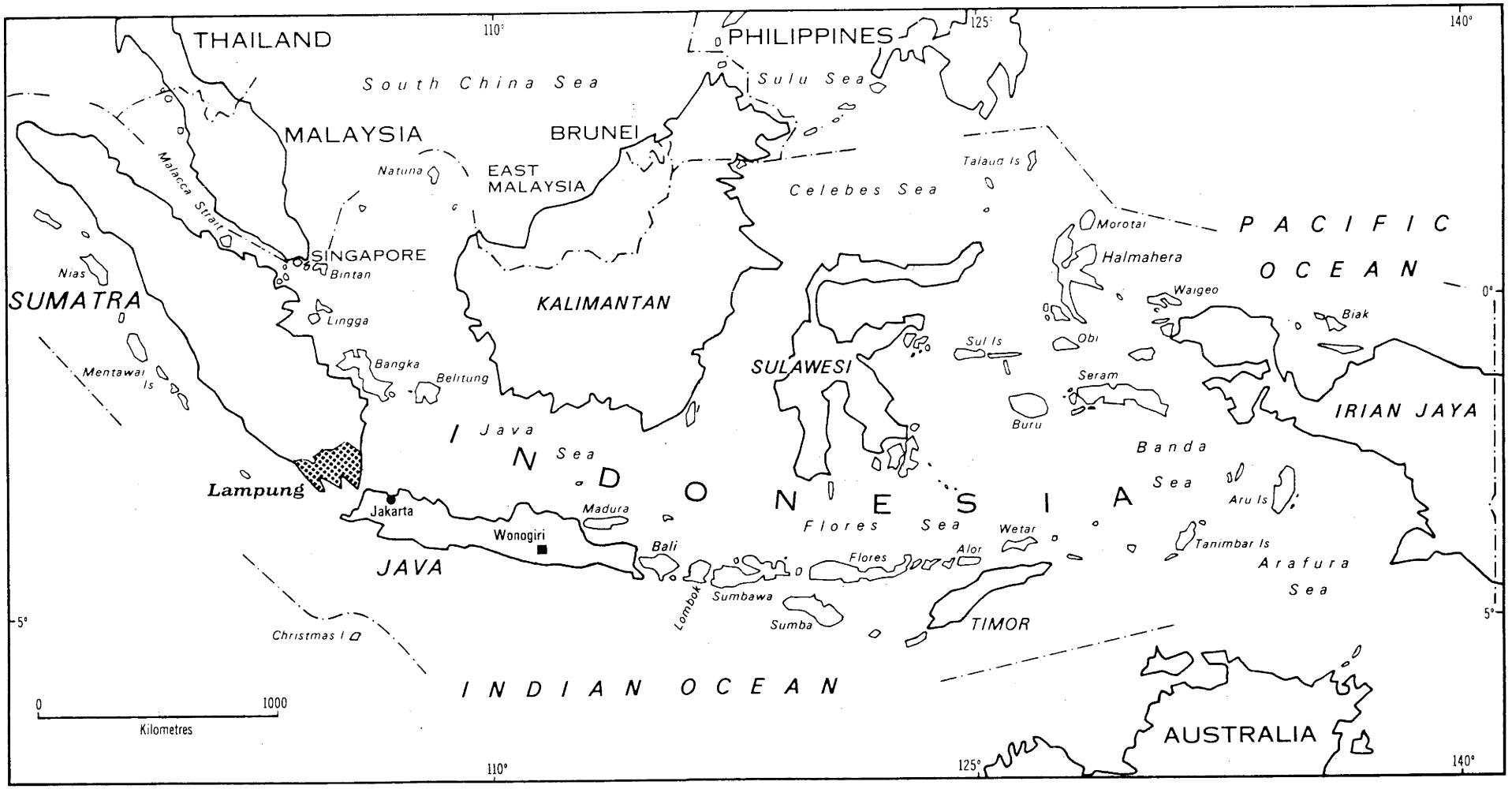
Table		Page
5.12	Cumulative Mean Numbers of Children Ever Born Up to Exact Ages by Duration of Stay in the Transmigration Area.	232
6.1	Percentage Distribution of Ever Married Women Aged 25-44 Years, by Current Marital Status and Residence.	241
6.2	Mean Ages at First Marriage, by Current Age and Residence.	245
6.3	Ages by which 25, 50 and 75 Percent of the Women Had Married, by Current Age and Residence.	246
6.4	Indices of Age at First Marriage by Age at Transmigration.	251
6.5	Indices of Age at First Marriage by Current Age and Place of First Marriage.	252
6.6	Indices of Age at Birth of the First Child by Current Age and Residence.	256
6.7	Indices of First Birth Intervals by Current Age and Residence.	257
6.8	Indices of Age at Birth of the First Child by Age at Transmigration.	259
6.9	Indices of Age at Birth of the First Child by Current Age and Place of First Marriage.	260
6.10	Indices of First Birth Intervals by Current Age and Place of First Marriage.	261
6.11	Percentages of Ever Married Women Who Were Married More than Once, by Current Age and Residence.	266
6.12	Cumulative Proportions of First Marriages which Were Dissolved through Divorce, by Current Age, Residence and Years Since First Marriage.	268
6.13	Proportions Married More than Once by Current Age and Place of First Marriage.	270
6.14	Cumulative Proportions of First Marriages which Were Dissolved through Divorce, by Current Age, Place of First Marriage and Years Since First Marriage.	272
6.15	Cumulative Mean Time Since First Marriage which Had Been Spent in the Married State Up to Exact Ages, by Current Age and Residence.	274

Table		Page
6.16	Cumulative Mean Time Since First Marriage which Had Been Spent in the Married State Up to Exact Ages, by Current Age and Place of First Marriage.	275
6.17	Analysis of Components of Difference of Mean Years in All Marriages.	278
6.18	Percentage Time Since First Marriage which Had Been Spent in the Married State, by Current Age and Residence.	279
7.1	3qo and 5qo Estimates for Java 1971-76.	292
7.2	Sullivan's Estimates of 3qo and 5qo for Selected Populations of Indonesia in 1971 and 1976.	297
8.1	Percentage of Women Who Had Ever Heard of Specified Contraceptive Methods, by Residence.	310
8.2	Percentage of Transmigrant Women Who Had Some Knowledge of Specified Contraceptive Methods, 1976.	312
8.3	Percentage of Women Who Had Ever Used Specified Contraceptive Methods, by Residence.	314
8.4	Percentage of Women Who Were Current Users of Specified Contraceptive Methods, by Residence.	315
8.5	Percentage Distribution of Transmigrant Women by Duration of Breastfeeding During the Last Closed Birth Interval, by Current Age of Mother.	323
9.1	Percentage Distribution of Ever Married Women Aged 25-44 Years, by Level of Achieved Education and Residence.	332
9.2	Percentage Distribution of Transmigrant Women by Level of Achieved Education and Place of First Marriage.	333
9.3	Mean Numbers of Children Ever Born to Ever Married Women Aged 25-44 Years, by Levels of Achieved Education and Residence.	335
9.4	Mean Numbers of Children Ever Born to Ever Married Women Aged 25-44 Years, by Current Age, Education, Age at First Marriage, and Residence.	339
9.5	p-Values by Current Age, Education, Age at First Marriage and Residence.	340

Table		Page
9.6	Analysis of Components of Difference in Mean Numbers of Children Ever Born between Transmigrants and Stayers.	341
10.1	Agricultural Indices by Type of Farming Practiced by Transmigrants.	371
10.2	Indices of Household Labor Supply by Type of Farming.	374
10.3	Correlation Coefficients (r square) between Cultivated and Harvested Area with Standard of Living Indices.	375
10.4	Mean Number of Children Still Living and Mean Household Size of Ever Married Women Aged 25-44 Years, by Current Age and Residence.	378

LIST OF FIGURES

Fig.		Page
3.1	Hendershot's Framework to Examine the Impact of Rural-Urban Migration on Fertility.	92
3.2	The Impact of Transmigration on Fertility Through Intervening Variables.	100
3.3	Lampung	107
5.1	Mean Numbers of Children Ever Born per Ever Married Woman by Age of Migrants and Nonmigrants in Lampung and Java.	199
5.2	The Impact of Transmigration on Fertility Due to Selection and Adaptation Processes.	206
7.1	Age Distribution of Children Ever Born to Women, for Mothers 20-25 [C2(a)] to 45-50 [C7(a)].	300
7.2	Age Distribution of Children Ever Born to Transmigrant Women Aged 25-29 [C3(a)] to 40-44 [C6(a)].	301
8.1	Heaping in Retrospectively Reported Schedules of Proportions Weaning.	324
8.2	Proportions of Transmigrant Women by Duration of Breastfeeding During the Last Closed Birth Intervals, Reported in Retrospective Schedules.	325


THAILAND
PHILIPPINES
South China Sea
Sulu Sea
MALAYSIA
BRUNEI
Natuna
EAST MALAYSIA
Celebes Sea
Talaud Is
Malacca Strait
Morotai
PACIFIC OCEAN
SINGAPORE
Bintan
Halmahera
Nias
SUMATRA
KALIMANTAN
Waigeo
Biak
Lingga
Sul Is
Obi
Bangka
Belitung
SULAWESI
Seram
Mentawai Is
IRIAN JAYA
Buru
Java Sea
Banda Sea
INDONESIA
Lampung
Jakarta
Madura
Aru Is
Flores Sea
Wetar
Wonogiri
Bali
Alor
Tanimbar Is
Flores
JAVA
Arafura Sea
Lombok
Sumbawa
Sumba
TIMOR
Christmas I
INDIAN OCEAN
0
1000
Kilometres
AUSTRALIA
110°
125°
140°
0°
5°

CHAPTER 1

ON THE RELATION BETWEEN MIGRATION AND FERTILITY

The relation between migration and fertility has attracted attention in a large number of demographic studies. Two bibliographies have been produced (Macisco, Bouvier and Renzi, 1969 and Myers and Macisco, 1975) as well as a review which focussed on urban areas only (Zarate and Zarate, 1975). These lengthy bibliographies and reviews indicate the variety of different aspects of the relation that can be studied. One of these aspects is the effect of migration on fertility levels and patterns in areas of destination and/or origin of the migrants (see for example Goldberg, 1959 and 1960; Ueda, 1965; Zarate, 1967; Friedlander, 1969; and Van de Walle, 1975). Another aspect of the relation is the effect of fertility on migration (Davis, 1963, in his theory of the Multiphasic Response; Chevan, 1971; Kunstadter, 1971; Long, 1972; and Hendershot, 1973). Of even greater interest has been the study of fertility differences between migrants and nonmigrants, and as this is also the focus of the current study, a closer examination of past research in this area is presented below.

A perusal of existing literature on fertility differences between migrants and nonmigrants reveals contradictions in both findings and conclusions. In an excellent review on the relation between migration and fertility in urban areas Zarate and Zarate (1975) examined a large number of studies covering a period of approximately forty years in a

great variety of societies. The authors claim that they encountered only a few exceptions to the expected pattern where rural-urban migrants have higher fertility than urban natives. This pattern is attributed to the higher fertility found in rural areas compared to urban areas. The exceptions to the expected pattern were found among young migrants to San Juan (Macisco, Bouvier, and Renzi, 1969; and Macisco, Bouvier and Weller, 1970) and young migrants to Bangkok (Goldstein, 1971). In addition, it was also found that older migrants to these two cities had lower fertility than anticipated, on the basis of differences in fertility between rural and urban women. Hendershot (1970) also found that for all age and marriage duration groups, as well as the unstandardized and the standardized rates, the average number of children ever born is lower for migrants to Manila than for natives of the capital city of the Philippines (see Tables 4-8: 56-59). Most other research reported findings that were consistent with the expected rural-urban differential (Zarate and Zarate, 1975: 144). Fertility of migrants, especially those coming from rural or farm backgrounds, has also been found to be more closely related to social class differences (as measured by income, education or occupation) than is the case among urban-born women (Freedman and Slesinger, 1961; Duncan, 1965; Iutaka, Bock and Varnes, 1971). Although Hutchinson's study (1961) in urban Brazil reported that there were differences in fertility by class among rural born migrants, where fertility was measured for the husband's social class, which was in turn determined by his occupation, these differences were found to be not statistically significant.

Zarate and Zarate attribute the exceptions to the expected differences in fertility by rural-urban origin to variations in study design, methodology and analytical procedures (1975: 144). They contend that the conflicting findings are due to three important reasons, of which the latter two have also been mentioned by Goldscheider (1971) and the first and third by Elizaga (1972). The reasons for the inconsistencies are:

1. the failure to exercise elemental precautions in comparing findings resulting from significantly different research procedures;

2. the failure to evaluate findings in either historical or comparative perspective; and

3. the notable absence of systematic frameworks or organizing schemes (144-147).

On the first point, Zarate and Zarate observed variations in the differences and selectivity of the populations being studied. Some early studies in the United States, such as those by Kiser (1938) and Kantner and Whelpton (1952), used samples only from young couples with a fairly long history of urban experience to show no difference in the fertility of migrants and nonmigrants. Other studies in the United States have also been rather specific, considering mostly urban whites of particular ages (see for instance Goldberg, 1959 and 1960; Freedman and Slesinger, 1961; Kiser, 1963; and Ritchey and Stokes, 1972). In general these studies have concerned only white women; thus blacks in urban areas, who usually have higher fertility, are excluded from the studied urban population. There are other examples of selectivity. For instance, Germani (1961) was concerned with the impact of urban life upon migrants to Buenos Aires as well as the causes and circumstances of migration. He selected an urban working

class area composed of modest homes on the outskirts of the federal capital, which consisted of two clearly differentiated zones. One of the zones was inhabited by city-born residents from Greater Buenos Aires or migrants of long standing. The second zone was mainly inhabited by migrants from the provinces of the interior. He states explicitly that the results cannot be considered as 'typical' of the migrant population in the interior, beyond the capital of Buenos Aires (208). Iutaka, Bock and Varnes (1971) conducted a study in six Brazilian cities, namely: Sao Paolo, Rio de Janeiro, Belo-Horizonte, Juiz de Fora, Volta Redonda and Americana. From an original sample of 4,250 female and male respondents 18 years and over, they excluded all unmarried respondents, those married more than once, female respondents because their measurement of social status was based on male occupations, and the foreign born. These exclusions resulted in a 30 percent reduction of the original sample. On the other hand, other studies have not always applied similar restrictions for inclusion in the population being studied.

Similar to the studies in the United States, studies elsewhere have also used varying definitions of migration status. Both temporal and geographic definitions have been used to separate migrants from nonmigrants. When the definition of migrants varies this results in different populations being studied. Myers and Morris (1967), Goldstein (1971), and Rindfuss (1976) have shown the very different universes obtained when using different temporal definitions to dichotomize migrants from nonmigrants.*

*Shryock and Siegel have given various examples of the effect of differing definitions of migration status (1971: 637-659).

Zarate and Zarate further criticise the fact that although original researchers often state that their findings are not statistically significant, subsequent researchers who cite these earlier studies often omit to state that the results were said to be non-significant. Instead, as if the non-significant results were conclusive, comparisons are made and thus confusion is contributed to the existing body of literature.

On the second issue, Zarate and Zarate note that studies carried out at completely different time periods in history and in diverse cultural settings, which are undergoing different stages of development, are frequently given equal weighting. Studies carried out in the United States, for example, cover a period starting as early as 1890 through the 1960s. Over the eighty-year time span the United States has undergone rapid changes: from an urbanizing society it has become a metropolitan industrial society (to use the words of Thompson and Lewis as quoted by Zarate and Zarate, 121). The results of these studies have often been compared with findings from countries at markedly dissimilar stages of development. Moreover, Browning and Feindt (1969) have also shown that, in the same society, the pattern of migration selectivity changes over time. Not only do comparisons of diverse societies result in inconsistent patterns of the relation between migration and fertility but studies on primate or capital cities of countries, if compared to other urban places, also result in different patterns (Bouvier, Macisco and Zarate, 1974: 28).

The third criticism offered by Zarate and Zarate is of course more fundamental to the state of the art in demography in general (as eloquently described by Vance, 1952) as well as to migration-fertility

relations in particular. The localized character and specific nature of the populations being studied are not conducive to the cumulation of systematic knowledge on the subject. They claim that most studies are not based on systematic frameworks or organizing schemes (quoted from Goldscheider, 1971: 2746. This point was also raised by Elizaga, 1972: 122). In other words, there is no underlying theory in these demographic analyses since many such studies are only descriptive in nature.

All these three criticisms given by Zarate and Zarate are of course fundamental to the analysis of migration-fertility relations. The absence of a theoretical framework is a very serious shortcoming in this field of inquiry. However, the argument that the relation between the two variables should be studied in a proper historical and stage of development perspective implies that the relation may not be direct, and that various intervening variables should also be specified. One difficulty that arises here is that to do this demands that numerous control variables be introduced and hence a vast amount of data would be required. Yet:

> One of the greatest obstacles to detailed analysis is the lack of satisfactory data for both fertility and migration. Moreover, demographers have a tendency to place perhaps too much faith in existing sources (Zarate and Zarate, 1975: 148).

Since the relation between migration and fertility is confounded by other factors, Zarate and Zarate suggest that the migrant-nonmigrant dichotomy is probably too simple. They offer a long list of suggested control variables, such as: the number and nature of previous moves, other communities in which individuals have resided, and duration of sojourn there; whether husbands, wives and other

relatives move separately or together; age at arrival; length of residence in urban areas; experience subsequent to arrival in urban settings in terms of education and occupation; types of urban communities; reasons for migration; whether 'push' or 'pull' factors are operative; stages of development or urbanization of a particular society.

Not only has the definition of migrants suffered from lack of uniformity but consequently, because of the dichotomy usually adopted, the definition of the nonmigrants too varies from one study to another. The authors thus conclude their review with another list of 'who constitutes the urban nonmigrants' (147-151).

In order to do an 'ideal' migration study it would be necessary to collect complete and comprehensive migration histories. But when such attempts are made, the data are not always analyzable due to the absence of a consensus among experts (Elizaga, 1972: 122-123). In addition, in order to do such an 'ideal' study, it is also necessary that the sample or population be sufficiently large that after controlling for all possible intervening variables the cells still contain sufficiently large numbers to measure various fertility rates. It should be kept in mind too that most fertility indicators are measured in terms of several control variables, which therefore require sufficiently large numbers.

Demographic analyses are usually based on three types of sources of data. The first are the registrations, the second the census, while the third are sample survey data. Each type of data source has its strengths as well as weaknesses. Registration systems, if available and properly implemented, should cover all events occurring

to a population for which the registration system was designed. Such registrations, however, are often designed for particular purposes and are not always universally implemented. Complete vital registrations, for instance, are seldom found in less developed countries. Hence, for such countries demographic analyses are more often based on census and/or sample survey data.

These last two mentioned sources of data have advantages as well as disadvantages. While censuses have the advantage of covering total populations, not much information can be collected during a census. In censuses it is not possible to collect complete migration histories, and, if detailed fertility analyses are also desirable then pregnancy and marriage histories need to be collected as well. Consequently census data allow only for rather crude definitions of migrants and basic fertility analysis.

On the other hand, refined definitions of migration status can be made on the basis of data collected during sample surveys, when more detailed information can be collected. The disadvantage of surveys is, however, that they usually cover only a relatively small number of people. After the various controls are applied the researcher may be faced with very small sample sizes in many of the cells. This difficulty was encountered by Kiser (1938) who intended to separate the migrants in terms of place of origin, whether they came from rural areas or from villages. Because of small cell counts, however, he had to combine the two categories. Hutchinson (1961), who studied both geographic mobility and social mobility in relation to fertility also ended up with rather small numbers in his cells. El-Badry (1967) also omitted to show his fertility estimates for various duration of

residence groups in Bombay because of this problem of small sample sizes. Similarly, Goldstein (1973) did not show fertility estimates for the urban agricultural population because of the small number of migrants in this category. Numerous other studies could be listed that faced similar difficulties.

Problems of comparability of results due to variations in study design and methodology continue to prevail in studies that have been published since Zarate and Zarate made these criticisms.

Hendershot (1976) studied the relation between fertility and rural-urban migration. In order to do this, he developed a theoretical framework which consists of three parts: selection, adaptation, and reproduction processes. He argued that rural-urban migration in the Philippines is relatively new. Therefore, the intervening obstacles between origin and destination are great. Because of this, persons of lower social class are less likely than those of higher social class to migrate. This is the first part of the framework which says that migration is selective. Hendershot then hypothesizes that both selection and migration are related to fertility through age at marriage and labor force participation. Hendershot attributes this second part of the framework to the process of adaptation by rural migrants to the urban setting. Finally, age at marriage and labor force participation are negatively related to fertility, which he refers to as the reproduction process. The three processes are causally related to each other. Differences in selection cause differences in adaptation, which in turn cause differences in reproduction.

In order to test the framework Hendershot used data from the 1973 National Demographic Survey of the Philippines. Of an original sample of 8,147 households 5,908 were households with currently married women of reproductive ages. It was from this latter group that the sample was selected and households where the women were widowed, divorced, or separated were therefore excluded. In this study rural-urban migrants were defined as those couples where the husband was born in a rural area but lived in an urban area in 1973. Where the husband was born in a rural area and lived in a rural area at the time of the survey, the couple was included in the category of stayers. The classification of those couples where the husband was born in an urban area but lived in a rural area at the time of the interview is not specified. Furthermore, in this study no comparisons were made with the stayer population in the urban areas of destination.

Hendershot acknowledges as a weakness in the classification of migrants and stayers the omission of refinements in the migrant group in terms of time and historical circumstances (211). If this were to have been done, however, then there would have been very few cases in some of the cells. After controlling for age, migration status, and age at first marriage, or labor force participation, there were already several cells with less than 30 cases.

It is inevitable that such pioneering work still contains some weaknesses. One of these is the way in which the data were applied to test the theoretical framework. While migration and social class status were based on information collected from the husbands, age at marriage, labor force participation and fertility were measured for the wives. Thus wives who were born in urban areas and lived in an

urban area during the survey could have been included in the migrant category, while in fact they were not migrants. Hendershot quotes a study done by Pernia (1974) which claims that most recently arrived migrants to the city were single at the time of the 1973 survey (214). The results of the analyses of the effects of migration status, determined by the husbands, on age at marriage and labor force participation for the wives may only partly be reflecting the purpose of the analysis, that is, to test the adaptation process hypothesis. Furthermore, the data on age at marriage and labor force participation, which are not related to age at or time of migration, do not really allow for separation between the effects of selection and adaptation.

Notwithstanding the weaknesses mentioned above, Hendershot drew the following conclusions:

1. Rural-urban migration is strongly selective of persons with relatively high social standing in rural society;

2. Rural-urban migrant wives tend to adopt the late marriage pattern of urban society, especially if their husbands are from rural families with relatively high social standing;

3. Rural-urban migrant wives tend to adopt the working wife pattern of urban society, but only if their husbands are from rural families with relatively high social standing;

4. Rural-urban migrant couples tend to have lower fertility, but only if they married late and the wife worked after marriage;

5. In the urbanized regions of the nation and in more recent periods, rural-urban migration is less selective, adaptation is less successful, and migrant fertility is higher--relative to fertility of rural stayers (245).

In these conclusions Hendershot finds support for his original hypotheses that in migration both processes of selectivity and adaptation have been operative although he does not separate the effects of each of the respective processes. Furthermore, the conclusions imply that migration itself is less important than social class in influencing fertility.

While these conclusions may hold for the Philippines as a whole, Hiday (1978) suggests that migration is a more important determinant of fertility for a far smaller section of Philippine society. The purpose of her study was to investigate the effects of both migration and urban migration on fertility by comparing three groups of females of reproductive ages (15-49) from two rural communities: (1) those living in the two communities (rural sedentary); (2) female children of these communities who migrated to other rural areas (rural migrants); and (3) female children of these communities who migrated to urban areas (urban migrants). The hypotheses tested were: (1) migrants from rural areas tend to be more modernized and to hold greater aspirations for new goals than rural sedentary women; hence they are more likely to adopt modern fertility behavior; (2) rural-urban migrants move a greater social distance and therefore have a greater probability of being modernized and possessing aspirations for non-traditional goals and hence, have a greater tendency towards reduced fertility. In other words, like Hendershot, Hiday suggests that migration from rural areas is selective. Rural migrants are therefore more likely to adopt modern norms of fertility behavior than are rural nonmigrants. Moreover, rural-urban migrants are even more likely to adopt modern low fertility norms than rural-rural migrants. In order to test these hypotheses Hiday used data from a 1970

household interview survey conducted by the Institute of Behavioral Sciences, University of Colorado, in Magsaysay and Matanao, Davao Province, Mindanao, the Philippines. While data for the sedentary group of women were gathered from the respondents themselves, information for migrants, who were children of the first group, was given by their mothers. Such a sample does not of course include outmigrants from the same area of origin who had no mothers remaining in the area of origin to report for them. Of the original population of 2,610 rural sedentary women in reproductive ages, a maximum of 2,355 were ever included in the analysis. Information on migrants was collected for 472 women in reproductive ages. Of these 289 were migrants to rural areas and 183 were migrants to urban areas. Of the urban migrant group, for 7 percent there was no information on their ages and for 19 percent no information was available on their education. For the rural migrant group the percentages for whom information on these two variables was missing were 7 and 15 percent. Hiday acknowledges that such omissions may have caused a bias in the results. She further admits that the fertility estimates based on children ever born, especially for migrants (because they were based on indirect information), may have been somewhat understated due to the omission of deceased children (372-373). On the basis of her findings, Hiday drew the following conclusions:

1. Age-specific fertility rates and child-woman ratios revealed a declining gradient of fertility with social distance from the rural home communities;

2. Age at marriage and education were positively associated with distance from the home communities and negatively associated with fertility;

3. Urbanization exerted its major impact after peak fertility years, 20-29 years, influencing urban migrants to bring their fertility under voluntary control; and

4. Young migrant women in their teens, especially those migrating to urban areas, did not fit the social mobility model in that they tended to complete fewer years of schooling, married at an earlier age, and had higher fertility than rural sedentary and rural migrants (382).

Unlike Hendershot but similar to Hiday, analyses of Korean data show that migration status is a stronger determinant of fertility than the social status variables of education and labor force participation. Based on Becker's model (1960), Ro (1976) used an economic argument to explain why migrants have fewer children than nonmigrants. Both the decision to migrate and the decision to have children are investments in human capital. From the context of the household production theory of utility, the family makes these decisions to maximize the utility of the household. Hence, migrants should have a greater propensity than nonmigrants to invest in their children and in themselves, and therefore tend to prefer higher quality and smaller families (260).

In order to test the hypothesis, Ro used a one percent sample of the 1970 Korean census. The sample numbered 312,974 individuals. Migration status was defined in terms of residence at the time of the census and five years prior to the census. The sample was then divided into four groups: (1) those who moved from rural areas to cities; (2) those who moved from one rural area to another; (3) those who did not move from cities during the past five years; and (4) those who did not move from rural areas during the past five years. This means that no specific categories were made for those who moved from urban to rural areas or those who moved from one city to another.

Using cross tabulations, correlation matrices, regressions, and multiple regressions to explain fertility, and controlling for age (six five-year age groups between 16 and 45), place of residence, literacy, educational attainment, type of work, occupation, and industry, Ro concluded:

1. The most important variable explaining fertility is current residence (whether the respondent resided in a city or a rural area at the time of the census). Women living in cities have fewer children than women living in rural areas and this difference is statistically significant;

2. Migration status is the second most important determinant of fertility. For each of the age groups and regardless of place of residence, migrants have fewer children than nonmigrants. Among the four groups, rural stayers have the highest fertility, while among the migrants age-specific fertility differentials are small;

3. Literacy and education are third in importance. Women who can read have fewer children than those who cannot. The more educated the women are the fewer children they have. Even after controlling for education, migrants still have fewer children than nonmigrants. This finding, according to the author, refutes the idea that migrants have fewer children than nonmigrants simply because they are better educated; and

4. Similarly, the hypothesis that migrants have lower fertility than nonmigrants because migrants are more likely to be economically active is also refuted. Controlling for economic activity, migrants still have fewer children than nonmigrants (261-262).

The importance of migration in influencing fertility continued to be found in Korea even after a further refinement in the residence background was introduced (Park and Park, 1976). Like Ro, these authors also used the 1970 Korean census. In order to introduce an additional control variable for residence background Park and Park used a ten percent sample for three metropolitan areas, twenty-nine cities, and nine rural areas. Migration status is defined on the

basis of residence five years prior to the census and at the time of the census. For the residence background variable the urban group was separated into metropolitan areas and other urban areas.

A further difference between these two studies is also found in the methodology. Park and Park used the Cho and Grabill own children method to arrive at age specific fertility estimates. While the level of attained education was the same as that used by Ro, labor force participation was analyzed differently. Ro differentiated between full and part time workers, employment status, and skilled or unskilled workers. Park and Park on the other hand, divided the labor force into those that have compatible or incompatible work in relation to child care. The results of their study are:

1. For all three categories of residence -metropolitan areas, urban areas, and rural areas- migrants have lower fertility than nonmigrants. The same holds true if place of origin and place of destination are the same size, place of origin is larger than place of destination and place of destination is larger than place of origin, except for rural-urban and metropolitan migrants. Compared to nonmigrants in place of origin, migrants have lower fertility;

2. The introduction of education as a control variable does not alter these patterns;

3. A strong negative association was found between labor force participation and fertility in urban areas, especially in occupations which are incompatible with

child care; and

4. While younger migrant women of rural origin had lower fertility than nonmigrant city dwellers, the reverse is true of older migrants (1976: 272-275).

Whereas the Philippines studies examined the migrant-nonmigrant fertility differential in relation to place of origin, the Korean studies looked at the differential from the perspective of both place of origin and place of destination.

A study in Latin America focused on the comparison at the place of destination only. Edmonston and McGinnis (1976) examined the migrant-nonmigrant fertility differential controlling for social status. Because rural migrants in urban areas are typically less educated, less skilled occupationally, and have lower incomes than urban born residents, Edmonston and McGinnis attempted: (1) to ascertain the extent of fertility differences between rural migrants and urban natives in an urban setting; and (2) to explore the degree to which the overall urban relation between social class and fertility is affected by the migrant-nonmigrant composition of the different social status categories.

This study used data from Bogota, Colombia; the city of Mexico; and Rio de Janeiro in Brazil. The analyses included only women between the ages of 20 and 50 years who were currently married, either legally or in consensual unions, thus excluding women who were widowed, divorced, or separated. The data were collected in 1964 during a sample survey conducted by CELADE. The sample size varied

between 1,500 and 1,700 women for each of the three cities. Fertility was measured in terms of children ever born by age of mother. Education was the single indicator of social status. Migration status was defined in terms of place of birth, whether in rural or urban areas. For the couples, migration status consisted of four subcategories, classifying the wife's residence background by the husband's residence background.

Three multiple regression models were used. In the first model, fertility was computed as the sum of the separate effects of the husband's and wife's backgrounds, and age of the wife. In the second model an additional variable of wife's education (which consisted of eight categories) was included in the equation. The third equation took into account the interaction of the wife's birth-place and her education.

The results indicate that rural background is associated with higher fertility in all three samples studied. The strongest impact of the rural origin of the spouses was shown by the data for Rio de Janeiro, where only 4.4 percent of the sample were migrants (of any type: husband urban, wife rural; husband rural, wife urban; and husband rural, wife rural). Education had a greater impact than birthplace in both Bogota (where 73.1 percent of the sample were migrants) and Mexico City (where 10.5 percent of the sample were migrants). Interestingly, in all three cities, for women with up to five years of education there was a positive relation with fertility, but when the women had six or more years of schooling then the relation became negative. Introducing a variable for the interaction effect between wife's background and education increased the explained

variance only slightly. Thus, for these three cities, education appears to have had a greater effect on fertility than birthplace. Edmonston and McGinnis concluded that a shift in the population to either an urban place or higher levels of wife's education (at least beyond six years) results in moderate fertility declines. Urban birth place was important only in Rio de Janeiro. Education was more strongly related to lower fertility.

Unlike previously mentioned studies which emphasized fertility differentials between rural-urban migrants and rural or urban nonmigrants, Auda Murad (1980) examined differences between Minangkabau nonmigrants, Minangkabau migrants, and the residents of three provinces where the majority of Minangkabau migrants resided in 1971. The Minangkabau are the ethnic group which lives in West Sumatra. The Minangkabau migrants included in the comparison were those who at the time of the 1971 Indonesian Census of population were living in the three provinces of North Sumatra, Riau, and Jakarta. These three provinces were selected because 67 percent of all Minangkabau migrants were living in these provinces (at that time Indonesia consisted of 26 provinces). Minangkabau migrants have levels of fertility rather similar to those of residents in the provinces of destination. While the Minangkabau in West Sumatra (like most other ethnic groups in Sumatra) have higher fertility than the average Javanese (see Oey, 1975, Table 8-2: 222), Minangkabau migrants in Jakarta had a fertility level comparable to that of residents of Jakarta*, which was lower than the fertility of Minangkabau women who stayed in their province of origin. On the other hand, Minangkabau

---

*Of the Jakarta population in 1971, 92 percent were born on Java (Biro Pusat Statistik, 1973, Series E No. 09, Table 22).

migrants who went to the two Sumatran provinces of North Sumatra and Riau had levels of fertility that were similar to those of residents of these two provinces, which were higher than the fertility levels of the nonmigrant Minangkabau population. Auda Murad surmised that these differences were probably due to differences in marriage patterns and differences in patterns of achieved levels of education of the women. Minangkabau migrants to Jakarta married later and were also better educated than those who went to either North Sumatra or Riau or those who stayed in their home province. After education was held constant the patterns still remained. Minangkabau in Jakarta had lower fertility than Minangkabau in either North Sumatra or Riau. It is regrettable however, that no further analysis of the reasons for these apparent differentials in Minangkabau migrant fertility behavior was undertaken. Auda Murad concluded that the Minangkabau migrants adopt the fertility behavior of the women in areas of destination (85 and 93). While this may be the case, the analysis does not really allow for such a conclusion to be drawn since no information was available on when births occurred in relation to the time of migration. Instead of adapting to the fertility of women in the area of destination it may well have been that the area of destination influenced selectivity. Thus, Minangkabau women who went to Jakarta could have been those who had or would have had fewer children than those who stayed in their home province, or those who migrated to North Sumatra or Riau.

The findings of the two studies in the Philippines, the two studies in Korea, the study of three Latin American metropolitan areas and the study of the Minangkabau in Indonesia have contributed further complications to the existing literature on the relation between

migration and fertility. While Zarate and Zarate claim few exceptions to the 'traditional' pattern of rural-urban migrants having higher fertility than urban natives, Ro and Park and Park have added to the list of 'unusual' patterns. The Korean data show that in general migrants have lower fertility than nonmigrants even when the comparisons are made with nonmigrants in urban areas. The Indonesian data have shown the importance of area of destination in influencing fertility behavior.

A further complication added to the findings from earlier studies is the contradictory evidence on the relative importance of migration or social class in affecting fertility behavior of migrant women, especially of those coming from rural areas. While Hendershot and Edmonson and McGinnis emphasized the importance of social class as a determinant of fertility, Hiday, Ro, Park and Park, and Auda Murad found migration status to be more important.

A question thus arises as to whether the numerous studies on the relation between migration and fertility can be evaluated in historical or comparative perspective, as suggested by Zarate and Zarate (145). It is difficult to evaluate these five studies in a proper historical perspective. Korea in 1970 had 41.2 percent of its population living in urban areas (United Nations, 1972, Table 5: 145). In 1964 Mexico had 54.4 percent of its population living in urban areas (United Nations, 1971, Table 5: 141) while in Brazil and Columbia in 1965, 50.6 and 54.3 percent of the populations were urban residents (United Nations, 1974, Table 5: 113). The Korean studies show migration to be more important than social status in influencing fertility. The study of the three Latin American metropolitan areas

found the opposite. The Korean studies used census data and migration status was defined in terms of residence five years prior to the census. The study of the three Latin American metropoles however was based on sample survey data. While the levels of urbanization in the three countries were rather similar, the data used for analyses varied greatly. For Bogota, the urban natives constituted only 26.9 percent of the total sample; for Mexico City 59.5 percent and for Rio de Janeiro 95.6 percent. Migration status was defined in terms of place of birth. Can findings from such diverse data sets really be compared? It is suggested that the findings of these studies are specific to the sample or population being studied, and are strongly influenced by the definitions of migration status used and the methodology applied to test the hypotheses.

The literature on the relation between migration and fertility shows: (1) so far, no general pattern has as yet been identified on the relation between migration and fertility; (2) the results and conclusions are very much data and methodology specific; (3) hardly any work has been done on the subject with a focus on rural-rural migration; and (4) while most studies, following Thomas (1938) and Lee (1966), have either shown or implied that migration is selective of certain characteristics, only Goldstein (1973), Hendershot (1976), Hiday (1978), and Auda Murad (1980) claim that an additional process of adaptation may also be operative.

The first two points have been well clarified by Zarate and Zarate. It is surprising to find, however, that researchers, like policy makers, have paid so little attention to rural-rural migration. Such a disregard for the subject is probably due to the fact that

urbanization has created conspicuous problems in urban areas for both policy makers and researchers, who themselves live in urban areas.*

The difficulty in finding data on the subject is indicative of this neglect. The United Nations DEMOGRAPHIC YEARBOOKS for instance do not contain information on rural-rural migration. Neither does POPULATION INDEX provide a sub-section on the topic, while rural-urban movement is listed as a sub-category of migration. For that matter, it is difficult to find census publications which present data on rural-rural migration. In the developed countries most of the populations already live in urban areas, thus, rural-rural migration is not significant. On the other hand, many of the less developed countries, where the levels of urbanization are still low, have, until recently, not conducted a census. Moreover, those less developed countries that have conducted censuses are often not yet clear about the definition of urban areas and especially the changes over time. Consequently, it is not surprising to find that there are hardly any publications which report the extend of mobility between types of areas (whether urban or rural).

Yet, for several countries in Asia, for which this data can be derived, the magnitude of migration to rural areas is far greater than that to urban areas. According to the Indian census, of the 135.3 million migrants in 1961, 73.2 percent were rural-rural migrants, and only 14.5 percent were rural-urban migrants. Even by 1971, of the 160.1 million migrants, 70.6 percent were rural-rural migrants and

---

*Rapid urbanization, especially attributed to migration from rural areas, has been claimed as the cause for the overutilization and insufficiencies of urban services.

only 14.8 percent were rural-urban migrants (Mehrotha, 1974, Statement 2.0: 32).

For another Asian country, Thailand, migration to rural areas is far more important than to urban areas. Whether migration is measured in terms of life time migration or five-year migration, almost 90 percent of all the migrants in the Kingdom went to rural areas by 1960 (see Goldstein, 1973, Tables 1 and 2: 228 and 231).

In Indonesia too migration to rural areas is far more important than to urban areas. The 1971 census allows only for interprovincial movements to be calculated. Because of the dominance of Jakarta, which is defined to be totally urban and has an equal status as a province, as the major attraction in interprovincial movements, migration to urban areas, according to the 1971 census, appears to be far more prominent than those going to rural destinations (Sundrum, 1976). Interprovincial migrants to urban areas constitute 50.2 percent of all interprovincial migrants in Indonesia. If however, the migrants to Jakarta are excluded, then the proportion of migrants to urban areas consitute only 33.3 percent of all interprovincial migrants (these figures are calculated from Biro Pusat Statistik, 1971 POPULATION CENSUS, Series E, Nos. 1-26).

Similarly, whether fertility differentials between migrants and nonmigrants can be attributed to either selection or adaptation processes has received little attention among demographers.

The paucity of information on rural-rural migration in general and its relation to fertility in particular is one of the reasons for the present study. Another and more important reason for the current

study is that Indonesia has a government sponsored rural-rural migration program, called the Transmigration Program. Various aspects of the program have been examined as discussed in the next chapter. However, attempts to gain some insight into the relation between transmigration and fertility have only been made by the present writer (Oey, 1975; and Oey and Sigit, 1977).

In the first study (Oey, 1975), based on the 1971 Indonesian population census, a slight difference was noted between the fertility patterns of migrants and nonmigrants in the province of Lampung which has been the most important receiving province for transmigrants, and where among the migrants 65 percent were born on the island of Java. A more substantial difference was found when comparisons were made with the fertility level of women residing on Java at the time of the census. The migrants showed a very similar level and pattern of fertility to the nonmigrants in Lampung, but very different from that of women on Java. The conclusions were that transmigrants were not selective in terms of marriage patterns and education, but a difference was found in the mortality patterns of their children. Moreover, inferences from other secondary sources led to the conclusion that the similarity between migrants' and nonmigrants' fertility in the area of destination was probably due to a process of adaptation to a new environment where labor is scarce.

These findings led to a further study on the relation between transmigrants and fertility. A survey was conducted in 1976. Preliminary analyses based on rather crude measures, indicate fewer differences in the levels and patterns of fertility of transmigrants in Lampung and nontransmigrants in areas of origin than were shown by

data from the 1971 census (Oey and Sigit, 1977). One of the earlier conclusions remained, however: the slightly higher fertility of transmigrants compared to nontransmigrants could not be attributed to selection processes in the area of origin. Selectivity was again examined in terms of marriage patterns and education. The difference in fertility between transmigrants and stayers was best explained in terms of adaptations to differences in child losses due to mortality.

As stated above, however, the analyses were based on only rather crude measures. In order to verify the above mentioned preliminary conclusions, further refinements and better analyses need to be done. This is the purpose of the present study, for which the objectives and study design are elaborated in chapter 3. Since this is no ordinary study on the relation between migration and fertility, but rather a study of a special type of migration, i.e. transmigration, it is necessary to place the transmigrants within the context of the Program. Therefore, chapter 2 is devoted to a description of the Transmigration Program.

CHAPTER 2

THE TRANSMIGRATION PROGRAM

2.1. AN HISTORICAL SYNOPSIS OF RESETTLEMENT PROGRAMS IN INDONESIA*

Throughout this century, one strategy for dealing with the problems of overpopulation, land shortage and poverty in rural Java has been to resettle people from such areas to islands outside Java, which are less densely populated. When the Dutch ruled the archipelago, the government initiated a program called colonization which became especially important after the adoption of the 'ethical' policy in 1900. After Independence in 1945, when conditions were more stable, the Republic of Indonesia resumed the program under a new label, transmigration.

2.1.1. THE COLONIZATION PROGRAM

Besides seemingly altruistic reasons, there were also other pressures which led to the implementation of the colonization program. Soedigdo Hardjosoedarmo gave the following reasons. First, Dutch

---

*The best and most detailed account of the colonization program was written by Pelzer (1948: 185-231). Amral Sjamsu has contributed a valuable description of the transition from colonization to transmigration (1960). Other major works on various aspects of the program include those written by Widjojo Nitisastro (1961), Heeren (1967), Kampto Utomo (1967 and 1975), Sri Edi Swasono (1969), Hardjono (1977), and Oey and Astika (1978). See also a bibliography prepared by Meyer and MacAndrews (1978).

economic policies for the Netherlands East Indies of the last century, especially the culture system, had created widespread poverty and misery among Javanese peasants. Second, the successes achieved by the liberals in Holland had resulted in increased Dutch private investments in plantations in areas outside Java where labor was scarce.* Third, rapid population growth on Java, from an estimated 4.5 million in 1815** to 28.5 million in 1900, had led to divisions of landholdings into ever smaller plots thereby reducing the standard of living of the farmers. Fourth, C. Th. van Deventer's famous article EERE SCHULD (A Debt of Honor), published in 1899 (Pelzer, 1948: 191), led to the government's acceptance of the 'ethical' policy in 1900 (Wertheim, 1956: 69). In order to improve the lives of the Javanese, the 'ethical' policy recommended the well known trilogy of emigration,

---

*Boeke argued that the tobacco and rubber estates in Sumatra found it difficult to fulfill their labor demands because the indigenous people were enjoying a relatively high standard of living due to rather low population densities prevailing at that time and they did not gain sufficiently by hiring themselves out as wage laborers to compensate for relinquishing their independence (1953: 143).

**This is the figure associated with Thomas Stamford Raffles, lieutenant governor of Java during the British occupation from 1811 to 1816. Raffles recorded in his THE HISTORY OF JAVA (London, 1917) a "Table Exhibiting the Population of Java and Madura According to a Census Taken by the British Government, in the year 1815". In his commentary regarding this, Widjojo Nitisastro argues that although these are the most accurate population data for the period, this figure underestimates the actual population size for that time. It is argued that the figure is not derived from a real census, according to the modern concept, but rather from a compilation according to a modern concept of a census, but rather as a compilation of reports made by village heads for whom it was more advantageous to underreport the population size in their particular area of responsibility because these reports were related to tax collections for the colonial government (1970: 18-26). Similar critiques of the 19th century population records of Java have been made by Peper (1970) and Boomgaard (1980a).

irrigation, and education.* Fifth, population growth on Java had not led to increasing urbanization but instead resulted in expansion of agricultural land thereby exceeding the minimum allowable level of forestation (Soedigdo Hardjosoedarmo, 1965: 80-82).

Formal acknowledgement by the Throne that something had to be done for the Javanese peasants combined with reports about overcrowding and poverty in Kedoe, Central Java, led to the authorization of H. G. Heyting, Assistant Resident of Sukabumi, to study the question of migration from Java to the 'outer islands' in September of 1902. A design was submitted in December of the following year (Amral Sjamsu, 1960: 4). According to the scheme, the government was to fully support 'pioneer settlers', who were expected to eventually set in motion a stream of spontaneous migrants aided by the earlier settlers thereby reducing the costs to the government. The cost of the plan, designed for ten years during which 22,940 families were to be resettled, was estimated at 7 million guilders. Because it was too costly the Dutch government considered the plan far too ambitious. Debates in parliament led to modifications and delays so that it was not implemented until late 1905 when Heyting transferred 155 families from Kedoe to Gedongtataan in Lampung where they founded the village of Bagelen (Pelzer, 1948: 191-192).

---

*Emigration was to be directed at relieving Java's population pressures by resettling them to the 'outer islands'; irrigation to increase agricultural productivity; and through education combined with hygiene an endeavor was to be made to raise the stamina of the people (Wertheim, 1956: 101-102).

The resettlement of this initial group of Javanese to Lampung heralded the onset of a stream of 'colonizers' of 'virgin' land in the 'outer islands'. While Lampung remained the major recipient area, other parts of Sumatra, Kalimantan and Sulawesi also became destinations of both Javanese and Sundanese colonizers.

The colonization program continued until the second world war. During this period, on the basis of financial arrangements, the implementation of the program can be divided into three phases. In the period 1905-1911, the first experimental phase, all expenses were borne by the Netherlands East Indies Government. Because of heavy expenditures under this scheme, only about 6,500 people were resettled (Amral Sjamsu, 1960: 106). During the second experimental phase of 1912-1931, colonizers had to bear some of the costs of resettlement for which they were given a loan through the Lampoengsche Crediet Bank. Mismanagement of the Bank, however, and the inability of the colonizers to repay their loans led to the liquidation of the Bank in 1928. In the meantime, during the first two phases, the scheme had allowed for the resettlement of about 21 thousand colonizers (Amral Sjamsu, 1960: 106-107).

Although Heyting had predicted that a stream of spontaneous migrants would follow the pioneer settlers supported by the government, no attention was paid to such a possibility by the government until they were alarmed by the expenditures being incurred (Pelzer, 1948: 198). Successful settlers called on their relatives and friends to come over to help them with the harvest, for which they received a share in the harvest. Initially, the new arrivals would live with earlier settlers while working for them. Meanwhile, they

also cleared land for themselves. Through this BAWON system, new arrivals could eventually establish themselves. When the government finally recognized the existence of the BAWON system and the resulting benefits to the program, the system became formalized in the colonization scheme during the third phase, 1932-1941, large scale colonization. This system greatly reduced the costs such that during the nine years of this phase (no settlers were moved in 1933), 162,600 people were resettled* (Amral Sjamsu, 1960: 106-107).

It is obvious that the program did not even approach its objective of alleviating population pressures on Java. In 1905 Java had a population of about 30 million, according to the 1930 census 42 million, and for 1940 the population was estimated at 48 million (Widjojo Nitisastro, 1970: 6, and 117).

2.1.2. THE TRANSMIGRATION PROGRAM

Notwithstanding such meager achievements, Java's overcrowded conditions compared to far sparser populated areas outside Java led to the resumption of the colonization program by the Republic of Indonesia on the basis of relieving population pressures on Java through resettlement on other islands.

Soon after Independence, colonization was was given serious consideration and the term colonization gave way to transmigration. The agency responsible for implementing transmigration has shifted

---

*For further details see Pelzer (1948: 191-231), Amral Sjamsu (1960: 4-77 and 106-128), Soedigdo Hardjosoedarmo (1965: 80-125), Heeren (1967: 12-22), and Hardjono (1977: 16-22).

from one government Ministry or Department to another. Transmigration program policies have also undergone changes in accordance with the political, social, and economic views of the government agency concerned. Formulations concerning the objectives of transmigration have likewise been influenced by evolving views regarding social and economic development. However, one basic aspect has remained constant over this time: the agency effects the resettlement of people from high density to sparsely populated areas.

The changes and shifts of the implementing agency of the program appear to indicate that successive governments have attached an increasing importance to the program.* Over the years the agency has been promoted from DJAWATAN or Service to DIREKTORAT DJENDERAL or Directorate General. The first group of Javanese were resettled as transmigrants in 1950, under the auspices of the Transmigration Service of the Ministry of Social Affairs. Except for a couple of brief intervals, the status of the agency has been raised to that of Directorate General since 1960, when it was part of the Department of Transmigration, Cooperatives and Rural Community Development (Oey and Astika, 1978: 10). More recently, in 1978, an additional office was created for a Junior Minister of Transmigration, who fills the function of liaison officer as well as coordinator of the various government agencies responsible for the implementation of the overall program.

---

*All this information is derived from a chronological listing of the location and status of the transmigration agency, collected by Oey and Astika (1978: 6-13).

In addition, there also appears to be an evolution in the thinking of planners and policy makers as to what the program should accomplish. During the Sukarno era transmigration continued to be considered an end in itself through which the problem of population pressure and poverty on Java was to be resolved. Since the New Order government, which is development-oriented, transmigration is also regarded as an instrument of regional development.*

When resumption of the colonization program was first considered by the Indonesian government in 1947, the responsibility was assigned to the Ministry of Labor and Social Affairs. Before any activities were carried out, the responsibility was transferred to the Ministry of Development and Youth in 1948, which coined the label transmigration. Transmigration was then defined as: "large-scale resettlement of people from one area to another, within the boundaries of the state, for the purpose of permanent settlement." The prefix trans was to be indicative of migration over waters since the program was to be concerned mainly with government sponsorship of migration from Java to other islands of the country (Amral Sjamsu, 1960: 78).

In late 1950 when the first postwar transmigrants were resettled, the program was the responsibility of the Ministry of Social Affairs. The location and objectives of the agency clearly indicate that transmigration was regarded as the solution to the social problem of poverty on Java. The emphasis on solving the problem of poverty on Java continued to be the objective of transmigration throughout the

---

*Soeratman and Guinness have written a well documented review of the shift in policies of the program (1977), and Hardjono has pointed out the significance of this shift for the country's overall development (1977: 92-102).

1950s and most of the 1960s as a consequence of high and increasing densities in rural areas where inheritance rules have led to continuous fragmentation of land thereby creating masses of peasants who are either owners of miniscule plots or are landless. Rapid population growth on Java has created an ever growing class of the poor and landless. For the early fifties, Jay (1956) reported that approximately 50 percent of the families of a typical village in Central Java were landless and 20 percent had only 1-1.25 acres. By the early 1960s about 60 percent of those working in agriculture were landless (Peraturan Dasar, 1962: 14). An analysis of the 1963 and 1973 agricultural census data implies that due to a far slower growth in the number of farms compared to the agricultural labor force on Java (derived from a comparison of the 1961 and 1971 population censuses), there should have been a significant increase in the number of landless laborers* (Booth and Sundrum, 1976).

In the meantime, the idea of cooperatives as an institution of community development in transmigration settlements, gained credibility through its ardent supporter, Dr. M. Hatta, the then Vice President (Hatta, 1954: 182-192). Hence improvement in the standard of living of the transmigrants was considered achievable only by collaborating with the Cooperatives Service. Except for a few short-lived intervals, this collaboration between the Transmigration

---

*At a somewhat more micro scale, a few studies have pointed out the growing poverty in Java. It has been suggested that poverty is the cause for increased outmigration, especially from areas with increasing population pressures (Penny and Singarimbun, 1973; Hugo, 1975; and McDonald and Alip Sontosudarmo, 1976). Franke found that in the village he studied only 36 percent of the households owned farm land (1972, Table I: 88). The data from the KECAMATAN records in Baturetno too show that less than half the households own any farm land at all (47 percent).

and Cooperatives agencies lasted for over two decades, from 1956 to 1978. However, formal collaboration under one Ministry was not formalized until 1960, when the umbrella Ministry was called the Department of Transmigration, Cooperatives and Rural Community Development (Oey and Astika, 1978: 10).

While such a collaboration continued, significant changes in the purposes of transmigration have taken place as a consequence of an overhaul of government after the 1965 abortive coup. After the country had suffered extreme economic deterioration in the last years of the Sukarno era, the new government's primary concern was to suppress inflation and increase food production. Food production can be increased through intensification and extensification of agricultural practices. Priority for the first technique was given in Java while the second was to be implemented in islands outside Java. Transmigration was thus considered the institution through which more land outside Java could be brought under cultivation. The earliest statements of the New Order government concerning the functions of transmigration date from 1966 when the agency was briefly located in the Department of Internal Affairs. One of the functions of transmigration was then defined as the achievement of a more even redistribution of population throughout Indonesia in order to increase the productivity of human and natural resources within the framework of national economic development in general, and in the area of food production in particular (Sekretariat Dit. Djen. Transmigrasi, 1971). From this point, policies regarding transmigration appear to consider it also as an instrument of development. According to REPELITA I (First Five Year Development Plan) of 1969/70-1973/74, transmigration is a vehicle of regional development. Thus, besides redistributing

the population more evenly, labor is also being redistributed for development purposes. In the receiving areas, which are sparsely populated, labor is being made available to increase food production; where available, also timber production; and for employment on public works to improve the infrastructure outside Java (1968, Vol. IIC: 109-110).

In the meantime, there was an increase in reminders and criticisms concerning the futility of transmigration as the institution to achieve a more even population distribution throughout the archipelago.* In addition, when planners and policy makers discussed the possibility of increasing food production there were hopeful expectations of achieving self-sufficiency in rice through intensification on Java and extensification of rice land in the other islands. The experience during the latter part of the 1960s and early 1970s indicated that such a goal was not being achieved.** These two factors are reflected in REPELITA II of 1974/75-1978/79. No longer were population redistribution and increasing food production mentioned as THE goals of transmigration. Instead, the emphasis was

---

*As early as 1952 it was already mentioned that the purpose of transmigration is not only the reduction of population densities on Java (Djawatan Transmigrasi Pusat, 1958: 73-76). Amral Sjamsu (1960) too prescribed the same reminder. Myrdal (1968: 2141-2147) shares the same opinion, and so does Sri-Edi Swasono (1969: 140, and 1974). During the seventies, newspapers too published articles and views that transmigrants should no longer be considered the mechanism through which Java's population densities could be reduced. In addition, population statistics could no longer be ignored.

**Junghans (1974) strongly criticizes the linking of transmigration to increasing food production for the nation because by design transmigration is a program of resettlement on the basis of subsistence farming.

on the development of communities outside Java, Bali and Lombok,* which constitute integral parts of regional development plans (REPELITA II, 1974, Vol. II: 453-456). A growing emphasis on transmigration as an integral part of regional development can be found in the policy outlines for REPELITA III of 1979/80-1983/84. The choice of locations for transmigration settlements, the necessary construction and institutions of building viable communities, as well as the linkages with the population of the wider area and existing communities and towns, are described in far greater detail than in any previous development plans (REPELITA III, Vol. II: 14-33 - 14-47).

2.2. TARGETS AND ACHIEVEMENTS

In general, designers of the transmigration program are characterized by enthusiasm and optimism. When the program was first considered by the Indonesian government, the plans called for extremely unrealistically high targets. Not surprisingly, the numbers actually resettled constituted only a small fraction of the targets. Eventually, the targets were greatly modified so that during REPELITA I the achievements exceeded the targets. However, the experiences during REPELITA I created rising expectations so that the targets for the subsequent planning periods were increased substantially, with the result of again increasing the gap between targets and achievements.

---

*Even though many Balinese have migrated under the transmigration scheme since the early 1960s (especially after the eruption of Mount Agung in 1963), formal recognition that Bali is also a sending area was not given until REPELITA II. High population densities and poverty found on Lombok led to the inclusion of this island as another sending area (REPELITA II, 1974: 451).

The transmigration program can be divided into five periods. These periods coincide with changes in implementations of plans and umbrella Ministries of the Transmigration agency. The five periods are: (1) 1950-1959 TAMBOENAN'S PLANS; (2) 1960-1968 PEMBANGUNAN NASIONAL SEMESTA BERENTJANA DELAPAN TAHUN; (3) 1969-1974 REPELITA I; (4) 1974-1979 REPELITA II; and (5) 1979-1984 REPELITA III.

2.2.1. 1950-1959 - TAMBOENAN'S PLANS

When Ir.A.H.O. Tamboenan was assigned to head the Transmigration Service in 1950, he brought with him a plan he had designed as early as 1947. This plan was known as the 15-year plan. According to this plan, 31 million people were to be transmigrated. As it was not considered sufficiently ambitious, Tamboenan revised his plan in 1951 to cover a 35-year period from 1953 to 1987. This plan was divided into seven five-year periods. During the first five-year period, one million people plus natural increase during these five years were to be resettled. During each of the following five-year periods, another million people plus natural increase were to be added to the number during the preceding five-year period, thus ending with seven million people plus natural increase during the last five-year period of 1983-87. Assuming an annual rate of natural increase of 1.5 percent,* Tamboenan arrived at the fantastic number of 48,675,000 people who were to be moved from Java in a period of 35 years (Amral Sjamsu, 1960: 81). As the transmigration program was a response to population pressures on Java, it appears that it was designed on the premise of

---

*This was the growth rate estimated by the Central Bureau of Statistics for the decade preceding World War II (Pelzer, 1948: 211).

Table 2.1 -Planned and Realized Number of Transmigrants During the Period 1950-1959 (individuals)

Year	Planned	Realized[4]	Percentage Realized of Planned
1950		77	
1951-52	4,133,333[1]	20,556	.5
1953-57	1,077,284[2]	136,700	12.7
1958-59	818,090[3]	66,699	8.2
Total	6,028,707	224,032	3.7[5]

Notes:
1. This figure is a crude estimate for two years, on the basis of Tamboenan's 15-year plan derived from Amral Sjamsu (1960: 81).
2. Estimated on the basis of Tamboenan's 35-year plan for the first 5-year period, assuming a 1.5 percent rate of natural increase (on the basis of the plan described in Amral Sjamsu (1960: 81).
3. Same as above but only for the first two years of the second 5-year period with an additional assumption of equal numbers of people during each of the 5 years (Amral Sjamsu, 1960: 81).
4. Calculated from Oey and Astika, 1978, Table 1: 49.
5. Excluding the number of transmigrants resettled in 1950.

keeping Java's population constant without considering whether the targets could be achieved. When Tamboenan designed his plans, he obviously did not consider the practical aspects, such as the financial and organizational capabilities of the government at that time, to implement such an ambitious scheme.

Because of such extravagantly high targets, the achievements of the transmigration program, while it was under the jurisdiction of the Ministry of Social Affairs, appear rather meaningless. From 1950 to 1959 only 54,567 families or 224,032 persons were resettled under the sponsorship of the program (Oey and Astika, 1978, Table 1: 49). A recapitulation of plans and achievements as shown in Table 2.1 indicates that less than four percent of the target was realized by 1959.

2.2.2. 1960-1968 - PEMBANGUNAN NASIONAL SEMESTA BERENCANA DELAPAN TAHUN

Even though the transmigration agency experienced several relocations and there was a change in government during this period, these years are identified as one phase of the transmigration program because: (1) it was in 1960 that the agency was taken out of the Ministry of Social Affairs and placed in the Department of Transmigration, Cooperatives and Rural Community Development, where it remained until 1962; (2) the PEMBANGUNAN NASIONAL SEMESTA BERENCANA DELAPAN TAHUN (Eight Year Plan for Overall National Development) was designed for the years 1961-1969; and (3) REPELITA I started in 1969. According to this design, far more moderate targets for the transmigration program were set. Nevertheless, the targets remained far beyond the capability of the government at that time. Starting with a target of 15 thousand families for 1961 and increasing thereafter by annual increments of 5 to 20 thousand, for 1968 the target came to 100 thousand families, so that the total for the overall planning period was 390 thousand families. This would perhaps have amounted to nearly two million people. Political as well as

socio-economic instability characterize this period in the history of Indonesia. Consequently, the achievements of the transmigration program were far below the expectations. For the planning period of 1961-1968, 38,591 families were resettled, thus constituting only about 10 percent of the overall target (Oey and Astika, 1978, Table 2: 51).

2.2.3. 1969-1974 - REPELITA I

The New Order Government, which formally took over in March of 1967, started a new tradition of preparing five-year plans for its development directives. REPELITA I was the first such document prepared in this series. This document contained very broad and general outlines of the policies of all government agencies. How policies for transmigration were to be implemented was however not specified, nor were targets mentioned. This does not mean that no targets were set during this period.

Besides recordings by the particular implementing agencies, on August 16 of each year the President delivers an Address before the Parliament. These annual Presidential Addresses are published with appendices containing the achievements of all the government agencies during the previous year or years.

With no specific targets set in REPELITA I, the targets according to the Presidential Addresses have undergone some modifications (see Table 2.2). If according to the original targets, the achievements already exceeded the targets, over-achievements are even more accentuated after modification of the targets (see Table 2.2).

Table 2.2 -Targets and Achievements of the Transmigration Program During REPELITA I, 1969/70-1973/74 (families)

Fiscal Year	Target		Realized	Percentage Realized of Target	
	Original	Revised		Original	Revised
1969-70	5,844[1]	4,489[4]	3,933	67.3	87.6
1970-71	4,115[2]	3,865[4]	4,438	107.8	114.8
1971-72	4,600[3]	4,600[4]	4,171	90.7	90.7
1972-73	10,513[4]	9,300[5]	11,314	107.6	121.7
1973-74	15,887[5]	15,887[6]	21,313	134.2	134.2
Total	40,959	38,141	45,169	110.3	118.4

Sources: Presidential Addresses to Parliament on the Eve of Independence Day.
1. 1970: 261
2. 1971: 364
3. 1972: 388
4. 1973: 480
5. 1974: 607
6. 1975: 541 and 1976: 533.

2.2.4. 1974-1979 - REPELITA II

The successes achieved during REPELITA I led to rising optimism for the program among planners. Because of increasing achievements during REPELITA I, and especially the large number achieved during

fiscal year 1973-74, when more than 100,000 persons were moved, planners for REPELITA II felt that a minimum of 30,000 families during the first year of REPELITA II could be achieved. With an increase of an additional 10,000 families during each of the subsequent years, the target at the end of the planning period, 1978-79 was set at 70,000 families. Thus, over the five-year period, a total of 250,000 families should have been resettled under the transmigration program.

Table 2.3 -Targets and Achievements of the Transmigration Program During REPELITA II, 1974/75-1978/79 (families)

Fiscal Year	Targets			Percentage Realized of Targets	
	REPELITA II*	Presidential Address	Realized	REPELITA II*	Presidential Address
1974-75	30,000	11,000[1]	8,934[2]	29.8	81.2
1975-76	40,000	8,100[2]	2,949[2]	7.4	36.4
1976-77	50,000	13,910[3]	16,697[3]	33.4	120.0
1977-78	60,000	22,949[4]	13,271[4]	22.1	57.8
1978-79	70,000	27,000[4]	14,421[4]	20.6	53.4
Total	250,000	82,959	56,272	22.5	67.8

Sources: *. Rancangan REPELITA II, Vol. IIA: 17-19 - 17-20.
1. Presidential Address of 1975: 541
2. Presidential Address of 1976: 533
3. Presidential Address of 1977: XI/35.
4. Presidential Address of 1979: XI/39.

However, during the implementation of the second five year development plan modified and more realistic targets have been reported in the appendices to the Presidential Addresses (see Table 2.3). These targets are more realistic because they were set in conjunction with budgetary allocations for implementing the program during a specific fiscal year. Furthermore, these targets were set at far lower levels because of new requirements in the preparation of new transmigration settlements. According to the new regulations people are not to be resettled until the whole settlement is ready for occupation. The process of preparation of a transmigration settlement is said to take approximately 2.5 years. When an area is designated as a transmigration settlement several surveys are conducted to determine its feasibility as a settlement area. These surveys consist of various analyses concerning soil fertility, topography, land slope, land use, land status and ownership. Thereafter, the physical plans are drawn, which are then followed by land clearance and eventually construction of a complete settlement including the physical and social infrastructure (Departemen Penerangan R.I., 1979: xi/41). Notwithstanding continuous improvements in plans and implementations being made, however, because of the large scale of the Program unanticipated problems will always arise. Consequently, even though the implementing targets have been substantially reduced the achievements continue to fall short of the targets.

2.2.5. 1979-1984 - REPELITA III

While the period of the Second Five Year Development Plan has only recently been completed, and the achievements have been far lower than planned for the beginning of the planning period, planners of REPELITA III have become even more ambitious. During the current planning period, 500 thousand families are to be transmigrated according to the following breakdown:

Table 2.4 -Targets of Transmigration During REPELITA III of 1979/80-1983/84 (families)

Fiscal Year	Number of Families
1979-80	50,000
1980-81	75,000
1981-82	100,000
1982-83	125,000
1983-84	150,000
Total	500,000

Source: Republik Indonesia, RENCANA PEMBANGUNAN LIMA TAHUN KETIGA 1979/80-1983/84, II: 14-48.

Difficulties in implementing such an ambitious task have lately been frequently admitted by the Ministers in charge. The Junior Minister for Transmigration has already acknowledged that the targets of REPELITA III will not be achieved (KOMPAS, 16 December 1979: 1).

2.3. ORIGINS AND DESTINATIONS

While the major sending provinces of transmigrants have remained the same, there has been a shift in the receiving provinces from those located closest to Java to a more dispursed distribution among all the provinces of other islands outside Java, Bali and Lombok.

Table 2.5 -Distribution of Resettled Families by Province of Origin, 1951-1979.

Province of Origin	1951-1974** No.	%	1974-1979+ No.	%
West Java*	19,053	13.4	11,005	19.8
Central Java	47,308	33.3	20,551	36.9
Yogyakarta	17,028	12.0	4,250	7.6
East Java	40,577	28.5	15,517	27.9
Local transmigrants in Lampung	75	.05		
Bali and others	18,139	12.8	4,390	7.8
Total	142,180	100.05	55,713	100.0

Sources: **Departemen Tenaga Kerja, Transmigrasi dan Koperasi, Direktorat Jenderal Transmigrasi, "Realisasi Penempatan Transmigran dari Kolonisasi (1905) sampai PELITA I (1969/70 s/d 1973/74)". Jakarta, no date.

+BPS, INDIKATOR SOSIAL 1978. Jakarta, 1979a, Table 1.20: 25.

Note: *Includes Jakarta.

Because development plans and implementations of the program during

REPELITA I were essentially continuations of past activities, while significant changes have only been introduced since REPELITA II, the data on the origins and destinations of transmigrants are presented according to these two time periods.

The data in Table 2.5 show that Central and East Java continue to be the major sending provinces. Because of the design of the program which emphasizes the solution to the problem of population pressure and poverty in high-density areas, these two provinces, which have large populations and large poverty-stricken areas, are invariably the major sources from which transmigrants are recruited. Yogyakarta and Bali (combined with other islands east of it) cannot contribute a large proportion because the populations in each of these areas constitute only aproximately ten percent of the population in a large province of Java. So far West Java, though its population is of similar size to Central and East Java, is not characterized by similar levels of population pressures and poverty, hence the continued smaller proportion of transmigrants originating from this province. Population density in West Java was only 440 persons per square kilometer in 1971 (although when it is combined with Jakarta, which has an extremely high density level, the average becomes 527 persons per square kilometer). In Central Java the average density was 634 while in Yogyakarta it was 793 and in East Java the average was 539 persons per square kilometer (McNicoll and Mamas, 1973, Table A1: 40). However, differential interprovincial growth rates for the 1970s have reduced the diversity in the interprovincial densities. According to the recently released 1980 census figures, the densities are 594 for West Java, 742 for Central Java, 866 for Yogyakarta and 609 persons per square kilometer for East Java (based on KOMPAS, 9 January 1981

and Biro Pusat Statistik, 1979, Table 1.1.2: 4).

Table 2.6 -Distribution of Resettled Families by Province of Destination, 1951-1979.

Province of Destination	1951-1974* No.	%	1974-1979+ No.	%
Aceh	149	.1	800	1.4
North Sumatra	3,343	2.4	500	.9
West Sumatra	3,415	2.4	3,950	7.1
Riau	794	.6	662	1.2
Jambi	2,563	1.8	10,559	18.9
South Sumatra	49,096	34.5	6,699	12.0
Bengkulu	1,580	1.1	3,700	6.6
Lampung	47,733	33.6	4,450	8.0
Banten**	1,299	.9		
Nusa Tenggara	168	.1		
West Kalimantan	2,923	2.1	2,094	3.8
Central Kalimantan	2,075	1.5	700	1.3
South Kalimantan	5,091	3.6	4,400	7.9
East Kalimantan	6,114	4.3	3,311	5.9
North Sulawesi	2,443	1.7	1,050	1.9
Central Sulawesi	4,878	3.4	6,188	11.1
South Sulawesi	5,240	3.7	3,300	5.9
South-East Sulawesi	2,139	1.5	2,850	5.1
Maluku	782	.6	200	.4
Irian Jaya	355	.2	300	.6
Total	142,180	100.1	55,713	100.0

Sources: *Departemen Tenaga Kerja, Transmigrasi dan Koperasi, Direktorat Jenderal Transmigrasi, "Realisasi Penempatan Transmigran dari Kolonisasi (1905) sampai PELITA I (1969/70-1973/74). Jakarta, no date.

+BPS, INDIKATOR SOSIAL 1978. Jakarta, 1979, Table 1.19: 24.

Note : **Not a province but an area in the province of West Java.

The data in Table 2.6 show that even though the two provinces of South Sumatra and Lampung have continued to be the major recipient provinces of the transmigrants, the proportions have declined

substantially. While until the end of REPELITA I about one third of all the transmigrant families were resettled in each of the two provinces of South Sumatra and Lampung, during REPELITA II the respective proportions were only 12 and 8 percent. These results are not surprising considering that these two provinces are located closest to the island of Java, so the cost of transportation was minimal. Extensive improvements in public transportation facilities during the seventies have made possible a higher degree of dispersion of transmigrant settlements. Even though most of the improvements are in terms of land transport, sea and air transport too have made very great advances. Resettling transmigrants by air, as well as by land and sea, has rendered outlying provinces more accessible.

2.4. ELIGIBILITY REQUIREMENTS

Because the transmigration program is a continuation of the earlier colonization program, initially the rules for selecting candidate transmigrants followed those determined for selecting prospective colonizers. Over time however, in accordance with modifications in policies and objectives of the program, as well as demands made on the program, the rules regulating eligibility have also undergone modifications.

The 'ten commandments of colonization' were a set of rules compiled in the 1930s to guide officials entrusted with selection of prospective migrants. According to these rules, an applicant should only be selected if he was a real peasant (otherwise he would be a burden to others), physically strong (to withstand the hardships of pioneering), and young (thereby harnessing Java's population growth),

with a family (the foundation of peace and order), but not with many young children or a pregnant wife (too burdensome). Neither should he be a former plantation worker, recently married, or a bachelor (sources of unrest). Whole villages should be permitted to migrate. In that case all the conditions should be disregarded (Pelzer, 1948: 209-210).

As a continuation of the colonization program, which in 1937 introduced the KELUARGA (family) system (Hardjono, 1977: 30), the first migrants from Java resettled under the auspices of the Transmigration Services went under a similar scheme. According to this scheme, Javanese who were resettled in Dutch colonization settlements had to sponsor and help settle their relatives, whom the government found on Java. The first migrants resettled under this scheme in Independent Indonesia were therefore referred to as TRANSMIGRAN KELUARGA or family transmigrants. Because government assistance to these family transmigrants was given in the form of a loan, the rules for selection concerned mainly the financial status of both sponsors and candidates (Oey and Astika, 1978: 59-60).

While the scheme for family transmigrants continued, new schemes for TRANSMIGRAN UMUM (general transmigrants) and TRANSMIGRAN LOKAL (local transmigrants) were introduced.* Although no specifications for local transmigrants have been recorded, there are regulations for selecting general transmigrants. The rules specify that applicants

---

*General Transmigrants do not need sponsorship of earlier settlers because many of them are to be pioneer settlers themselves. Instead, they are fully sponsored by the government and their resettlement is carried out by the government transmigration agency. Local transmigration involves the resettlement of people within the same province under government guidance (Hardjono, 1977: 28-29).

have to be Indonesian citizens, legally married, healthy, and between 18 and 45 years old. In addition, they cannot have a family member who is less than six months or more than 50 years old (Amral Sjamsu, 1960: 82). While ages of applicants and their family members were specified, the applicants' work experiences were not.* As a result of difficulties faced by those migrants who had no farming experience, in 1954 the rules of eligibility were amended to require candidates to be real farmers (Oey and Astika, 1978: 61-63).

Except for some minor modifications, these regulations guiding the selection of aspirant transmigrants were maintained until the formulation of REPELITA I. Because of political upheavals in the mid-1960s, additional criteria were added. During the period of REPELITA I an applicant had to fulfill the following conditions: (1) he should be an Indonesian citizen; (2) he was not involved in the September 30, 1965 Communist Coup or a member of a prohibited political party; (3) he is a real farmer or has other skills; (4) he is between 20 and 40 years old and no member of his family is less than six months or more than 60 years old; (5) he is legally married and his wife is not more than three months pregnant; (6) he is healthy and strong; (7) he adheres to a religion; and (8) he is well behaved, has never been involved with the police, and has never transmigrated before (Oey and Astika, 1978: 66-67). In addition, there are some modified rules governing the eligibility to become a transmigrant. These are stated in the Republic of Indonesia Government Regulation No. 42, 1973, concerning the implementation of

---

*This emphasis on age alone is consistent with an earlier reference to Tamboenan's plans, which imply a concern only for keeping down population pressures on Java.

transmigration which added (a) he must go voluntarily; (b) he is subject to regulations governing the implementation of transmigration (Tambahan Lembaran Negara Republik Indonesia Nomor 3016).

Although in REPELITA II there appears to be a shift from an emphasis on population redistribution in agricultural settlements towards regional development, priority is to be given to candidates from rural areas, young and adaptable (454). The growing class of landless or almost landless peasants hoping to become landowners through transmigration has resulted in long waiting lists of aspirant transmigrants.* In REPELITA II, priority sending areas were determined which fulfilled the following criteria: (1) critical areas and those which are to be rehabilitated; (2) natural disaster prone areas; (3) areas where densities exceed 1,000 persons per square kilometer; and (4) areas which are to be inundated for the construction of a dam (Departemen Penerangan, 1979: xi/39). REPELITA III gives similar specifications of the general criteria of sending areas. It also states that priority is to be given to KECAMATAN which are densely populated, relatively poor,** experiencing

---

*Heeren, writing in the 1960s claimed this to be the case (1967: 37), while Johnson, et al. devoted their study to measuring the extent of potential transmigrants on Java (1976). REPELITA III mentions that there is a substantially large number of people on Java who desire to be transmigrated.

**McDonald and Alip Sontosudarmo found that these criteria seem to be followed. The authors stated that of the transmigrants originating from Yogyakarta 58 percent came from Gunung Kidul as opposed to 16 percent from Bantul, 14 percent from Sleman, and 11 percent from Kulon Progo. Gunung Kidul is the poorest KABUPATEN in Yogyakarta, consisting of infertile limestone hills, while Bantul and Sleman lie in the fertile Yogyakarta-Solo plain, and Kulon Progo is characterized by a combination of the two extremes. Consequently, in the fertile KABUPATEN rice is grown while in Gunung Kidul only cassava and maize can be grown (1976: 61 and 3-5).

deterioration in their environment, and where there are acute unemployment problems. At a lower level, it is the poorest villages, from which the landless laborers are to be given priority. In addition, young peasants are the preferred transmigrants (REPELITA III: 14-43 - 14-44).

Notwithstanding the existence of regulations guiding the selection of 'suitable' or 'preferred' transmigrants, they have not always been followed. The main criterion tended to be the willingness to migrate. In some instances, notably in natural disaster areas, pressure was brought to bear on the homeless to migrate.* In other cases the urban unemployed have often been strongly encouraged to transmigrate also (Hardjono, 1977: 26-27).

This description is of the formal written regulations concerning eligibility criteria. However, the question often arises as to how decisions are actually made about who does or does not transmigrate. In order to be eligible for transmigration an aspirant transmigrant registers at a local office through the village headman who then forwards the application to the CAMAT or head of a KECAMATAN or subdistrict, who in turn forwards it to the KABUPATEN representative of the Transmigration office. There are no written documents guiding the selection of individual potential transmigrants. Hence, how actual selection is carried out varies from one place to another. Consequently, there can be cases when undesirables of a community are recommended by village heads and therefore 'selected' for

---

*As was the case with the Balinese after the eruption of Mount Agung in 1963, and people who were living on the slopes of the Dieng when it leaked poisonous gases in 1978.

transmigration. However, in terms of the overall number of transmigrants such cases are relatively few because the Indonesian Transmigration Program is so large.

2.5. GOVERNMENT ASSISTANCE

The kind of assistance provided by the government has varied and undergone changes over time. The government categorizes the different types of transmigrant by the variation in the kind of assistance.

When the first Javanese were resettled under the Family Transmigration scheme of the 1950s, the government provided each family with: (1) free transportation from place of origin to place of destination, food and some pocket money; (2) cleared land, consisting of 0.25 hectares for their house and vegetable garden and 1.75 hectares for farm land; and (3) agricultural tools, seeds, kitchen utensils and clothing which were given as a loan, and therefore had to be repaid. When the scheme for General Transmigrants was instituted, the kinds of assistance were increased. In addition to assistance given to Family Transmigrants, General Transmigrants were also provided with a house and food rations for 6-10 months, which were similarly considered as a loan* (Amral Sjamsu, 1960: 82). While some of the types of assistance were rather straightforward, others were not. The government provided transportation. Upon arrival, each family was assigned their particular piece of land. Some families found a house already constructed upon arrival while others were given

---

*Expectedly, it was very difficult to collect repayments, so that by 1958, 99.6 percent of all the loans remained outstanding (Oey and Astika, 1978: 87-90).

some building materials instead. Also on a per family basis, transmigrants were given agricultural tools, seeds, and kitchen utensils. However, the earliest regulations concerning the distribution of food and clothing to transmigrants enumerated very detailed items according to family size and age and sex composition. Of course, the latter mentioned rations created such immense difficulties in the distribution that only a few months later a change was introduced to distribute all rations on a family basis (Oey and Astika, 1978: 82-84).

Over time, more changes have been introduced. Food assistance has become less generous in terms of variety as well as amount, but owing to reported difficulties experienced by the transmigrants in getting settled, the period of food rationing has been extended from 6-8 months to 12-18 months today (REPELITA III: 14-53 - 14-54). As the expansion of the transmigration program has led to the creation of new settlements in previously uninhabited or very sparsely populated areas, the availability of appropriate land has been rapidly declining. In the beginning of the program, transmigrant settlements were to be based on wet rice farming, thus requiring the availability of water and irrigation systems. Eventually, however, because public works could not keep up with the construction of irrigation systems in the rapidly increasing number of new settlements, it was acknowledged by the government that transmigration settlements had to be built on the basis of dry farming also. In addition, tidal areas have had to be utilized.

During the colonization program, migrants were given a total of one hectare of land, because that was the area the Javanese considered CUKUPAN (enough).* The most significant change introduced since the beginning of the transmigration program is that they were to be given a total of two hectares, including 1.75 hectares of wet rice land. By current standards prevailing on Java this should be sufficient to bring them out of the cycle of poverty which they suffer on Java. However, as mentioned before, because the program was more concerned with quantity, resettling as many as possible, and further exacerbated by social and economic instability, the Department of Public Works was not able to keep up with the required expansion of irrigation systems for the transmigration settlements. Consequently, most transmigrants were resettled in areas where they had to practice dry farming. Even dry land was not always available and transmigrants have also been resettled in tidal areas. It was not until REPELITA II that a few irrigation systems were constructed in transmigration areas. In the meantime, an increasing number of studies have pointed out the misery suffered by many transmigrants as a result of the quality and size of the land allotments.** In response, since REPELITA II, the size of the land allotments has been increased. If transmigrants are resettled in irrigated areas, then they continue to be eligible for two hectares only. However, if no irrigation system can be made

---

*CUKUPAN for a Javanese peasant family means that they farm 0.7 hectares of SAWAH (wet rice field) and also a house garden of 0.3 hectares on which fruit trees and vegetables are grown (Penny and Singarimbun, 1973: 2).

**Difficulties experienced by transmigrants in tidal areas have been documented by Amin Aziz (1971), Direktorat Jenderal Pengairan (1972), Soeratman and Guinness (1976), Soeratman (1977), and Soeratman et al. (1977).

available, then the transmigrants are to be given 4-5 hectares, to be used for subsistence and cash crops (REPELITA II, 1974: 456-457).

As mentioned earlier, transmigrants are classified according to the types of assistance which the government provides to them. It has frequently been mentioned that the ultimate goal of the transmigration program is to generate a stream of spontaneous transmigrants.* The term spontaneous transmigrants applies to those people who migrate with limited or no government assistance. Many such spontaneous transmigrants have been found in Lampung (Djoko Santoso and Ali Wardhana, 1957; and Kampto Utomo, 1967 and 1975). The spontaneous transmigrants consist of two categories, TRANSMIGRAN SPONTAN DENGAN BANTUAN BIAYA (spontaneous transmigrants with financial aid) and TRANSMIGRAN SPONTAN TANPA BANTUAN BIAYA (spontaneous transmigrants without financial aid). The first group receives transportation, housing materials and land; while the second is given land only (Hardjono, 1977: 30). In addition, those who move independently, that is without government assistance or knowledge, are also referred to as spontaneous transmigrants.

Shortly before the end of fiscal year 1973-74 a new program TRANSMIGRASI SPONTAN BANTUAN PRESIDEN (Spontaneous Transmigrants with Presidential Aid), known as BANPRES was commenced to encourage greater numbers of partly assisted migrants to leave Java and Bali. The limited assistance consisted of transportation and basic necessities

---

*Amral Sjamsu concluded that such should be the goal of transmigration (1960: 136). Keyfitz, writing in the early 1960s suggested too that the success of the program can be judged by the extent to which it stimulates a spontaneous flow (1964). Such expectations are also expressed in REPELITA II (454-455).

for four months (Hardjono, 1977: 33).

Even though Hardjono claims that as from 1974 there will be no more distinctions made between 'general' and 'spontaneous' transmigrants (34), in REPELITA II it is explicitly mentioned that more spontaneous transmigrants are expected to migrate (454-455). It is only in REPELITA III that the distinction is no longer mentioned.

2.6. PAST PROBLEMS RELATED TO THE TRANSMIGRATION PROGRAM

There are basically two types of problems. The first concerns administrative difficulties in implementing the Program and is essentially a problem of management spread between government agencies. The second concerns the consequences of insufficient preparation by the authorities as suffered by the transmigrants. The hardships suffered by the transmigrants are experienced at various stages of the resettlement process.

2.6.1. PROBLEMS OF MANAGEMENT

From the beginning, implementation of the Transmigration Program had never been the sole responsibility of the Transmigration Agency. The magnitude and complexity of implementing the Program has always demanded the cooperation of several Government Ministries or Departments. For instance, the Ministry of Information is responsible for informing prospective transmigrants in sending areas. Land allocations for transmigration settlements are worked out through the Department of Internal Affairs. Expenditure plans for the creation of new settlements have to be approved by the Planning Board. Land

clearance and settlement construction is executed by the Ministry of Public Works. The Ministry of Communications bears the responsibility of moving people from the sending to the receiving areas. Social amenities are provided by the Departments of Health, Education, Religion, and Social Affairs. Of course no program can be implemented without the cooperation of the Department of Finance. Since transmigration settlements are designed as agricultural settlements, the Department of Agriculture also plays an important role in the resettlement process. Notwithstanding the necessary cooperation of various Government Departments, the final burden remains with the Transmigration Agency which is responsible for the recruitment and administration of transmigration settlements for at least the first five years of each transmigration project or until such a settlement is regarded as self sustaining, when the responsibility can be transferred to the Department of Internal Affairs.

When cooperation is required among such a large number of Government Departments difficulties in interdepartmental coordination can be expected. Furthermore, development plans used to be far more fragmented and less integrated with each Department setting its own priorities. In addition, political processes and forces often create instantaneous demands on the program without allowing sufficient preparation time to coordinate the activities of all the Departments involved. Such factors contribute to the often found unsynchronized preconditions for resettling transmigrants. Bintoro Tjokroamidjojo (1977) has carried out a detailed study of the problems that arose in the Way Abung transmigration project. The author attributes the basic problem to the planning stage when the budgetary components of the various agencies involved were not synchronized.

In addition, it has also been claimed that poor communication between the regions and the Central Government and between various Departments has in the past been a major constraint in synchronization. Consequently, there have been unnecessary delays between the various phases of the development of a project (Letta, 1974).

2.6.2. DIFFICULTIES EXPERIENCED BY THE TRANSMIGRANTS

Resettlement into an unknown and new area, especially when one is poor, does not happen conveniently. Instead, hardships are the rule rather than the exception. Difficulties often continue to accompany the transmigrants. Among the problems they must usually face are the following:

Consequences of Lack of Interdepartmental Cooperation and Synchronization

The consequences of the lack of coordination and synchronization are of course borne by the transmigrants. Even before departure their lives can already be affected. When targets have been set -both overall and by region of origin- recruitment procedures are started. There is, however, a time lag between the dates of registration and departure. Since this time lag is indefinite, recruiters are not able to tell prospective transmigrants how much more time they have to settle their affairs. Consequently, a long time can pass without further news, until suddenly they are told that they have to leave.

It has been reported that as a result, some prospective transmigrants have withdrawn their names from the registration lists because they have found new occupations. Others suffered hardships because they had sold their properties and other assets soon after being registered and selected as candidates, thus losing their major sources of income. Others again suffered losses because they had to sell their belongings at rather low prices due to the short notice of their departure, making it impossible to sell or to sell to the highest bidder.*

The nature of the hardships suffered by the transmigrants varies from one project to another. In the Way Abung Project, for instance, the earliest arrivals were faced with a settlement site where nothing had been done, not even land clearance. In other cases the condition can be that by the time the transmigrants arrrive the land has become overgrown again. Consequently, when they arrive after a strenuous trip from their villages of origin and are tired, weak and poor, they have to start their new lives with land clearance and the construction of temporary living accommodation.

Another way that improper interdepartmental coordination and synchronization affects the lives of the transmigrants is in the timing of their arrival in the new settlement. The subsistence allowances provided by the government are determined on the basis of a

---

*See for instance Letta, who proposes to improve the management of the Program, thereby reducing the hardships born by prospective transmigrants (1974: 17). Another study which compared the Rimbo Bujang and Sitiung projects, located in Jambi and West Sumatra respectively, also notes such complaints by the transmigrants (Markas Besar Tentara Nasional Indonesia Angkatan Darat, 1977: 9). Davis has noted similar criticisms from Balinese transmigrants in Parigi, Central Sulawesi (1976: 159).

time period required by the transmigrants to reap their first harvests if they can start planting soon after arrival. However, the agricultural cycle is determined by the seasons. Planting has to be done prior to the rainy season and harvests are reaped thereafter. If however the transmigrants arrive after the rainy season has ended they will have to wait much longer for the first harvest. In the meantime their subsistence rations may be withdrawn.

Problems of Resettlement

Besides these difficulties there are other hardships to be faced. Some of these problems are related to site selection. In addition, as for millions of other Indonesians, the problem of poverty remains a fact of life. Consequently, accessibility to social services is often limited for transmigrants. Hardships in starting their new lives are further exacerbated by the lack of integration with the local population.

Site selection

The final choice of a site within a province remains within the jurisdiction of local provincial governments, even though transmigration is a national policy, and while the selection of the receiving provinces is determined by the Central Government. In the past, procurement of suitable land was often not integrated into provincial plans for regional development. Since "beggars can't be choosers", soil conditions of the areas designated by provincial governments for transmigration projects are often poor with little

water available. Most or all fertile land has in any case usually been occupied and cultivated. As a result, transmigration sites are generally not the best quality.

However, proper planning and sufficient investment can turn even infertile land into reasonable agricultural land. This has however not always been provided. First of all investment in any transmigration project has been and will continue to be rather limited because of the emphasis of the Program on quantity. Second, the planning and designing of transmigration settlements have in the past also been rather limited. Thus, the location of a transmigration project can be poorly chosen.

An example of poor choices for transmigration sites are two projects in Kalimantan, the Marabahan and Balandean projects which were opened in 1958/59 and 1960 respectively. In both areas water and soil quality are major problems faced by the settlers. Without high quality irrigation and drainage systems, such selected tidal areas are either inundated or have no water. At the time when these projects were opened very limited investments were made. Even though these two projects were said to be planned for irrigated rice fields, no investments were made for this purpose. The Marabahan project is located too far from the Barito river so that the swampy waters with a high degree of acidity cannot be drained into the Barito, nor can the Barito's water be used to irrigate the fields. Similar difficulties are faced by the transmigrants in the Baladean project. Such problems and the almost non-existent opportunity for wage labor, have caused most transmigrants from these project areas to abandon the settlements (Soegeng Soemarto Soetanto and Kasnadi J.S., 1971).

These examples are of course among the worst. It is not suggested that most, or even many, transmigration settlements have failed as badly as this. Indeed, if measured on the basis of population growth, no other project has failed. On the other hand, neither can it be claimed that most other projects have been very successful in improving the standard of living of the settlers.

The government transmigration program is confronted by a dilemma. If, on the one hand, it invests sufficiently in an area, as in some of the areas during the colonization period, then the population growth of such an area soon surpasses the growth in food production. Whether through natural increase or immigration of independent migrants, well developed transmigration areas are often found to have high population densities similar to the areas of origin of the transmigrants. In the more successful areas of Lampung, the second and third generation of settlers, like their forefathers originating from Java, are again faced with having no agricultural land.* However, if on the other hand, the Government does not make sufficiently large investments, then transmigrants and their offspring will not become better off after resettlement, thus denying the expectations for a better future which make transmigration attractive. Moreover, this poverty supports the frequently heard accusation by provincial governments that transmigration serves in fact as a mechanism of transferring rural poverty (Hardjono, 1977: 37).

---

*This is the argument posed by Junghans to favor intensification rather than extensification of irrigated rice fields (1974: 68-83). The author, however, observes only the relation between extensification and population growth in a particular area. However, Junghans has not paid sufficient attention to the fact that economic development in a particular area, which can also be the outcome of intensification, may in itself also be a stimulus for rapid population growth.

Cultivated area

Insufficient government investment in transmigration areas has also resulted in only part of the land allotments being cultivated. As mentioned before, transmigrants were given 0.25 hectares of land for their house and vegetable garden, and 1.75 hectares for farm land or since REPELITA II 3-5 hectares of non-irrigated land. It has been the policy of the Program to clear only part of the fields given to the transmigrants. Consequently, in some projects, only a small proportion of each allotment has been cultivated. A report on the Way Abung Project and several projects in South East Sulawesi notes that after five years on average less than half of the allotments had been cultivated. The reasons given are: (1) the Government had not cleared all the land which meant that the transmigrants themselves had to do so; (2) the settlers are not able to complete land clearance operations themselves because they do not have adequate labor and capital; and (3) transmigrants do not have sufficient farm traction power. In Southeast Sulawesi additional reasons have been mentioned, such as crop loss hazards due to animal and other pest attacks, and availability of paid employment outside the settlements (Hameed, 1975: iii-iv; and 1976: ii).

Land rights*

Another important problem facing the transmigrants concerns land rights. One of the basic problems stems from the ambiguity of the Basic Agrarian Law, Law No. 5 of 1960, enacted 15 years after Independence. This law took so long to draft because of conflicting views on whether existing ADAT (customary) Law should be revised instead of promulgating a new law. This conflict has not been fully resolved in the present law which stipulates that "the Agrarian Law for the whole of Indonesia is the ADAT as far as it is not in conflict with National and State interests based on the unity of the Nation, with Indonesian socialism as well as with regulations stipulated in the act and with other legislative regulations, all with due regard to the elements based on Religious Law" (Article No. 5 quoted by Ratnatunga: 19). Thus, according to this law, ADAT takes precedence, modified in such a way that it would not be in conflict with acts and regulations at higher levels. Consequently, when an area is designated for transmigration, local transmigration authorities settle the status of such an area in accordance with the local ADAT. The situation is further complicated because ADAT is place and time specific, hence there is no uniformity in the laws applicable to transmigration areas. As a result, no standardized arrangements and agreements can be made between local authorities of Transmigration and Agrarian Affairs on the one hand, and ADAT governing bodies on the other, and agreements will continue to be reached on a case by case basis by local authorities. Thus, unclearly defined tenure of

---

*A detailed study on Land Tenure has been prepared by R. T. Ratnatunga. Planning and Development of Transmigration Schemes, Project Working Document No. 3 (no date).

transmigration settlements continue to be a source of conflict between transmigrants and local people.

Furthermore, according to existing regulations, an area opened for transmigration remains the responsibility of the Department of Manpower and Transmigration for five years, beginning from the time of arrival of the first settlers. Thereafter, its management is to be transferred to the Department of Internal Affairs. In practice however, it remains under the authority of the Department of Manpower and Transmigration far longer than the stipulated five years. As long as an area remains under the jurisdiction of the Transmigration Agency, the settlers are supposed to be issued a so called "Tillage Permit" or SERTIPIKAT HAK PAKAI, the right to use the land assigned to them.* There are however a few conditions which have to be met if the settler wants to retain this right: (1) he should actively utilize the land himself; (2) he and his family have to live on the land assigned to him; (3) the land rights cannot be transferred, mortgaged, or used as a collateral for a debt; and (4) unless an heir reports the death of a holder of such a right to the officials in charge within a period of six months, the heir cannot inherit these rights (Ratnatunga: 19). After a transmigration project area has been transferred to the Department of Internal Affairs, the regulations call for the issuance of a SERTIPIKAT HAK MILIK or full ownership rights to transmigrants (Ratnatunga: 75). Since transmigration projects have in the past not been transferred after the stipulated five years, proper land title deeds have also often not been issued

---

*The permits contain information regarding the land allotment and the recipient as well as necessary conditions to be met by the recipient in order to retain the title to the land (Ratnatunga: 61).

(Ratnatunga: vi), thus leaving transmigrants in an ambiguous situation as to their rights on the land.

Such ambiguity in the status of their land has often resulted in an ambivalence among transmigrants as to how best to utilize their scarce resources. The lack of proper land titles is one of the reasons for not having cultivated all their land (Departemen Ilmu-Ilmu Sosial Ekonomi, Fakultas Pertanian, Institut Pertanian Bogor, 1971: 7). Settlers' unwillingness to cultivate all their allotted land stems from litigations and land disputes with the indigenous people. Because transmigration areas are not precisely demarcated, disputes are often expressed in conflicts concerning the rights to resources on the land, like the trees, fish ponds, grazing land, etc. (Hasan Mangunrai, 1977: 91-115). In some cases, conflicts arose from land disputes which were the result of promises of compensation made by local transmigration authorities to local ADAT representatives and which were not fulfilled (Hardjono, 1977: 39). Or, as in the case of South Sumatra, where ADAT requires subjugation to the MARGA (a territorial unit) system of land tenure, conflicts could arise if land was allocated which had not been declared free by the State (based on settlement agreements with the ADAT council). The workings of the MARGA system were often unknown to the transmigrants, who therefore did not submit themselves to the system.*

---

*Land problems in South Sumatra have been discussed in several letters from the Djawatan Transmigrasi Sumatera Selatan No. Aa/3567/3, dated May 1958, which follow up on earlier letters from the Djawatan Agraria No. Pda.31/1 dated February 22, 1958 and from the Djawatan Transmigrasi No. Aa/187/3 dated March 5, 1958.

Such land tenure problems have been recognized by the Department of Manpower and Transmigration, and new programs are being designed to deal with them. However, since title deeds are issued by the local representatives of Agrarian Affairs of the Department of Internal Affairs, an understaffed agency which cannot possibly handle all the necessary work involved to issue deeds, it remains questionable whether such change in attitude will help greatly. Furthermore, it appears that provisions have not yet been made which will speed up the process of granting such deeds to older settlers.

Income

Most of those resettled by the Government were either landless laborers or had only very small plots of land in their areas of origin. As they were granted agricultural lands far larger than they had ever owned before, which in most cases were planned to be wet rice fields, it was simply taken for granted that they would become better off after resettlement. The fact however is that in general transmigrants are not necessarily better off than they were before, or if they are, the difference is only marginal.* Why transmigrants remain poor is the subject to be discussed in this section.

---

*There are of course also some fairly successful transmigrants. Among those who have succeeded in improving their standard of living, many have lived in the transmigration area for a long time. This is not to say that there is a causal relation between duration of stay in the transmigration areas and income but incomes of all transmigrants improve over time if there are developments in the area, especially in older areas which are more likely to be irrigated than relatively new areas (Oey and Hananto Sigit, 1977, Table 11: 31-32).

Since the main objective of the Program implementation is quantity rather than quality the investment allocation per family has been kept at a low minimum. Observers suggest that the main aim is not so much to enable settlers to pull themselves out of the cycle of poverty, as to continue their lives at a subsistence level growing only (subsistence) basic food crops (Junghans, 1974: 77).

Transmigrants feel obliged to supplement their household needs by working outside the settlements if possible, especially as food allowances are often inadequate. The logging industry in Kalimantan and the sugar and rosella factories around Way Abung, for instance, provide opportunities to find wage employment (Hardjono, 1977: 71; Soeratman and Guinness, 1976; and Kelompok Abung Jaya, 1976: 20-21 and 26). In other areas other types of income earning opportunities may exist. Of course, working for wages outside the settlement area is in the short run far more attractive to the settlers than the far longer perspective of preparing and cultivating their own allotted land.

This is not to say that in the absence of opportunities to work for wages outside the settlements the agricultural land allotments would be better cultivated. There are numerous reasons for poor land cultivation. Some of them include the lack of input factors such as labor, traction power and, more importantly, capital (Hameed, 1975 and 1976).

In transmigration settlements capital is not only scarce but also difficult to accumulate. Without the necessary inputs the soil fertility declines after having been cultivated for several seasons. With declining soil fertility, productivity also declines over time.

Especially in areas where cassava is the major crop, productivity declines very rapidly from one harvest to the next (Junghans, 1974: 74).

Incomes thus also decline. The economic conditions of the settlers can only spiral downward if no further aid comes their way. Over time, transmigrants rely more and more on the TENGKULAK or middlemen, especially when the IJON system sets in under which farmers sell their products before harvesting at a substantial discount on harvest prices. The TENGKULAK play a very important role in the economic lives of the settlers. Generally, new settlements are dependent upon markets outside their area, and therefore upon the TENGKULAK, who are middlemen between the transmigrants and the outside world. Usually, the inhabitants of new settlements are homogeneous in terms of their economic conditions; mostly poor. Hence, little trading can occur. Furthermore, it is common to find that all farmers grow the same or very similar rather than complementary crops. As a result, at harvest time there is an over-abundance of the same crop while during the slack period preceding the harvest there are no supplies for sale. Third, the infrastructure connecting the settlements with the outside world has often been so poor that the transmigrants cannot reach the market themselves. In particular there is the problem of very poor roads leading in and out of the settlements (Wuisman, 1977). Fourth, the concept of cooperatives is practically non-existent in such areas in spite of long theoretical advocacy. In general, the farmers are not capable of organizing themselves cooperatively to bring their products to the market by hiring a truck for instance. The easiest way is to sell their

products to the TENGKULAK.* As a result of the lack of linkages to outside markets, after harvest time household consumption increases markedly stimulated by SELAMATAN (celebrations) and other social occasions, to decline later again towards the slack season when little or no supplies are available.

It is obvious from the above discussion that no simple solution is available to improve the standard of living of the transmigrants. Some of the problems could be overcome if only capital were available to the transmigrants, although it should be kept in mind that capital is a necessary but not sufficient condition for raising incomes. Through larger amounts of investment, production could be increased and incomes of the settlers raised. Agricultural production and the value of their product can in turn be increased through extensification, intensification, and diversification, the achievements of which are dependent upon the availability of credit and other inputs.

---

*It is not claimed that the existence and monopoly of the TENGKULAK can be solved through technical means only. One could very well conclude that if the drawback is the infrastructure then improvements in or construction of infrastructure should eliminate the TENGKULAK and transmigrants would benefit from higher prices received at the markets. Rather, these TENGKULAK will continue to survive as long as the need for them remains. Even if the infrastructure were to be built but the farmers do not have the means to reach the market, if for instance they are short of cash and they have to pay cash for the use of commercial transportation facilities, or if the quantity of their salable product is so small that transportation to the market becomes too costly, then the farmers will still find it more profitable to sell their products to TENGKULAK. Or, if at a particular time a farmer needs cash, as for instance for paying taxes, and at that very same time a TENGKULAK were to pass by and offer cash for the farmer's prospective product, then too it is not unlikely that such a farmer would accept the offer of the TENGKULAK.

Social Services

All over Indonesia social services are in short supply, but more so in transmigration areas compared to Java. The inadequate health services in the transmigration areas are reflected by the high incidence and prevalence of such common diseases as malaria, dysentery and skin and eye diseases (Institut Pertanian Bogor, 1973: 7). It is of course acknowledged that these diseases prevail not only because of inadequate health services but more so because of poverty. Even if health services were made available in all transmigration settlements they would not necessarily be accessible to the transmigrants because of cost and distance. This often accounts for the low utilization of available health services or PUSKESMAS (community health center).

Educational facilities are also insufficient and of rather poor quality in the settlement areas. Hameed noted that in the Way Abung area education also fell within the responsibility of the Transmigration Agency. Being too preoccupied with the settlement, the Agency paid insufficient attention to providing and running schools. There were primary but no secondary schools. Even the primary schools were faced with problems of inadequate availability of school furniture and teaching aids. The teachers were paid by the agency at a salary which constituted only a small fraction of the salaries paid by the Department of Internal Affairs (1975: 31-33). Consequently, the students are required to contribute to school fees, part of which is used to supplement the salaries of the teachers. Starting in 1977, students of grades one through three in state primary schools are exempted from fees and starting in 1978 this rule applies to all students from grades one to six. However, these exemptions are made

for those schools which are the responsibility of the Departments of Education and Culture and Internal Affairs. It is not known whether the same applies in transmigration project areas.

It is of course desirable to make secondary schools available in transmigration areas, but if such facilities are not accessible to the poor transmigrants, then making secondary schools available may not be an asset to recent transmigrants but may instead be a burden, because the transmigrants will have to make a building available and also pay for its maintenance as well as the schools' administration, teachers, and all the necessary teaching materials.

There is therefore a dilemma concerning social services. On the one hand health and educational facilities are basic requirements for further development of the people and their settlements, but, if the people for whom the services are intended are unable to afford them then they appear rather wasteful. Since cost is the major deterrent in utilizing such services the first step to increased utilization should be the reduction or, better yet, the elimination of such costs.

Integration with Local People

The objectives of the Transmigration Program include national integration and unity, a goal difficult to achieve under past patterns of settlement. Transmigration areas used to be assigned by local governments without taking into consideration the potential of such areas for local or regional development. As a result, there are transmigration settlements which are completely isolated, far from settlements of indigenous people and therefore with little

communication between the settlers and the locals. In other cases, where transmigration settlements were established in enclaves in the neighborhood of indigenous settlements they were not conducive to integration either. The size of the transmigration settlement makes in-group identification sufficient and there is no need to go outside the settlements. In addition, aid was given to the transmigrants only but not to the locals, which has at times accentuated differences between the migrants and the locals. Different opportunities combined with diverse cultural patterns of behavior and religion sometimes lead to resentments of one group towards another, and ultimately conflict. An important source of conflict is the vagueness of the rights to land and its contents, which have already been discussed. Claims made by indigenous people have led some transmigrants to withdraw by not cultivating their allotted land. In other cases conflict was simply unavoidable.

Another source of conflict is cultural difference. As the archipelago has experienced various waves of cultural influences each of Indonesia's numerous ethnic groups has developed its own cultural heritage and language. The settlement of a large number of people of one ethnic group into the land of another group in a segregated area is not conducive to integration. Instead, majority-minority relations flourish underscoring the differences between the cultural attributes of the members of each of the groups. The social and ecological conditions under which the transmigrants find their livelihood further contribute to prejudices which can at times lead to conflict.

As described by Geertz (1960) many Javanese are ABANGAN, Moslems who have adapted Islamic teachings to earlier cultural influences of animism and Hinduism. The Moslems in the other islands adhere more strictly to the teachings of Islam. The flexibility of the Javanese with regard to Islamic tenets often appalls their indigenous neighbors.

In a study comparing the difficulties of the Javanese as opposed to the relative ease by which the Mandailing Batak assimilate into Minangkabau life in West Pasaman, West Sumatra, Mochtar Naim attributes the differences to disparities in attitudes towards religion and the degree of religiosity. The Minangkabau are conservative Moslems, not very tolerant of other people's religion or religious practices which deviate from their own. Religion to the Minangkabau is tightly linked to ADAT and an offense to their religion is similarly an offense to their ADAT. The Mandailing Batak are also strict and conservative Moslems. Their degree of religiosity is shown by their observance of the rituals with a strictness equalling that of the Minangkabau. Although to the Mandailing Batak religion is not viewed as a feature of their ADAT, this view is tolerated by the Minangkabau in West Pasaman because the two groups share other norms concerning religion. The case is different with the Javanese. According to Naim, for the Minangkabau religion is part and parcel of their ADAT and it therefore supersedes individuals. For the Javanese religion is a personal matter and to them the external behavior of their neighbors is not important. Neither does it matter to a Javanese what the religious affiliations are of other Javanese and there is tolerance of Javanese who have turned to Catholicism. To the Minangkabau such a conversion would mean not only a break with Islam

but a break with ADAT and society as well. The author holds that the contradiction between the Minangkabau view of religion as a community concern and the Javanese view that religion is an individual matter is the major impediment toward assimilation and integration of Javanese into Minangkabau society (1976: 36-40).

Similarly, Balinese religion and customs often clash with local traditions prevailing in the wider region of transmigrant settlements. Consequently, mutual distrust, prejudices and stereotypes tend to develop. To the strict Moslems of the other islands Balinese are offensive; they eat pork and moreover they are dirty because they keep pigs and dogs on their premises (Hasan Mangunrai, 1977: 33-130). As a consequence of the differences in cultural norms and values, members of opposing groups tend to accuse each other of being ill mannered.

2.7. CORRECTIVE MEASURES

Some of the above mentioned problems have been recognized by the Government and attempts are being made to improve the quality of the service.

In order to ameliorate the problem of lack of coordination and synchronization, in 1974, with Presidential Decree No. 29, Transmigration Development Coordinating Boards have been established at three levels: (1) the Central Government level; (2) the provincial level; and (3) the KABUPATEN level. These Coordinating Boards consist of representatives from the various Departments at each administrative level. Furthermore, with Presidential Decree No. 26 of

1978 the organization and functions of the Coordinating Boards have been improved. At the Central Government level this institution is called BAKOPTRANS (an acronym for Transmigration Implementation Coordinating Board). The BAKOPTRANS is headed by the Minister of Manpower and Transmigration and the secretary is the Director General of Transmigration. The membership of this board consists of Ministers heading each of the relevant Departments (of which there are ten in addition to BAPPENAS, the National Planning Board, and the Bank Rakyat or People's Bank). At the provincial level this board is headed by the Governors with similar representations. At the KABUPATEN level it is headed by the BUPATI, who is also the administrative head of a KABUPATEN. These boards are responsible for coordinating plans and implementing the Program's activities.

The major change affecting the transmigrants directly is the decision that transmigrants are not to be moved in until a settlement is ready for occupation. This means that resettlement cannot take place until construction is completed. This includes partial land clearance for agricultural purposes as well as the construction of houses and the physical and social infrastructure.

If in the past regional Governors were often reluctant to acquiesce in their land being used for purposes of transmigration, because of the general belief that the Program was only moving poverty into their lands, since REPELITA II transmigration settlements are designed as part of overall regional development schemes. Several older transmigration settlements can be found in isolated areas with no roads connecting them with other settlements. By contrast, the new schemes are to be located in the vicinity of highways being planned

and constructed in islands outside Java. The new transmigration schemes can be regarded as attempts to respond to the problem of marketing of agricultural surpluses produced in transmigration settlements.

Site selection for good soil quality where wet rice farming can be practised is practically no longer possible. Since the Department of Public Works will not be able to expand irrigation networks to all settlement areas in the near future, transmigrants are now allotted 3-5 hectares of land. These land allotments are to be used for the following purposes: (1) 0.25 hectares for house and vegetable garden; (2) 1.75 hectares for food crops where mixed farming is to be practiced; and (3) 1-3 hectares for cash crops. The new designs call for growing rubber or palm oil as cash crops. The expanded agricultural land allotments combined with greater government investments, especially in the provision of agricultural services and materials related to growing the cash crops, are expected to provide a sufficient basis for transmigrants to improve their standard of living.*

---

*These are the bases for designing projects planned for REPELITA II. A few of these projects are: (1) the Pematang Panggang project in Lampung designed by Huszar Brammah and Associates (1974); (2) the Baturaja-Martapura project in South Sumatra also designed by the same firm (1975); (3) the Wai Tuba project in South Sumatra and Lampung, reported by the Food and Agricultural Organization of the United Nations (1975); (4) the Baturaja and Way Abung project in Lampung reported by the International Bank for Reconstruction and Development - International Development Association (1976); (5) the Rimbo Bujang project in Jambi reported by Departemen Tenaga Kerja, Transmigrasi dan Koperasi, Direktur Jenderal Transmigrasi, Directorat Pembinaan Program (1977a); (6) the Masingai and South Kalimantan project reported by the same agency (1977b); and (7) the Wawotobi and Makaleo project in Southeast Sulawesi reported by Hunting Technical Services, Limited, and Huszar Brammah and Associates in association with Sir M. MacDonald and Partners (no date).

In order to deal with the problem of the lack of integration with local people several measures have been taken in designing new projects. One of the major changes is that where in the past transmigrant settlements were exclusively established for resettling people from Java, Bali and Lombok, today in some projects provisions are to be made to include the local people in order that they also share in the benefits of this particular development strategy. Thus local people can also move into transmigrant settlements.

Whether the above mentioned attempts by the Government will ultimately affect the transmigrants as anticipated remains questionable. The designs of the new projects strongly emphasize the physical aspects of the prospective transmigration settlements. However little emphasis has been placed on the implementation, management and administration of the projects which in Indonesia have often been the source of difficulty. Whether the existing bureaucracy can cope with all the administrative requirements for setting up transmigration projects according to the new designs is an area which has been neglected in designing the new projects. Furthermore, the social aspects have equally been omitted in many of the project designs. Calculations of expected incomes to be earned by transmigrants have been made on the basis of rather technical criteria following particular designs. Few alternatives are provided for the possibilities of less ideal situations. Since the REPELITA II projects are either still under construction or only recently opened little evaluative work has been done on the intended improvements in the Transmigration Program implementation.

2.8. CONCLUDING REMARKS

From the preceding description of the Transmigration Program there appears to be an ambivalence as to what the Program should achieve. Ever since the initial stages of the Program, THE objective, or one of the major objectives has always been the dispersion of as many people as possible from high to low density areas throughout the archipelago. The emphasis in recruiting prospective transmigrants has been to give priority to the poor and landless. Such objectives imply that the Program is essentially a response to the social problem of poverty found in the high density islands of Java, Bali and Lombok. As such the Program can be regarded as a social program for the poor. On the other hand, since the early seventies, new ideas have developed in that the Transmigration Program should be an integral part of regional development, basically the regions of the Other Islands. This idea is explicitly stated in Law No. 3 of 1972, which states:

> "In the basic statement of the State Philosophy it is stated that opening of sparsely populated regions outside Java, aside from exploiting their very great potential, will also lead to opening of broadened employment opportunities. For this reason transmigration, including local transmigration, must be seriously and purposefully implemented and integrated with regional development activities" (translated by Jones, 1979, from REPELITA II, Vol. III: 451).

Again, the integration of the Transmigration Program into regional development is echoed in the stated policies for the Program during REPELITA III (Vol. II: 14-33 - 14-34).

This important shift in the stated objectives of the Program has been discussed by several observers. Jones (1979) and Suratman and Guinness (1977) note the changes in policies and emphasis of the Program since REPELITA II, but indicate reservations because of a

continuous concern over numbers (Jones, 1979: 214-215; and Suratman and Guinness, 1977: 87-88).

There are two opposing views on how the Transmigration Program can be an instrument of regional development. On the one hand, Hardjono holds the position that the Program should continue as a land settlement program (1977: xv, 43, and 94) but with some modifications. She supports the change in policy to give transmigrants larger plots of land so that they are not being resettled to become only subsistence farmers but instead also become cultivators of cash crops (1977: 96). Her stand in this debate stems from her opinion that the regions in the other islands have not developed because of a shortage of manpower (1977: xiv).

The other position is taken by Arndt and Sundrum in their commentary on Hardjono's writing, in which they argue that:

> "... although there has been a notable increase in the scale of the official transmigration program in recent years, and some improvement in its administration, the pattern of transmigration has remained fundamentally unchanged. Integration of transmigration into regional development has largely remained an abstract aspiration. Nor has Mrs. Hardjono herself any real guidance to offer towards this objective" (1977: 75).

Furthermore, on the issue of support for the types of crop to be cultivated by the transmigrants, the commentators have this to say:

> "There is very little doubt that this change of emphasis is desirable. The question is whether it goes nearly far enough. Can land settlement in any form --the settlement of Javanese as smallholder farmers, whether producing rice for subsistence or cash crops for the market-- make any real difference to the pace of regional development in the less developed provinces of Indonesia? (1977: 76).

Of course the answer is no. Therefore Arndt and Sundrum recommend more drastic changes in the policies of the Program, which must:

1. "aim at ensuring an adequate supply of labour for regional development outside as well as in agriculture;

2. serve as a catalyst for regional development by using labour from Java to remove the obstacles to regional development and to mobility of labour arising from inadequate infrastructure; and

3. offer migrants, both officially sponsored transmigrants and voluntary migrants, opportunities for employment as wage earners rather than as smallholders" (1977: 77).

In order to arrive at such aims they recommend the creation of a demand for labor in the Other Islands. The emphasis of their design is on offering wage employment opportunities through large scale investments in public works projects. In addition, manufacturing, which is not capital intensive, should also be part of the overall regional development scheme (1977: 86-87). They acknowledge that such a scheme results in a very different composition of the characteristics of the labor force to be resettled. Instead of padi farmers they would consist of mainly unskilled labor but with an important component of skilled labor, experienced building tradesmen, engineers, surveyors, etc. (1977: 87).

The two opposing views stem from a basically different perspective. Hardjono, in line with one aspect of government policy, and more precisely with Program implementation, considers transmigration as an instrument of solving the problem in areas of population pressure and poverty. Arndt and Sundrum, on the other hand, are more concerned with regional development, which is stated to be another aspect of the goverment's policy, therefore favor a strategy which will directly affect economic development in the

provinces of the Other Islands.

As stated before, there is an ambivalence in the stated policies concerning the objectives of the Program. Similarly, I have some reservations about both positions. On the one hand, realizing the very unbalanced developments occurring between Java and the Other Islands, more emphasis should be given to actual investments which will induce more rapid regional development. Thus basically, I am favorable to the position held by Arndt and Sundrum. However, I think that at this point we should also be concerned with who the beneficiaries of development investments should be. Most development programs, though originally intended to benefit the poor have, in the end, tended to benefit those who are better off. For instance, the agricultural programs have benefitted the landed while further reducing income earning opportunities of the poor and landless. (Many studies have dealt with this issue. A few are: Collier, 1973 and 1978; Stoler, 1975; White, 1976; and K. Sudhana Astika, 1978.) Small credit programs too are unlikely to be accessible to the very poor. Similarly, housing programs have not benefitted the poor. In the same vein, Arndt and Sundrum are aware that the type of labor force needed for the regional development strategies they subscribe to requires qualifications not possessed by the very poor. Yet, as we have shown, historically the main objective of the Transmigration Program was not regional development but the creation of a social program to alleviate the conditions of the poor on Java. Even with the more recent emphasis on regional development, it still seems that one should not lose sight of the original goal. There should be development programs of which the beneficiaries are the poor and landless of Java, Bali and Lombok. If this is done within the

constructs of the Transmigration Program then it should not also be expected to be a powerful instrument of regional development.

This debate on the Program objectives ignores an important issue, namely the consequences of the Program on the population of the recipient areas. Lampung, for instance, which has historically been the most important province of destination of the transmigrants, experienced the highest intercensal growth rates in the country (see Table 2.7). The higher population growth rates experienced in Lampung are of course partly due to the continuous influx of government supported transmigrants, and also due to migration independent of government support. In addition, high population growth in Lampung is also attributable to high fertility. Interestingly, total fertility rates in Lampung for the decade of the 1960s resembled those of other provinces in Sumatra, which are far higher than those found for Java (for each of the provinces of Sumatra the total fertility rates exceeded six children per woman while the average for Java was around five children per woman). The question therefore arises as to why fertility in Lampung, the majority of whose inhabitants originate from Java, should be so much higher than on Java. Whether fertility of transmigrant women is also higher than that of those left behind on Java is the focus of investigation in this study. The details of how the investigation will be conducted will be discussed in the following chapter.

Table 2.7 -Population, 1961, 1971 and 1980, and Average Annual Growth Rate, 1961-71 and 1971-80, by Province and Region.

Province and Region	Population (in thousands)			Growth rate (percent)	
	1961*	1971+	1980+	1961-71	1971-80
Aceh	1,629	2,009	2,608	2.12	2.91
North Sumatra	4,965	6,623	8,357	2.92	2.59
West Sumatra	2,319	2,793	3,402	1.88	2.19
Riau	1,235	1,642	2,163	2.89	3.07
Jambi	744	1,006	1,440	3.06	4.02
South Sumatra	2,773	3,444	4,621	2.19	3.28
Bengkulu	406	519	768	2.49	4.40
Lampung	1,668	2,777	4,622	5.23	5.76
Sumatra	15,739	20,813	27,980	2.83	3.31
Jakarta	2,907	4,576	6,506	4.64	3.94
West Java	17,615	21,633	27,490	2.08	2.67
Central Java	18,407	21,877	25,365	1.74	1.64
Yogyakarta	2,241	2,490	2,745	1.06	1.08
East Java	21,823	25,527	29,175	1.58	1.48
Java	62,993	76,102	91,282	1.91	2.02
Bali	1,783	2,120	2,470	1.75	1.69
West Nusa Tenggara	1,808	2,202	2,724	1.99	2.37
East Nusa Tenggara	1,967	2,295	2,722	1.55	1.89
Timor Timur	-	-	553	-	-
Nusa Tenggara	5,558	6,618	8,469	1.76	1.99++
West Kalimantan	1,581	2,020	2,483	2.48	2.29
Central Kalimantan	497	700	950	3.48	3.41
South Kalimantan	1,473	1,699	2,069	1.44	2.19
East Kalimantan	551	734	1,219	2.91	5.73
Kalimantan	4,102	5,152	6,721	2.31	2.96
North Sulawesi	1,310	1,718	2,091	2.75	2.18
Central Sulawesi	693	914	1,289	2.81	3.85
South Sulawesi	4,517	5,189	6,054	1.40	1.71
Southeast Sulawesi	560	714	943	2.46	3.10
Sulawesi	7,079	8,535	10,379	1.89	2.17
Maluku	848	1,089	1,407	2.53	2.86
Irian Jaya	-	923	1,146	-	2.41
Indonesia	97,019**	199,232	147,383	2.08	2.31++

Sources : *McNicoll and Mamas, 1973, Table A1: 40-41.
+KOMPAS, 9 January 1981: xii.

Notes : **Includes 700,000 people for Irian Jaya.
++Excludes the population for Timor Timur.

CHAPTER 3

THE PRESENT STUDY

Like most studies on the relation between migration and fertility, this study also seeks to explain fertility differences between migrants and nonmigrants. Since this study deals with transmigrants, an additional objective is the examination of the impact of transmigration on fertility. For this purpose we will rely on primary data collected during the 1976 survey.

The purpose of this chapter is to present a detailed description of the specific objectives of this study. In addition, the survey design and how the results of the survey can be instrumental in achieving the stated objectives will be discussed.

3.1. OBJECTIVES OF THE STUDY

It has been noted in chapter 1 that very few studies have attempted to explain the relation between migration and fertility in a theoretical framework. Hendershot's work (1976) is noteworthy in that the author has made a pioneering attempt at placing the explanatory variables of fertility differences between migrants and nonmigrants in a framework of migration selectivity and adaptation. Hiday (1978) brought the idea closer to the present study in that she tried to explain fertility differences between rural-rural migrants and rural sedentary women through selection and adaptation processes. Hiday

argued that rural-rural migrants have lower fertility than rural sedentary women because they are more modernized and hold greater aspirations toward new goals and therefore they adapt to norms concerning fewer children. However, as stated in chapter 1, neither Hendershot nor Hiday have considered the separate effects of selection and adaptation processes on fertility.

In this study the forces which influence the outcome of fertility of transmigrant women will be examined. This examination is based on a theoretical framework developed by Hendershot in two studies; in both cases the framework was applied to gain insight into the processes which affect fertility in rural-to-urban migration in the Philippines. In the first study, Hendershot (1970) sought to explain fertility differences between rural-urban migrants and 'natives' of Manila. By borrowing analyses explaining the effects of rural-urban migration on fertility from studies on countries during the early stages of economic development, he suggested three general social theories.

1. SOCIAL DISORGANIZATION THEORY: In its extreme form this theory claims that rural-urban migration is caused primarily by 'push' factors or population pressures in the place of origin. Thus, migrants are disproportionately represented by the poor, illiterate, and unskilled. The recipient (urban) economy has little use for them; they tend to become socially disorganized. Hence, even the traditional norms of their rural origins are set aside, including those which somewhat limit fertility. As a result, their fertility is far higher

than that of the urban natives and may even be higher than in the rural communities they left behind.*

SEGREGATION THEORY is a less extreme variant of social disorganization theory, which says that rural-urban migration does not result in social breakdown after arrival in the city. Instead, it is argued that these migrants are likely to live in the safe surroundings of neighborhoods where many of their relatives and friends have taken up residence. Hence, they find protection in the proximity of familiar members of the communities of their origins who share their rural cultural norms and values. Consequently, they retain their rural culture including values concerning fertility limitation. Again the result is that rural-urban migrants have higher fertility than urban natives though similar fertility to rural stayers.**

2. ASSIMILATION THEORY: According to this theory rural-urban migrants assimilate into the urban culture regardless of any selectivity or insulating effect of migrant communities in the city. It takes time, however, before the migrants shake off their rural

---

*This line of reasoning is based on Petersen's (1969: 417-423) arguments for the case of early industrial England (Hendershot, 1970: 5-6).

**This proposition is derived from arguments posited by Hauser (1965: 1-47) for the case of non-Western nations (Hendershot, 1970: 6-7).

cultural values and replace them with urban values, including those values regarding family size. Therefore, during the first years immediately following the movement, rural-urban migrants continue their rural fertility pattern, which over time decreases and converges to urban levels. The result is that the fertility level of rural-urban migrants is a kind of average between that of the rural population and the urban natives.*

3. SOCIAL MOBILITY THEORY: This theory says that rural-urban migrants are selective of the upward socially mobile which causes them to move to the city. Hence they adopt norms of the urban culture, including those regarding small families. They are strongly motivated to be like the urban natives and often they are even more strongly motivated than urban natives to move upward in the urban social stratification system. As a consequence, they have low fertility, even lower than urban natives .**

---

*This argument is based on Germani (1961: 206-233) to explain the Brazilian case (Hendershot, 1970: 7-8).

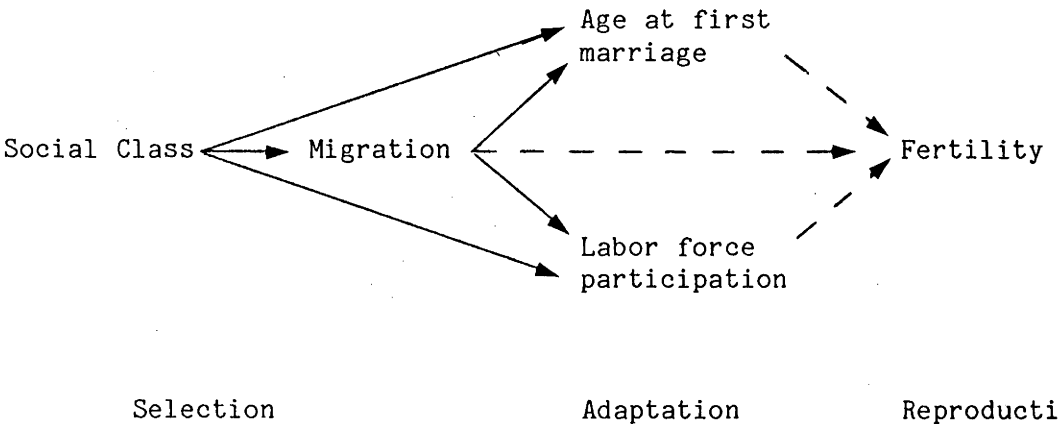
**Based on arguments proposed by Macisco, Bouvier and Weller (1970: 51-70) in their analysis of data on San Juan, Puerto Rico (Hendershot, 1970: 8-9).

Following these three theories, Hendershot postulates that there are two separate processes affecting migrants from rural areas to the city. On the one hand, migrants are selected, either positively or negatively, while on the other hand, migrants experience various degrees of assimilation into the urban culture. The emphasis is on migration selectivity in relation to the social disorganization and social mobility theories, where negative selection governs the former and positive selection the latter. Assimilation theory emphasizes the integration of migrants into the host society but disregards the process of selection in the origin communities. Thus, in essence, Hendershot claims that these processes operate separately for different types of rural migrants who settle in the city.

In a later development of his conceptual framework, Hendershot (1976) argues that the two processes of selection and assimilation (which he also calls adaptation) do not operate independently of one another, but are instead interrelated, and also related to a third process: human reproduction. The framework in which he relates these processes is used to explain fertility differences between rural-urban migrants and rural stayers. This approach is rather different from his earlier work.

Hendershot's revised framework for the analysis of fertility differences between rural-urban migrants and rural stayers is as follows:

Fig. 3.1 -Hendershot's Framework to Examine the Impact of Rural-Urban Migration on Fertility.



Source: Hendershot, 1976: 202.

For this scheme, Hendershot defines the following terms:

1. SELECTION is the process which separates out from the entire population those who become rural-urban migrants, leaving a residual population of stayers.

2. ADAPTATION alters the behavior of migrants from that of the stayers in response to the circumstances of migration and a new cultural environment.

3. REPRODUCTION determines the number and spacing of children, including the use of contraception (1976: 200).

In the diagram, the solid lines indicate positive and the broken lines negative relations. Hendershot further claims that these three processes are so causally interrelated that they produce a continuum of results with the following two extremes at each end of the continuum:

1. Selection favors those equipped by social background to perform successfully in an urban environment. In that situation, migrants would adapt quickly, easily, and

completely to the circumstances of their migration and to the new cultural environment; as a consequence, their behavior would differ significantly from that of rural stayers. Differences in behavior would influence reproduction, tending to produce different numbers and spacing of children in migrant and stayer families. If it is assumed that the net effect of the urban culture, relative to the rural, is antinatal, then fertility of migrants would be expected to be lower than that of stayers.

2. Selection favors those not well equipped by social background to perform successfully in an urban environment. In that case, the adaptation of migrants would tend to be slow, difficult, and partial, and differences from rural stayers would be negligible. The fertility of migrants and stayers would also tend to be similar (1976: 200-201).

Between these two extremes, Hendershot favors the first as an explanation of the Philippine situation. He holds this position because, he contends, the Philippines is still at the early stages of urbanization (in 1973 only 30 percent were living in urban areas, of whom one third were residents of Metropolitan Manila). Hence, large-scale rural-urban migration is relatively new there. Following Lee (1966), Hendershot argues that because the rural-urban migration stream is a relatively new phenomenon, the migrants tend to be positively selected relative to the rural stayers. The reason for this is that under such circumstances rural-urban migrants are primarily motivated by 'pull' factors of the urban environment, thus they are able to overcome a great number of intervening obstacles between the areas of origin and destination. For the Philippine situation, Hendershot holds that rural-urban migrants are selective of those belonging to the higher social strata of their communities of origin. Then, noting the positive relation between social class and age at marriage as well as labor force participation, it is argued that Philippine rural-urban migrants are more likely to marry late and

to join the labor force, relative to the pattern which would be expected in a situation where migrants are selective of people of lower social strata. Thus, in terms of Hendershot's earlier work, the Philippine situation is said to reflect the social mobility theory rather than the social disorganization theory.

In applying Hendershot's framework to the study of fertility of Indonesian transmigrant women, the three basic processes of selection, adaptation and reproduction can be retained. In concurrence with Hendershot, these three forces are considered to be related. However, a few modifications are introduced into the model.

Firstly, in Hendershot's studies, social class is an important criterion of selection and therefore also adaptation, because he worked within the framework of rural-urban differences. Transmigrants, on the other hand, are rural-rural migrants. Social class does not have the same importance as when the study concerns rural-urban migrants. Even though the program is supposed to affect a target population of the lower class on Java, the number of poor on Java is both large and growing. Today the landless and those owning small plots of land, insufficient to support a household, constitute well beyond half of the rural population on Java. Booth and Sundrum (1979) report that 57 percent of the farm holdings on Java are less than 0.5 hectares. Thus, it is argued, because the transmigrants are by design selected from among the poor, and because the poor constitute the majority of the population in rural Java, there should not be a great deal of difference by social class between the transmigrants and those left behind on Java.

Therefore, contrary to Hendershot, who argued that the migrants in Manila are positively selected in terms of social class from the population at origin, in the case of transmigrants, who are rural-rural migrants, they may be negatively or not at all selected. Such a proposition is suggested because transmigration, by design, has always been implemented for the alleviation of population pressure in rural Java. More recently, this particular objective has been modified somewhat as regional development plans stress the resettlement of labor from areas with high labor surplus to areas where labor is scarce. In the light of program aims, it can be argued that transmigrants respond to minus factors in their place of origin. The subsidies and assistance extended through the program are intended to magnify the migration stream. Hence it can be said that 'push' factors operate in areas of origin and there are few 'intervening obstacles'. This procedure favors not the higher strata but rather the relatively poor, who in their flight from economic hardships on Java may be expected to retain those elements of culture and social relations which are of comfort and use in their new homes. Along with those transmigrants who receive government support, many others have moved to the settlement areas (Djoko Santoso and Ali Wardhana, 1957; and Kampto Utomo, 1967 and 1975). However, even these independent transmigrants are also not selected from among the socially mobile since many move because they already have relatives in Lampung on whom they can depend while settling in.

A further modification to Hendershot's model in this study is that the transmigrant women are treated as a heterogeneous group. The most important factor of heterogeneity is the variation in age at transmigration, which is discussed in chapter 5. Because of the wide

range in ages at transmigration, the effects of the two processes of selection and adaptation on reproduction can be expected to vary among individuals. Such differences in ages at transmigration obviously mean that the transmigrant women have lived in the settlement for different durations of time, and, following Hendershot's assimilation theory (1970), the longer the transmigrants have lived in the settlement, the more they can be expected to adapt their fertility behavior to their environment and the weaker the influence of selective factors becomes. Such an assertion is not only based on the assumption that younger people are more adaptable than older people, but more importantly because the younger the transmigrant women are when they move, the greater would be the proportion of their reproductive life spent in the transmigration area.

It is anticipated that adaptation of transmigrants to the new environment results in patterns of behavior quite different from those studied by Hendershot (1970), who analyzed fertility differences between rural-urban migrants and urban natives. Hendershot claimed that rural-urban migrants assimilate into city life with the result that their fertility over time converges to the pattern of the urbanites, which is lower than that of their sisters left behind in the rural areas of origin. In other words, the younger they migrate to the city, and the longer they stay in the city, the lower their fertility. With regard to the transmigrants it is anticipated that they adapt their fertility behavior to new surroundings in such a way that fertility steadily rises relative to stayers.

It is suggested that transmigrants adapt their behavior to the new environment of the settlement rather than that they assimilate into the culture of the indigenous Lampungese. The general pattern of establishing transmigration settlements is by resettling Javan transmigrants in newly and specially assigned and designed rural communities outside Java, where only recently have allowances been made to incorporate the indigenous population of the wider area or other Indonesians who desire to take up residence in the transmigration settlements. There are usually no earlier inhabitants in the settlements when the first transmigrants arrive. Moreover, a high degree of animosity frequently exists between the indigenous population and the settlers. The transmigrants are often resented by the indigenous population of Lampung because of differential accessibility to opportunities and benefits received from the Central Government. Furthermore, the transmigrants live in a different cultural environment from the indigenous people of Lampung. The transmigrants continue their agricultural practices as subsistence farmers (a consequence of the Program design), while the indigenous people of Lampung are more active in cash crops such as pepper and coffee. Political and social institutions also differ because originally and continuously until today it has been considered desirable for community development and stability in the transmigration settlements that their political and social institutions be retained. Thus the village bureaucracy is based on the Javan system. The social institutions of changes in status throughout the life cycle have also been retained. It is for these reasons that it is argued that transmigrants have no patterns of behavior of a host community to follow: they either continue the

cultural norms about family size from their communities of origin, or they adapt their fertility behavior according to new norms based on their perception of the new physical as well as social and economic environment.

Thus, the analysis of fertility of transmigrant women is based on the proposition that the effects of transmigration on fertility are through the two processes of selection and adaptation. Estimates of fertility by current age reflect the consequence of the interrelations between the two processes of selection and adaptation. The interrelation of these two processes can be examined by treating the transmigrant women as a heterogeneous group as determined by their ages at transmigration. Age at transmigration is indicative of the stage in the life cycle at the time of leaving their areas of origin, and thus determines where the peak child bearing occurred. It is indicative of a selection process. By controlling for age at transmigration we can examine whether the transmigrant women experienced their fertility on Java or in Lampung. The fertility experienced on Java can then be evaluated in terms of the experiences of the stayers, which determines the effects of selection on fertility. On the other hand, duration of stay in the transmigration area is indicative of an adaptation process. Holding age constant, the longer the transmigrant women have lived in the destination area, the greater the proportion of their fertility experiences occurred in the receiving area. It is argued that the longer the time the transmigrants spend in the settlement area, the more likely they are to adapt their behavior to the new physical, economic and social environment, where adaptation is said to alter the behavior of migrants relative to stayers (Hendershot, 1976: 200).

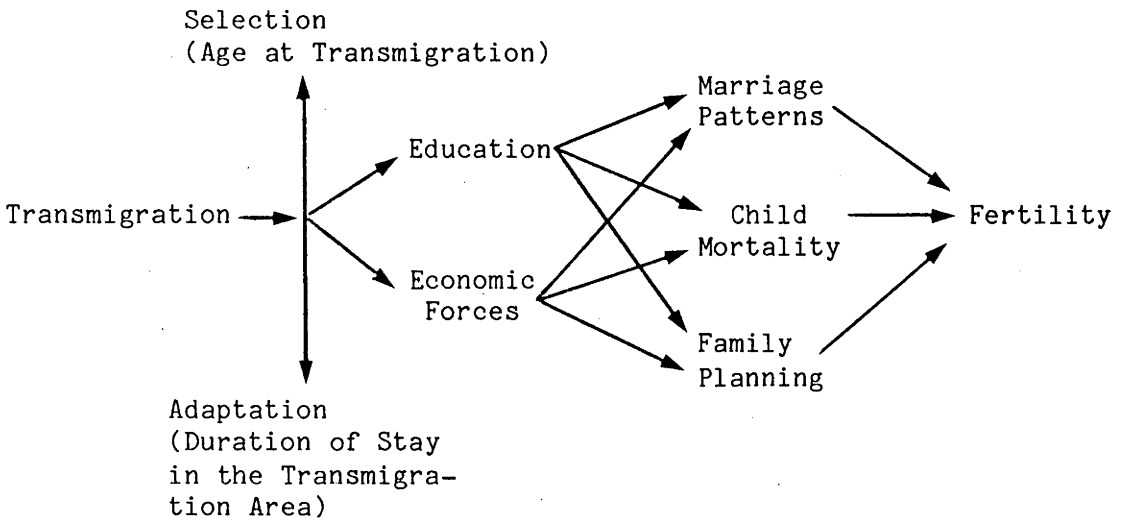
It is further argued that selection and adaptation processes affect such intervening variables as education and economic forces. Though education has often been found to be related to fertility,* education may affect fertility indirectly through other determinants of fertility. For instance, education can cause a delay in matrimony which affects the exposure to intercourse. Second, education as an indicator of social class is related to child mortality, which can in turn affect fertility through lactation and abstinence practices. Thirdly, education affects contraceptive use and effectiveness thereby influencing exposure to conception. These three determinants of fertility also intervene between the impact of economic forces on fertility. The relations between the above described variables are diagramatically represented in Fig. 3.2. Notably no directions of relations between the variables have been postulated. The reason for such an absence is that this study seeks to explore whether the proposed intervening variables can explain the resulting pattern and levels of fertility of transmigrant women.

The present study is an attempt to identify the separate effects of migration selectivity from the effects of adaptation to new environments on fertility. In order to find out whether processes of selection and adaptation have affected the fertility of transmigrant women it should first be established that there is a difference in the fertility of transmigrant and nontransmigrant women or stayers on Java. Having established the existence of a difference then the study proceeds to identify the causes of the differences.

---

*Reviews of the literature on the relation between these two variables have been made by Graff (1979) and Cochrane (1979) and will be discussed in chapter 9.

Fig. 3.2 -The Impact of Transmigration on Fertility Through Intervening Variables.



Specifically, this study seeks to find answers to the following questions.

1. What is the impact of transmigration on fertility? Does transmigration tend to suppress or instead raise fertility relative to the stayers? In other words, is there a difference in fertility levels and patterns between transmigrant women and the women left behind on Java? If there is a difference how can it be explained? Differences in fertility between transmigrants and stayers are consequences of selectivity and adaptations made by migrants to demands made by the environment in the destination. Which of the two processes is the more important explainer of fertility changes experienced by transmigrant women? Chapter 5 is devoted to finding answers to these questions.

2. Fertility is determined by the social characteristics of the individuals. The impact of selection and adaptation processes on fertility is therefore regarded as being achieved through intervening variables which are more directly related to fertility. According to the Davis and Blake intermediate variables (1956) marriage patterns affect fertility by affecting exposure to intercourse, the question to be raised is therefore: Can the differences in fertility between transmigrant women and stayers be explained in terms of differences in marriage patterns? The answer to this question will be explored in chapter 6.

3. In the process of development both fertility and mortality decline. The argument that transmigrant women adapt their fertility behavior as a response to demands made by the new physical and social environment is in this case interpreted to mean an adaptation to different conditions of mortality. Since fertility is measured on the basis of currently living women and it is argued that fertility changes are made in response to changes in conditions of mortality, then the relevant index of mortality is child mortality. Hence chapter 7 is an attempt to examine whether differences in child mortality experienced by the transmigrant women and the stayers can explain differential fertility.

4. Family planning practices affect exposure to conception. Breast feeding practices, because they are often related to practices of abstinence, can also be regarded as a means of contraception and therefore also affect exposure to conception. In chapter 8 we will investigate whether family planning and breastfeeding practices can explain fertility of transmigrant women.

5. An important instrument of social change is education. Does transmigration cause differences in educational achievements? If it does, to what extent do such differences contribute to the explanation of differential fertility between transmigrants and stayers? These questions are addressed in chapter 9.

6. Placed within a different environment, the transmigrants face different opportunities and needs from those on Java. The physical aspects influence the economic forces that are operative within a community. The most important change affecting the transmigrants is that in their place of origin they were poor and often landless. With transmigration they become beneficiaries of agricultural land. Hence modifications in economic activities will have to be made by the transmigrants. Furthermore, the infrastructure in new settlements is relatively underdeveloped by general standards on Java. Consequently, different market forces operate in transmigration settlements compared to those found on Java. It has been mentioned that transmigrants are

selected from high density areas and placed in low density settlements. Consequently, the transmigrants are faced with changes in conditions of supply and demand for labor. It is argued that all these factors contribute to changing demands on the family and its members. Hence, the question that is raised is how economic forces may explain differential fertility. Chapter 10 is devoted to an inquiry regarding the effects of differing economic forces on fertility behavior of transmigrant women.

Answers to the questions raised above are sought from analyzing results of a survey which was conducted in 1976. The details of this survey are elaborated hereafter.

3.2. SURVEY DESIGN

In order to examine fertility differences between transmigrants and stayers, the survey was designed with a focus on transmigrants, for whom very little information is available. On the other hand, far more secondary data are available on the stayers who live on Java, the island of origin of the studied transmigrants. During the survey rather detailed information was collected which is not necessarily available from secondary sources. Therefore, in order to supplement the information on the stayers, additional information was also collected from one specific area on Java. This supplementary information was collected from a rather small sample of households in the KABUPATEN (residency) of Wonogiri. The selection of only a small sample in one area of origin of the transmigrants was designed due to

time and budgetary constraints.

The description of the specificities of the survey design is presented in terms of the study areas, the sample and the data collected.

3.2.1. THE SURVEY AREAS

The most appropriate province for this type of study is Lampung because of its long history of transmigration and also because it has until recently been the major area of destination for the transmigrants. The program, which was initiated by the Dutch as a colonization program in 1905, began with resettling 155 families in Gedong Tataan, a district in what is today the province of Lampung, not far from its capital (Sjamsu, 1960: 5). Since then and after the resumption of the program by the Indonesian government as the transmigration program, most transmigrants have been sent to Lampung, because it is the nearest area to Java. During the colonization program 75.7 percent of all those resettled went to this province (derived from Hardjono, 1977, Table 4: 19), and ever since the transmigration program has been operative until 1974, 33.7 percent have been sent to Lampung* (tabulated from Oey and Astika, 1978, Table 5: 56-57).

---

*Lampung is only one of the 20 provinces of destination for transmigrants. Since REPELITA II Lampung has lost its role as the major province of destination for the transmigrants. This decision was a response to the higher intercensal growth rate for the province compared to other provinces, and also the rapidly increasing density so that it was felt that the province was approaching its saturation point.

There is a great deal of variation in the transmigration settlements that can be found in this province. For the purpose of this study the selection of study areas was determined by the age of the settlement. Neither an old nor a new area could be selected for this study. The population in an old settlement, usually no longer a transmigration project, would be too heterogeneous. An old settlement is occupied by old transmigrants, who have passed their reproductive years; their offspring, who are thus not officially defined as transmigrants; and people moving into the area who are not part of the program. Neither is a new area appropriate because there the transmigrants would not have had sufficient time to adapt their fertility behavior to the new environment, one of the topics of this study.

The selection of the two settlements which were approximately ten and twenty years old allows for the possibility of differences in duration of stay in the transmigration areas to be used as a control variable. Such a control provides the means for the examination of the impact of time on the variables being analyzed, thereby assessing changes over time.

Two settlements were selected for this study. The first area was Way Abung, located in the KECAMATAN (subdistrict) of Abung Timur, the KABUPATEN of North Lampung; and the second was Punggur, a KECAMATAN in the KABUPATEN of Central Lampung. Way Abung was first opened in 1965 with the establishment of the villages of Tata Karya and Purba Sakti, when 639 families (2,568 persons) were placed in the former and 587 families (2,357 persons) in the latter (Bambang Hartono and Pardamean Silitonga, 1975: 42). Punggur was opened in 1953 with the

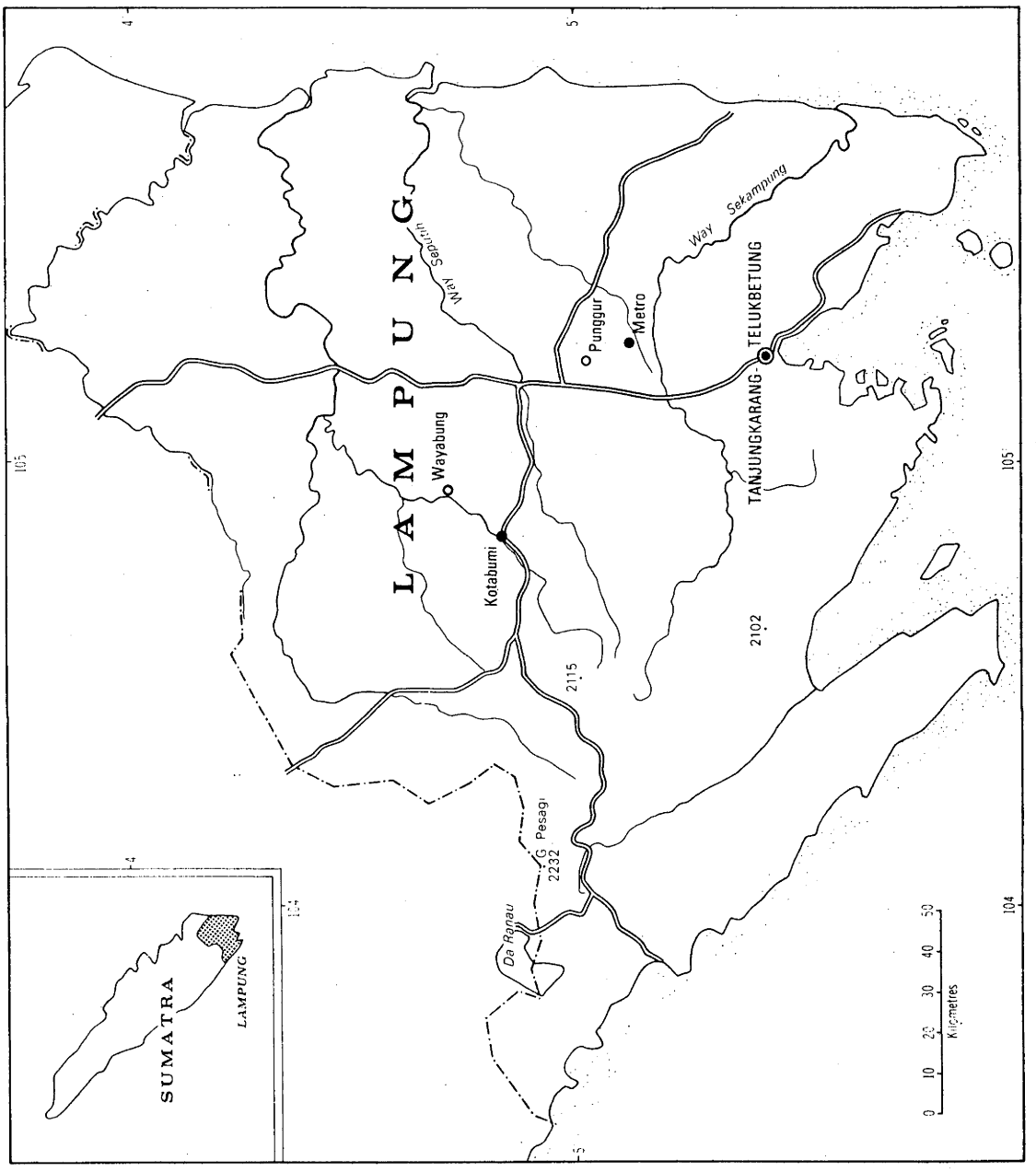
establishment of five villages where 1,108 families (4,020 persons) were settled (I Gusti Made Raka and Imam Soeprijono, 1975, Table 7: 33). In order to supplement secondary data for the stayers on Java a small sample was selected from the KABUPATEN of Wonogiri. Wonogiri was chosen because many of the interviewed transmigrant women came from this KABUPATEN.

Way Abung

The capital of the province of Lampung is Tanjung Karang. In the Way Abung settlement the major coordinating village is Tata Karya. The distance between these two places, through Kota Bumi, the KABUPATEN capital, is 135 kilometers, while between Kota Bumi and Tata Karya the distance is only 24 kilometers (see Fig. 3.3). When the survey for this study was conducted, between May and August of 1976, only the road between the twin cities of Tanjung Karang-Teluk Betung and the entrance to the settlement was paved (asphalted). Within the settlement, the inter- and intra-village roads were only dirt roads of which some were sparsely covered with stones. Hence, not much traffic enters the settlement and during the rainy season even fewer motor vehicles can make use of these roads. This is one of the drawbacks of marketing the produce from the settlement.

The Way Abung area, until the time of the survey, consisted of two parts: Way Abung I and Way Abung II or Panaragan. The former covers an area of 20,000 hectares, the latter 12,800 hectares. The project area is relatively flat and has an elevation of between 28 and 31 meters above sea level. Besides some swampy areas, a few streams flow th rough the region. Without any water control some areas are

Fig. 3.3 -Lampung.



inundated during the rainy season while only a few streams continue to flow during the dry season. Seasonal changes also affect the water table, which rises to 0.5-1.0 meters below the surface in the rainy season and drops to 5-7 meters during the dry season. The annual rainfall recorded in Kotabumi during the years 1969-73 was about 2,200 milimeters, pouring down during most of the year with June through August being the dryest months (Bambang Hartono and Pardamean Silitonga, 1975, Table 16: 68). The soil in the project area is not very fertile, consisting of latosols and podsols of a red-yellow color with certain alluvial overlays. Before the project was started, 40 percent of the area was covered by ALANG-ALANG* (IMPERATA CYLINDRICA), 30 percent low bushes, 20 percent secondary forest, and the remaining 10 percent consisted of dry fields cleared by local shifting cultivators (Bambang Hartono and Pardamean Silitonga, 1975: 40-42).

Although some water is available and the transmigrants in this area were promised that an irrigation system was to be constructed (complaints heard from the transmigrants during the survey), no actual plans for such works are being considered.** As a consequence, even though transmigration has, since the colonial government, been considered the instrument for increasing rice production, this is not the case with the Way Abung settlement. Because of the lack of an irrigation system, dry farming is practiced in the area. While some

---

*ALANG-ALANG is a type of grass which can grow very tall. While it can be used for roofing, it is basically regarded as weed, especially when it grows on agricultural land. So far no appropriate technology has been found to eradicate this weed.

**The World Bank design to upgrade the settlement does not include the construction of an irrigation system because it is not considered to be technically and economically feasible (1976).

dry rice and vegetables are grown, the major crop is cassava. There are several reasons why the farmers in Way Abung prefer to grow cassava as opposed to other staples, such as rice or corn. The major reason is that there is no irrigation system. If there was, then the transmigrants like other farmers on Java would readily switch to rice growing, a much preferred staple in Indonesia. Such is the case in Punggur. Corn is hardly grown in the studied villages due to bad experiences in the past. I was told that not only did they produce very meagre yields but they had also experienced sickness which they associated with consumption of home grown corn. Another reason for this preference in Way Abung is that farmers felt that the labor requirements for growing cassava were less than dry rice. Without irrigation only dry rice can be grown which demand that during the day birds have to be kept away and more weeding is required than in the case of cassava. Thirdly, with the construction of a tapioca factory in the settlement, cassava was easily sold for cash. Furthermore, compared to other food crops, less capital is required for growing cassava. And finally, according to Hameed cassava cultivation has an advantageous side effect of controlling the regrowth of ALANG-ALANG (1975: 14). However, cassava depletes soil fertility rather rapidly. With declining soil fertility, if no other measures are being taken, such as the proper addition of fairly large amounts of fertilizers, productivity also declines from one harvest to the next (Junghans, 1974: 74).

In the studied villages of Way Abung, there had, until 1976, been only one attempt to include the farmers in the BIMAS program* for dry

*An acronym for BIMBINGAN MASYARAKAT, an agricultural intensification program using chemical fertilizers, and in the case of rice cultivation, also high yielding variety seeds.

rice and corn cultivation. This attempt was made during the 1973-74 planting season. However, poor yields, even lower than produced before the introduction of the program, created dissatisfaction among the farmers. Several factors have contributed to the poor returns, one of them being the untimely arrival of the BIMAS package. As a result of the delay the transportation costs rose and these had to be borne by the farmers. The 'package' brought to these farmers included poor quality seeds. Moreover, lack of understanding of the technology involved led to misapplication of the fertilizer. These factors combined with unexpected climatic changes resulted in the poor harvests. Consequently a degree of distrust for the program developed (Bambang Hartono and Pardamean Silitonga, 1975: 48-49).

When the settlement commenced as a transmigration project in 1965, no preparatory work had been done in the area. The first group of transmigrants destined for the villages of Tata Karya and Purba Sakti were brought to an area where no preparations had been made for people to take up residence. No houses nor roads were constructed. Worst of all, no land had been cleared. Consequently, the early settlers suffered severe hardships. For the first 8-12 months after arrival in the settlement, the government-supported transmigrants were eligible to receive food rations which were distributed in Kota Bumi. Since no roads had been constructed this meant that they had to walk through bushes and secondary forests. Such a trip usually took several days. Many of the early settlers were not able to cope with the hardships and left the settlement area. Since then improvements have been made and the project has grown and continues to grow. By 1974, a total of 12,502 families (55,758 persons) had been resettled in the region in 6 villages of Way Abung I and 14 villages of Way

Abung II (Bambang Hartono and Pardamean Silitonga, 1975: 42-46). Since not all transmigrants were satisfied with their circumstances after resettlement, many left their assigned new homes. A few died during the political upheavals soon after the arrival of the earliest settlers in 1965, and over the years others died from poor health and sickness while new born babies added to the community size. As a result, by August 1974 there were only 10,921 families or 50,409 persons left in the settlement area (Bambang Hartono and Pardamean Silitonga, 1975, Table 21: 73). This constitutes a density of 154 persons per square kilometer, which is already higher than the average density for the whole province of Lampung in 1980, which was 139 persons per square kilometer (based on KOMPAS, 9 January 1981 and Biro Pusat Statistik, 1979b, Table I.1.2: 4).

According to the regulation, the transmigration agency is responsible for the establishment and supervision of a transmigration project from its inception through the first five years of the project. Thereafter, the project is transferred to the authority of the local provincial administrative system of the Ministry or Department of Internal Affairs (described by Ratnatunga, no date). However, in the case of Way Abung, until 1976, eleven years after the project was opened for settlement, the area was still being supervised by a transmigration officer.

Administratively, transmigration villages follow the pattern prevailing on Java. Each village is managed by a Village Unit Head and his staff, which is composed of CARIK or secretary, a treasurer and the HANSIP or civilian defence force. Further administrative divisions are recognized. From the beginning, each ten neighboring

households make up a RUKUN TETANGGA or neighborhood unit and each ten RUKUN TETANGGA make up a RUKUN KAMPUNG or hamlet.

The usual social services are made available in these settlements. A representative of the Department of Religious Affairs coordinates the work of the village level officials who record marriages and divorces. In the two studied villages of Tata Karya and Purba Sakti, mosques had been built and in Tata Karya there was also a Catholic church.

Though still rather rudimentary, health facilities are being improved. When transmigrants first arrive, they are often in poor health from the strenuous trip and poor shelter after arrival in the settlement, especially when they arrive in large numbers and are housed in barracks or with other settlers. Overcrowding and poor nutrition during the first years of resettlement exposes them to various diseases. Most common complaints are skin diseases, including ulcers on the feet, malaria, fever and tuberculosis. Some of these commonly found diseases have been treated. There were two PUSKESMAS or Community Health Centers in the settlement, of which one was located in Tata Karya. Attached to these health centers were Mother and Child Health Centers. However, until the time of the survey, the health center was poorly staffed and medicine was often in short supply. With so few health facilities available in the settlement while the area was rather large and the infrastructure very poor, not many residents had access to these facilities.

In 15 of the 20 villages there were elementary schools, but no high schools were available. In 1974, 5,544 students attended these schools. Assuming that about 90 percent of them were aged between 5

and 14 years,* an age range which constitutes approximately 30 percent of the total population (Hameed, 1975, Table 4: 8), then the school attendance ratio was about 33 percent. (The population numbered 50 thousand persons, hence about 15 thousand should have been aged 5-14 years in 1974). This school attendance ratio for Way Abung in 1974 was somewhat lower than in rural Java, where it was 43 percent in 1971. The average student-teacher ratio was also slightly poorer than on Java. In 1974 there were 152 teachers in Way Abung, thus a student-teacher ratio of 36. For Java in 1974 the following student teacher ratios were reported: West Java 34, Central Java 29, Yogyakarta 24 and East Java 31 students per teacher (Biro Pusat Statistik, 1976b, Table IV.5: 65).

Punggur

Punggur is located southeast of Way Abung (see Fig. 3.3). While mainly cassava is grown in Way Abung, Punggur is a region where rice is cultivated, obviously supported by an irrigation system. Punggur is much more lively, RAMAI. More motor vehicles travel from Metro, the capital of the KABUPATEN of Central Lampung, through Punggur, on to other places. The reasons for the rather heavy traffic in this area are that Metro is only ten kilometers away and the road is asphalted. Thus, marketing of the area's products is less hampered by transportation problems.

---

*Among the sample of transmigrants in Way Abung this is the proportion of those attending school who belonged to these age categories.

Punggur is one of the early projects of the Transmigration Program. It opened in 1953 with the settlement of 1,108 families (4,020 persons) in five villages, and transmigrants continued to be settled in the project until 1957. By then, a total number of 3,084 families (13,549 persons) had been moved into the 16 villages of the settlement. In the meantime, other people have joined the transmigrants, children have been born while many have left or died. However, the balance of the additions of people over the losses has resulted in a far larger population residing in the area, so that by the middle of 1974 the population consisted of 6,672 families or 39,097 persons. The inhabitants of Punggur live and work in an area covering 8,976.75 hectares (I Gusti Made Raka and Imam Soeprijono, 1975: 2-10). Thus, by 1974 the density was already 436 persons per square kilometer.

The Punggur Project was originally intended for resettling Javanese peasants in a rice growing area because of the availability of water sources from several rivers, primarily the Way Sekampung. The area is basically flat land with several swampy spots. The soil consists primarily of podsols, varying from black to red; it contains some sandy clay and in a few places gravel can be found. The area is approximately 50 meters above sea level. The water table varies from as low as 10 meters during the dry season to as high as 1.5-2.0 meters below the surface during the rainy season. Available records on rainfall for nearby places show no great difference from Way Abung. According to records from Metro, the average annual rainfall was about 2,200 milimeters for the period 1969-73. This amount of rain poured down in approximately 120 days per year. Normally the rainy season occurs between October and March and the dry season extends from April

through September (I Gusti Made Raka and Imam Soeprijono, 1975: 6).

When the project was started it was not realized that the area designated for the project was not no-man's land. Some of the land was occupied by either indigenous Lampungese or by other ethnic groups. Consequently, not all the transmigrants were allotted the promised two hectares. Another consequence has been that farm land of some of the transmigrants is located outside the boundaries of their village units (I Gusti Made Raka and Imam Soeprijono, 1975: 10-11).

Like the Way Abung project, the Punggur project too remained under the authority of the Transmigration Agency far longer than stipulated according to the regulation. It was not until 1968, 15 years after commencement of the project, that Punggur was transferred to the local government.

According to the regulation, as long as an area remains under the jurisdiction of the Transmigration Agency, settlers are only issued a so-called SERTIPIKAT HAK PAKAI or tillage permit, the right to use the land assigned to them. After transfer to the local government then transmigrants are supposed to be issued a SERTIPIKAT HAK MILIK or full ownership rights (Ratnatunga: 19). The possession of the SERTIPIKAT HAK MILIK permits the transmigrants to transfer their ownership rights to their children or to other people. Since the area was transferred in 1968, some properties have been subdivided. When there was no more land available in the settlement for the children of transmigrants, some parts of the original plots were bequeathed to children. Other subdivisions occurred as a result of influxes of other people who have entered the settlement not with the sponsorship of the transmigration program, but who were capable of purchasing agricultural land.

It is interesting to find that those who did not arrive under government sponsorship were more likely to be owners of larger areas of irrigated rice land (Oey and Sigit, 1977, Table 8: 25). As was the case in Way Abung, transmigrants who went to Punggur were promised that an irrigation system was to be constructed. However, it was not until 1970 when the promise began to materialize. It is especially those farmers who did not arrive in the area under government sponsorship who have been able to make use of the availability of water sources in their vicinity for cultivating rice on irrigated fields.

Before the construction of the irrigation system economic conditions in Punggur resembled those found in Way Abung. Since then rapid developments have occurred. Initially the farmers experienced great difficulties. The government constructed the primary and secondary canals but the farmers were responsible for the construction of the tertiary canals and the leveling and dyking of their own fields. At first, many farmers found it difficult to gain the benefits that could be derived from the government's inputs due to insufficient capital and labor. Assistance was received from the World Food Program so that increasingly more farmers have benefited from the irrigation system.

With irrigation, increasingly more land is being cultivated with rice, replacing cassava. For example, in the village of Tanggul Angin, before irrigation only one-third of all the cultivated land was used for rice; after irrigation almost two-thirds of the cultivated area was used for rice growing. On the other hand, cassava was the dominant crop before irrigation with 56 percent of the total

cultivated land used for this commodity. After irrigation however, only 28 percent of the total cultivated area was used for cassava (I Gusti Made Raka and Imam Soeprijono, 1975, Tables 4 and 5: 22 and 23). In addition to irrigation, production rose rapidly with the introduction of the BIMAS package. According to one account, the good harvest of the 1973-74 planting season produced .4 tons per hectare of dry rice. With irrigation only the yield increased to 2 tons per hectare and with the BIMAS inputs the yield rose to 4.5 tons per hectare (I Gusti Made Raka and Imam Soeprijono, 1975, Table 5: 23).

Prosperity in the community continues to rise not only because of the above-mentioned inputs but also as a result of vast improvements in infrastructure. It was during 1972 and 1973 that the road connecting the settlement with the capital of the KABUPATEN, Metro, was asphalted and this road continues to towns located further north. Inter-village roads have also been sealed. The rapid improvements in the road network have increased trade and therefore also the standard of living in the area. An important benefit to all the residents of the settlement has been that there was hardly any variation in prices between the villages.

Furthermore, economic development has also created more opportunities outside agriculture. Thus, increasingly more people can earn incomes from trade, as artisans and as production workers.

Social services too have improved. In Punggur there were three community health centers and another three sub-centers. These health centers shared between them one doctor, one midwife, two nurses, and several other supporting medical and administrative staff. The diseases commonly found in Way Abung are now rare in Punggur.

Similarly, educational facilities have increased. In each village there is at least one elementary school. Some villages have more than one elementary school and even junior high schools. By 1974 there were 19 elementary schools, 5 junior high schools and one senior high school in the 16 villages of Punggur. All these schools accommodated 6,838 students.

Java

Several studies have been devoted to thorough examinations of past population growth on Java (Widjojo Nitisastro, 1970; Peper, 1970; Breman, 1971), and the reasons for such growth (Pelzer, 1948: 162-165; White 1973; and Boomgaard, 1979 and 1980). However, even on Java the population is not distributed evenly. Ecological conditions and the system of agriculture have produced this diversity. Thus, the heterogeneity of the environment on the island renders a general description less useful. Therefore, the description of the island focusses on how people live on overcrowded Java, where rapid population growth and the system of inheritance has produced a society of mostly owners of miniscule plots of land or landless. Moreover, an understanding of the prevailing social institutions is important because one of the objectives of this study is to examine how transmigrant women adapt their fertility behavior to a changing environment.

All the interviewed transmigrant women were born on Java. Though most came from Central Java, Yogyakarta, and East Java, and are therefore ethnically Javanese, a small proportion came from West Java, the province of origin of the Sundanese. Except for language and to

some extent a difference in the degree of adherence to Islamic teachings, there are great similarities in the political, social and economic institutions between the two ethnic communities, even though particular values and norms may differ somewhat.

In order to gain an understanding of the origins of the studied transmigrant women, the description of Java focusses on life in a Javan community. By design of the Program most transmigrants are selected from rural areas. The rural population on Java live in DESA or villages, which are administrative units, the boundaries of which are determined by the central government. A DESA is a selfsustaining community, it is a corporate local group of strong solidarity which is predominantly engaged in agriculture. Village affairs are determined and resolved by a village council, the membership of which consists of those who hold titles to land in the village. In the past, it was this village council which elected a village headman who remains in office as long as he retains the confidence of the villagers. Hence, a village headman was often elected for life. A village headman is assisted by a staff, of 15 to 20 members, who are sometimes elected but more commonly appointed by the village headman. Because, until recently, these village administrators were not part of the central government's bureaucracy they received no salaries. Instead, they were remunerated by the usufruct from village communal land to which they were entitled while remaining in office and also by a variety of traditional duties and services provided by the villagers (Soetardjo Kartohadikoesoemo, 1965: 45-79; Koentjaraningrat, 1960: 93-94; and 1964: 160-164; Jay, 1969: 342-410; Palmer, 1964: 129-133; and Harsojo, 1979: 304).

Since Javan society is essentially agrarian, landownership, especially SAWAH, is crucial. Without land a villager on Java has no status. Class structure in rural Java is therefore based on landownership. Those who own SAWAH and maybe also TEGALAN (dry or rainfed fields) and PEKARANGAN (home gardens) on which their houses are located, belong to the elite in a village community. In descending order, those who own no agricultural land belong to a lower class and the lowest status is held by those who own no land at all, not even the land on which their dwelling unit is located.

Land is acquired through either inheritance or purchase. Property becomes inheritance only after the owner's death. Cultivable land is inherited by children of both sexes. When a man reaches the age when he expects no more children he makes definite divisions of his agricultural land among his children. Children are permanently allotted their plots. Following Islamic rules of inheritance, daughters are given plots half the size given to sons, however, in practice equal divisions are common. Those who own several plots, which vary in terms of quality, bequeath the best, i.e. irrigated rice land, to a daughter who after marriage lives with her parents and is expected to care for them in their old age. Sons are often heirs of inferior quality dry fields. It is only after the death of the father that land titles are transferred through reporting to the village head and registration with the village clerk. Rather than individual heirs, only one of them, usually the oldest son, has the responsibility to register inherited property. He does not register individual plots to which his siblings are entitled but rather the entire estate as a single unit. Thus he becomes the holder of the collective title which specifies the individual sibling's rights.

Individuals who hold land titles enjoy high status in the community. They are eligible to become members of the village council. Land can also be inherited from other relatives or purchased. Because of variation in the means of land acquisition, land owners may have to work several fields which are not necessarily adjacent to each other (Koentjaraningrat, 1960: 105-107; Kodiran, 1979: 330-337).

Cultivation of separate plots, at times located in different villages, is facilitated by the system of GOTONG ROYONG or mutual aid. According to Soetardjo Hadikoesoemo, GOTONG ROYONG basically means sharing of responsibilities. Non-participation in GOTONG ROYONG is negatively sanctioned, hence all members of a village community are customarily required to participate in activities for which the help of others is needed. GOTONG ROYONG is practiced in times of happiness as well as sorrow, and also at times when work has to be done, such as in agriculture (1965: 255-260). Not only do land owners help each other throughout the agricultural cycle, but so do the pool of landless laborers help the landed. While mutual aid among land owners requires returns of at least labor, small land owners and the landless help the wealthier farmers for a share in the harvest, or they may also be paid wages in return for their labor. This system of sharecropping is consistent with the institution of GOTONG ROYONG which gives the better off the responsibility of helping the poor.

The poor, and especially the landless are an important component of the village economic structure. They constitute a pool of labor supply, especially for the 'large' land owners. White, who studied a Javanese village in Yogyakarta found that for owners of 'large' plots of SAWAH, i.e. .5 hectares or more, because of capital and labor

requirements, it was more advantageous to cultivate only a small proportion themselves and to give the remainder in small parcels to several share croppers. For the sharecropper too it is more efficient to have access to only a small plot of land which can be cultivated by the members of his family only, otherwise he would be dependent on wage laborers, who are expensive especially in cash-short households. Because of the establishment of basically patron-client relationships between landlords and sharecroppers, there is also an additional advantage to the 'big' land owners in having sharecroppers cultivate their land. Sharecroppers, and their family members become a further source of 'cheap' labor, cheaper than the going rate for paid wage labor (1976: 166-168 and 446-463).

White further argues that to sharecroppers household labor is of crucial importance and the household size and composition are the primary determinants of the returns to labor and the area of land that a household can undertake to cultivate (1976: 167). He conducted a very detailed time utilization study of labor contributions made by household members, according to sex and age, for 'household maintenance' activities and for 'directly productive' work. Children, as young as six years old start contributing labor to 'household maintenance' and 'directly productive' activities. The proportion of the latter to all work increases with age (275-295). A similar pattern was found by T. H. Hull (1975: 241-273).

Children are assets not only when they are young and dependent on the functioning of their parents' households, but more so when they become the source of security in old age. When people become old they depend on their children. With a strong emphasis on the nuclear

family, to which relatives or others may be attached, the ideal residence after marriage is neolocal. While normatively there is no rule where a young married couple should reside in relation to their parents, Koentjaraningrat argues that because of early marriage, a young bride prefers to live with or close to her mother rather than with a strange mother-in-law. After an initial period, a young couple either stays permanently close to the wife's parents or they move to live in the vicinity of the husband's parents if he has the prospect of inheriting a larger amount of land. Koentjaraningrat further holds that parents prefer to keep at least one daughter and her family to remain permanently with them (1960: 102). However, White noted that it is equally common to find that the elderly live with their married sons (1976: 319-327). Equal dependence on both sons and daughters to care for the aged was also expressed by respondents of another village in Yogyakarta (T. H. Hull, 1975: 274-276).

Even though not the norm, the often practiced uxorilocality (daughters living with or close to their parents after marriage) is consistent with the phenomenon of high divorce. Whatever the reasons, after divorce, a woman usually returns to her parental home and is accepted again as a daughter. Hence, proximity to the wife's parental home facilitates the return of a daughter to her parents.

The above description of the Javan social institutions has been presented in rather broad general terms with some specific examples. It is expected that deviations can be observed in particular localities because the prevailing institutions are a result of adaptations made to the environment of a specific locality. In the following section a description will be presented on the environment

of one particular area on Java.

Wonogiri

In addition to available secondary data on Java, detailed information similar to that collected for the studied transmigrants needed to be collected from a sample of women, and their households, who were residing on Java. Wonogiri was chosen because it was the KABUPATEN most frequently mentioned as place of birth of the studied transmigrant women. Of all the interviewed transmigrant women 49 percent were born in Central Java, of whom 17 percent were born in the KABUPATEN of Wonogiri, which is one of 35 KABUPATEN and KOTA MADYA (municipality) in the province.

The KABUPATEN of Wonogiri covers an area of 182,800 hectares (Harsojo, 1969, Table I.14: 14). Unlike the settlements in Lampung, Wonogiri is characterized by undulating terrain. The area is mountainous with valleys running in between where a few arms of the Bengawan Solo river flow. More water is found in lakes and natural springs. On average, about 2,000 milimeters of rain falls during the year with December through May being the rainy season (Soekardjo Sastrodihardjo, 1960: 267-268 and Harsojo, 1979, Table I.5: 5).

Even though a fair amount of water can be found in the KABUPATEN, Wonogiri has for long been known as a poor and infertile area. Rocks and limestone are scattered throughout the area so that only a few patches of land, close to sources of water, are productive. As a consequence of the general infertility of the soil, the preferred staple food of the people in Wonogiri is cassava and its processed

products, which is less nutritious than rice, the staple of most others living on the island of Java. Because of the low nutritional value of cassava, without other supplementary foods, it is not surprising to frequently hear about severe malnutrition suffered by the people from Wonogiri. It is therefore also no accident that many Javanese from Wonogiri have transmigrated. A stream of transmigrants from Wonogiri started as early as 1936 (Soekardjo Sastrodihardjo, 1960: 3-11 and 153).

In response to severe floods along the banks of the Bengawan Solo early in 1972, plans have since then been prepared and developed to build a dam in order to harness the flow of the river.* Because some of its tributaries originate in Wonogiri and also because the area is situated in a valley, it has been decided to construct a dam in Wonogiri. This means that part of the KABUPATEN will be inundated, thereby supplying water for various purposes, especially for irrigation during the dry season.

Those people living in areas to be flooded have been and will continue to be transmigrated. When this information was received it was felt that for the Java survey site, an area which is not to be inundated in the future should be selected.

An area of the KABUPATEN which is not to be inundated is the KECAMATAN of Baturetno, which covers almost 9,000 hectares, about five percent of the total area of Wonogiri. Elevated at 150 meters above sea level, the quality of the soil and amount of rainfall hardly

---

*The Bengawan Solo has for decades caused suffering to the people living in its vicinity. There is an old and famous song called Bengawan Solo which describes how the river dries up during the dry season and overflows during the rainy season.

differs from the overall picture for Wonogiri. Soil infertility is probably exacerbated by a greater underlayer of lime-stone in the KECAMATAN compared to the rest of Wonogiri.

Though most people in the area claim farming as their primary occupation, during off seasons their economic activities are often diverted to the processing of available limestone. Soil infertility has caused farmers to grow mainly cassava, some corn and very little rice. In order to supplement their meager incomes from agriculture, and also due to the marketability of limestone products, many peasants in this area process limestone into whitewash, tiles, or poles.

Residents of Baturetno, like those of Wonogiri and many areas on Java, enjoy better transportation facilities than people living on other islands of the archipelago. More roads are asphalted. There are more motor vehicles, especially mini-trucks travelling in and out of most villages on the island. Traffic is therefore heavier in Baturetno than in either Way Abung or Punggur.

The social infrastructure too was fairly well developed compared to those existing in the selected transmigration settlements. Health and educational facilities were physically accessible to the residents of Baturetno. Even if in a particular village no health center or school was available, such facilities were available in close by villages which were located within walking distance.

3.2.2. THE SAMPLE

Because of the emphasis of this study on fertility, the age of a woman in a household and her marital status were the determinants for the inclusion of her household in the sample. Moreover, since the purpose of this study is to examine whether selection or adaptation processes were operative among the transmigrants, the women whose households were to be included in the sample had to be between 25 and 44 years old at the time of the survey. The lower limit was determined because younger women would have had too few children to indicate changing patterns of fertility. On the other hand, women who were older than 45 years were also excluded because it was considered that there would be too few women beyond that age in a settlement which was only eleven years old, the reason being that like migration, transmigration is selective in terms of age. Moreover, one of the criteria of eligibility to become a transmigrant is the age of the applicant (see chapter 2).

In each household only one ever married woman was selected for detailed interviewing. She was either the wife of the household head or she was the household head herself. The reason for this decision was that it is proposed that economic factors are also indicative of fertility behavior. Economic indicators are measured at the household level. Hence, if more than one woman could be included in the sample, for whom fertility was measured, then there may be an over-weighting of the economic characteristics in favor of larger households. Moreover, households with more than one eligible woman are rare, hence, their exclusion is of no great significance.

About 1,000 households were to be interviewed. The decision to include only a relatively small number in the sample was guided by the proposed study design which demanded rather detailed information to be collected. Moreover, time and cost were equally important limiting factors.

Within the age range of 25 to 44 years, the purposive sample was equally divided between each of the four five-year age categories. Hence, for each age group 250 households were interviewed.

A further criterion for selection of the sample was geographic distribution. Of the 1,000 households, 800 were transmigrant households in Lampung while the remaining 200 were selected from Wonogiri. Furthermore, the sample of transmigrant households was equally divided between the two transmigration areas of Way Abung and Punggur; 400 households in each of the areas.

In order to find 400 households in which there was a woman between the ages of 25 and 44 years it was necessary to select two villages in each settlement. The reason was that, on average, there are only between 500 and 600 families in a village (Kampto Utomo, 1975: 46-47; Bambang Hartono and Pardamean Silitonga, 1974, Table 21: 73; and I Gusti Made Raka and Imam Soeprijono, 1974, Table 7: 33). The villages in Way Abung were Tata Karya and Purba Sakti; in Punggur they were Tanggul Angin and Asto Mulyo. In Wonogiri the village selected was Watu Agung.

The actual number of households in the sample was divided as follows: Tata Karya 189; Purba Sakti 202; Tanggul Angin 187; Asto Mulyo 213; and Watu Agung 200. The total sample therefore consists

of 791 transmigrant households and 200 households in Wonogiri.

3.2.3. THE DATA COLLECTED

During the survey, data were collected by means of a questionnaire. Except for a few attitudinal questions all others were closed questions. The questionnaire was basically divided into eight parts: (1) demographic information; (2) transmigration information; (3) housing information; (4) attitudinal and household economic information; (5) individual economic activities; (6) marriage histories; (7) pregnancy histories; and (8) family planning.*

Demographic Information

These data were collected for each household member. The questionnaire allowed for a maximum of fifteen household members to be listed individually.** These data were collected to provide background information on the households, the members and their characteristics, among whom the selected women were living.

First, a list was made of the names of each of the members starting with the household head, then the wife, followed by the children and other members of the household. Thereafter, for each individual information was collected on their relationships to the household head, their sex, and marital status.

---

*The survey instruments are presented as Appendices A and B.

**No household included in the sample consisted of more than fifteen members.

In order to determine the ages of the respondents, every member was asked their date of birth according to either the Roman or Javanese/Islamic calendar (which was later converted to the Roman calendar during coding). In addition, they were also asked whether they were in possession of an identification recording date of birth or age, and if so the type of identification. (Interviewers were instructed to ask to see these identifications and use the information recorded for either or both date of birth and age.) Then, the respondents were also asked their ages. Most discrepancies were noted during editing in the field and were thus adjusted after verification with the informants. Although three types of information to determine age were collected, only age in completed years was finally coded. However, since a great number of the respondents did not know their exact date of birth or age, age was more often determined in relation to local or national events. Consequently, age heaping is noted in the results.

The data on place of birth includes the name of the village, KECAMATAN, KABUPATEN/KOTA MADYA, and province of birth. However, only the last two areas were coded.

Information on migration was collected for those who were not born in the surveyed villages. The details included the year the person left the place of birth. The transmigrants were asked the year of arrival in Lampung. A verification was made through a question on the duration of stay in Lampung. For those who left their birth place in a different year from arrival in Lampung, questions were asked about the province, KABUPATEN/KOTA MADYA, and KECAMATAN they lived in prior to moving to the surveyed village. In this case too, KECAMATAN

was not coded. Individuals were then asked the duration of stay in the last KABUPATEN they had lived in prior to moving to the current residence. However, only a few people reported ever having lived in a different KABUPATEN from the KABUPATEN of birth or current residence.

Questions on education and literacy were asked of all household members. First, for each member information was collected on whether they were still attending school or not. The next question referred to the level of achieved schooling. Those who had or were currently attending school were asked the last grade and if they had reached the highest grade they were also asked whether they had passed an examination for that level.

Concerning literacy, members of a household were asked separate questions as to whether or not they were able to read and write in Indonesian. These data were later coded as : (1) those who could read and write; (2) those who could read only; (3) those who could write only; and (4) those who could neither read nor write.

Transmigration Information

This information was sought because of accounts that many moved to transmigration settlements with the help of relatives and friends. However, preliminary tabulations indicate that very few transmigrants received financial help from either relatives or friends in origin or destination.

The responses for the questions in this section were sought from transmigrant household heads, because only household heads can apply for transmigration. Transmigration-related information was not

gathered from the respondents in Wonogiri.

The information collected was originally intended to classify the transmigrants according to the government categories.* Thus, rather detailed information was sought concerning the types of subsidy or assistance received by the transmigrants. All transmigrant household heads were asked whether they had received government assistance for moving to the settlement. The specific questions referred to: (1) transport from village of origin to harbor of departure on Java; (2) sea transport; (3) transport from harbor of arrival in Sumatra to the settlement; and (4) subsistence allowances while travelling.

In addition, transmigrant household heads were asked whether they also used other sources of funds for moving. The specific questions for which information was collected referred to: (1) own funds; (2) funds from relatives in village of origin; (3) or destination; and (4) funds from other people in village of origin; (5) or destination. Thereafter, the respondents were asked whether they had to make any repayments for the additional expenses they needed.

Then followed a set of questions on various types of subsidy which government-supported transmigrants should have received. Specifically, they were asked whether they received subsistence allowances after arrival in the settlement, and if so, the number of months they had received the allowances; whether they were allotted a plot for their house and vegetable garden, and if so the area;

---

*It was anticipated that different types of transmigrant would have had different characteristics and would therefore have followed different patterns of adaptation. Instead, differentiation in types of government assistance was not found to be associated with distinctions in other characteristics.

whether they were provided with housing or construction materials; whether they were given agricultural land, and if so the area; whether they received any agricultural tools.

Information on housing and agricultural land acquisition was not only relevant to transmigrants but also to residents of Wonogiri. As mentioned above, housing and especially land ownership is an important indicator of social class. Moreover, accessiblity to land and the area are important criteria of efficiency in labor utilization of household members. Therefore all household heads were asked the following questions. First they were asked about the status of their house: whether it was their own; whether they were staying with relatives; whether they were staying with acquaintances; whether they were renting the house; or whether they had a lease on the house. About agricultural land respondents were asked whether they controlled any land. The questions referred to the acquisition of that land. Specifically, these were: (1) whether they were renting the land; (2) whether they had purchased the land; (3) whether they were given the land by the government; and whether they were given it by a relative or had inheritted the land. A positive response to any of the four questions was then followed by a question on the area. Furthermore, respondents were asked about the type of agricultural land they controlled and the area. The types of agricultural land were categorized as follows: (1) year-long irrigated fields; (2) half irrigated fields; (3) non-irrigated fields; and (4) dry fields.

Housing Information

Anticipating that economic class was a relevant control variable of fertility, an attempt was made to gather information to facilitate the construction of an index of economic stratification. Several components were to constitute a composite index of class. One of them consisted of housing conditions. Hence, information was sought concerning housing construction materials. Data were collected on the materials of the walls, floors and roofs, and a few amenities. Specifically, the latter concerned: lighting; sources of water for bathing and washing as well as for drinking and cooking; and the location of these sources of water and also whether the residence had a private bath room and latrine. However, preliminary tabulations indicate that housing materials and amenities were environmentally rather than class determined.

In addition, information was also collected on ownership of luxury items. The specific items were: (1) chairs/table; (2) cupboard; (3) buffet; (4) iron; (5) stove; (6) bicycle; (7) sewing machine; (8) radio/cassette (9) watch/clock; and (10) motorbike. In this case too the results were rather disappointing. Ownership of such luxury items was often seasonal. After a good harvest some people would buy a few goods, which often had to be sold again after a while when food supplies ran low and/or when there was an immediate need for cash. Hence, inter-area comparisons of class status as determined by such indicators and based on different sources of data, which were collected at different phases of the agricultural cycle, may be inaccurate.

Attitudinal and Household Economic Information

Maintenance of a Javanese household is generally the responsibility of mothers. Hence, the questions on ideals of children's education were directed at the mothers. Since census data show that males are better educated than females, separate questions were asked for sons and daughters. Thereafter respondents were asked whether their sons should be more, the same, or less educated than their daughters. The last question in this section was meant to ascertain the mother's attitude concerning the value of children's work in contributing to the household's maintenance as opposed to their children attending school. In the field it was learned that the requirements of school attendance were adjusted according to the seasonal labor demands in peasant life, because absenteeism was high during peak periods. Therefore, since children at the elementary level attended school only for a few hours a day it is argued that school attendance is not incompatible with sharing in the 'household maintenance' duties.*

The second and third parts of this section were devoted to the collection of data on household expenditures and incomes. These two parts, as it turned out, were the most complicated because of seasonal variations. The questionnaire on household expenditures was designed to gather information on expenditures during the previous month and

---

*Even though White argues that school attendance causes a considerable potential loss because he calculated this potential loss due to school attendance as a proportion of 'all work', the time of which is less than the waking hours. For males aged 6-8 years the mean was 3.7 and rose to 8.7 hours a day by the time they reached age 15 and over. For girls of comparable ages the time spent on 'all work' rose from 3.4 to 11.1 hours a day (1976: 287-291).

the previous year with the objective of attaining figures for the previous year only. A problem arose as a result of monthly household expenditures varying according to the seasons as they relate to harvest time.

Household expenditures were divided into three groups and each of these groups were further itemized. The first group consisted of food; the second clothing and other goods; and the third, others. Food was then divided into rice, corn, and cassava, as staples, and vegetables, meat and other. The staples were the items which varied most in terms of per unit prices as well as amount consumed, and composition of the consumed staples.

The last part of this section was spent on the collection of household income data. Not only cash but also income in kind was included in total household income. Among Javanese peasants, income in kind is often received as part of the BAWON system, where neighboring families, especially the women and children, help one another with the harvest. For their efforts they then receive a share of the harvest* (a detailed description of the workings of the system can be found in Collier, et al., 1973). This income in kind was then converted into monetary equivalents.

In order to measure total household income, the information was gathered for two groups of income earning activities: agricultural and nonagricultural. Each of these was further dichotomized according to whether the activities were carried out as self-employed/own-account workers, or as employers/laborers. Thus, in this

---

*This share was measured in terms of bundles rather than weight. The share also varies from one area to another.

questionnaire, the income earning activities could be of four types.

For those households where there were members who worked in agriculture, information was sought about: (1) whether the household owned animals, and if so, how many; (2) the kind of tools they used for their farming activities; and whether they used draught animals; fertilizers, high yielding variety seeds, insecticides, and irrigation.

Annual income from agriculture was computed as the total income earned for each type of product. The income by type of product was measured as the product of total yield by per unit price. This total agricultural income though, is only gross income.

In order to determine net agricultural income, gross income can be reduced by the total expenditures made in producing the gross income. Total expenditures were also measured per annum. These expenditures consisted of wages for labor (because of the prevalence of the BAWON system mentioned before); rent of agricultural tools; fertilizers, seeds, and insecticides; cattle feed; and others. The wages for labor were calculated as the sum of the shares by per unit price and the expenses for feeding the workers. Some farmers were able to rent plows or tractors. Fertilizers, seeds, and insecticides were in many cases received as part of a package through the BIMAS credit scheme (for a detailed description of the program, see Birowo, 1975).

If there were members of a household who were working as employees or laborers, then their total annual income was calculated as the sum of wages and subsidies. When the returns to labor were

given in kind then they were converted to the current rupiah value. Thus, these incomes include the receipts for labor exchange under the BAWON system.

Besides the above mentioned sources, income could also be derived from nonagricultural activities earned as either self-employed or own-account workers. This income was also calculated for the previous year and was derived on an average monthly income. However, in cases where such incomes were far more irregular, then the per annum income was calculated on the basis of reported actual incomes.

Individual Economic Activities

In order to ascertain the kinds of adaptation transmigrants have made through resettlement into a new environment, information was collected on the economic activities of all household members aged ten and over. This set of questions was divided into two parts. The first part was to find out the individual activities during the previous week, while in the second part the time reference was the previous year.

The first question in this section determined the type of activity individuals were engaged in during the previous week. The alternatives were: (1) working;* (2) temporarily not working; (3) looking for work; (4) house keeping; (5) attending school or on holiday; (6) consider unable to find work; or (7) other. Those who reported not to be working were then asked whether they worked at

---

*Work is defined as an activity carried out for pay or profit.

least one hour during the previous week.

Those who reported to be working were then asked their main occupation. The answers were recorded as reported by the respondents and were then converted to the International Standard Classification of Occupations (ISCO) categories during coding. These respondents were further asked their statuses, which could be any of the following: (1) own account worker; (2) employer; (3) employee; or (4) unpaid family worker. Next, the respondents were asked the number of hours that each of the working members of the household had worked during the previous week. Thereafter they were asked whether they also held an additional job during the previous week. Those who gave a positive answer to the previous question were then asked about the number of additional jobs they held during the previous week, and the number of hours they spent on those additional jobs. Those looking for work were asked the number of months they had done so. In addition, they were also asked what efforts they had made in their search for work. These efforts could be any one of the following: (1) contact a relative or friend; (2) contact an employer; (3) register at an employment agency; or (4) other. Those respondents who answered negatively to the question on whether they were looking for work were then asked whether they were willing to accept a more appropriate job if available.

The second part in this section was similar to the questions on activities during the previous week, except for slight changes. All respondents ten years and over were asked what their activities were during the previous year. These activities could be any of the following: (1) working; (2) looking for work; (3) house keeping (4)

attending school; (5) consider unable to find work; or (6) other. Those who reported not to have worked were then asked whether they worked at least two months during the preceding year. Those who had worked for at least two months during the preceding year were then asked their occupations and statuses.

Marriage Histories

Marriage histories were only collected for women who satisfied the criteria of the target population, that is, they were ever married, aged between 25 and 44 years and were either the wife of a household head or were household heads themselves. The first question in this section asked about the current marital status of the woman. Those who were no longer married were asked the number of times they had been married. Currently married women were also asked the same question and the month and year they were married (according to either the Roman or Islamic/Javanese calendars). Since information on dates was difficult to gather, the women were also asked how old they were at the time of their marriage. Thereafter the women were asked whether their husbands were living with them. Separated women were asked whether the husband was gone temporarily or whether the couple no longer lived together. The duration of the separation was also recorded.

The marriage history allows up to five marriages to be recorded. Starting with the first marriage, information was collected regarding: (1) the date of the marriage; (2) age of the woman at the marriage; (3) duration of the marriage; (4) how the marriage was dissolved, which could have been either through death of the husband, divorce, or

separation; (5) date of marriage dissolution; and (6) duration of non-married state. This marriage history record permits therefore the calculation of total marriage duration, excluding the periods during which the women were living without a husband.

Pregnancy Histories

This section of the questionnaire was designed to measure fertility. The detail and slight repetition in the questions were designed to allow for the correction of possible forgotten pregnancies or births.

Mothers were first asked the numbers of living sons and daughters at and away from home. Then the questions proceeded to ascertain the number of dead children. The number of living children and the number of dead children gave a total number of children ever born to the mother. This addition was then verified with the mother who was asked whether it was true that X number of children were born alive and Y number of children were still living. If the respondent claimed incorrect calculations on the part of the interviewers, then they were to repeat the same questions.

The next few questions concerned current pregnancies. Mothers were asked whether they were currently pregnant. The choice of answers could be either positive, negative, or do not know. If the answer was positive they were then asked how old their pregnancy was. They were also asked whether they had any preference for the sex of the coming child.

Thereafter, the interviewer had to note any of the following conditions: (1) whether the woman had never had a child born alive; (2) whether she had had only one child born alive; or (3) whether she had had at least two children born alive. Those women who fulfilled the third condition were then asked if they ever had any multiple births and if so how many times they had had multiple births.

The following set of questions were directed at acquiring information on pregnancy wastage. Women were asked whether they had any pregnancy wastage. Those who gave negative replies were asked whether they had ever gone to a DUKUN (traditional midwife), midwife, doctor, or anyone else for help in terminating a pregnancy. Those women who had had any pregnancy wastage were then asked the number of times it had occurred.

The pregnancy history record was divided into two parts. The first part was directed toward the recording of information on live births only, and the second part on wasted pregnancies. This live birth history allowed for a maximum of fifteen live births to be recorded (which turned out to be the highest number experienced by a few women in the sample).

In the live births record for each live-born child the following information was noted: sex and date of birth and whether the child was still living. If a child had died then the age at death was also recorded.

The second part of the pregnancy history recorded pregnancy wastage in terms of birth intervals, allowing for up to two wasted pregnancies between births. Thus the first interval referred to the

period between marriage and first live birth, the second between first and second; and so on; while the last interval was between the last live birth and the time of the interview.

For each interval mothers were asked whether they had any pregnancy wastage. For each pregnancy wastage data were collected regarding the age of the pregnancy. For pregnancies which were seven or more months old, mothers were asked whether there were any signs of life at the birth of the infant, and the sex of the infant. The respondents were then asked whether they, a DUKUN, or any other persons, had done anything to terminate the pregnancy.

While coding of most information in the questionnaire basically followed the order of the questions, the pregnancy history record was coded somewhat differently, because the two sections were combined. The coded data for each pregnancy were as follows:

1. Month and year at end of each pregnancy. For pregnancy wastages these data were determined as follows. If there was only one pregnancy wastage, then the date of the pregnancy termination was approximately the mid-period in the birth interval. If there were two pregnancy wastages, then the dates of termination of each of the pregnancies were approximately one-third and two-thirds of the live birth intervals;

2. Pregnancy number;

3. Pregnancy outcome. The alternative codes were: (1) born alive and still living; (2) born alive but died aged less than one year; (3) born alive but died after age one; (4) miscarriage (0-4 months); (5) abortion (0-4 months); (6) still birth (5-9

months); or (7) currently pregnant;

4. Sex and residence. These data were coded as follows: (0) unknown (miscarriage, abortion, or current pregnancy); (1) male, living with mother; (2) male, not living with mother; (3) male, dead; (4) female, living with mother; (5) female, not living with mother; (6) female, dead;

5. Live birth number;

6. Age at death of child. These data were coded in months.

7. Birth interval. This information was also coded in terms of months.

After the actual pregnancy history the questionnaire continued with a few questions on breastfeeding practices. Mothers were asked whether they breastfed their last child. In the case of positive replies the duration of breastfeeding of the last child was recorded. For women with more than one child similar information was recorded for the child before the last.

Family Planning

This final section of the questionnaire was devoted to the acquisition of information on Knowledge and Practice of family planning. Seven methods were listed. These methods were: the pill, IUD, condom, coitus interruptus, abstinence, sterilization, and JAMU (traditional herbal medicine) or PIJAT (massaging). About each of these methods the women were asked the following questions: (1)

whether they had ever heard of the method; (2) whether they had some knowledge of the method; (3) whether they had ever used the method; and (4) whether they were currently using the method.

A detailed discussion has been presented on how the investigation of the relation between transmigration and fertility will be pursued in this study. It is suggested that selection and adaptation processes explain the fertility of transmigrant women. In this study it is held that transmigrants adapt their behavior to a change in the environment of their residence, where environmental conditions are broadly defined to cover physical, economic and social conditions. Therefore, we have elaborated on some aspects of the environment in the studied areas. While the consequences of changing environmental conditions on fertility of transmigrant women will be examined in chapter 5, a further understanding of how environmental conditions affect people's characteristics and their activities is required. Chapter 4, therefore fulfils this purpose.

CHAPTER 4

ENRIVONMENTAL INFLUENCES ON INDIVIDUALS AND HOUSEHOLDS

As described in the preceding chapter, fertility differences between transmigrants and stayers are due to selection and adaptation processes. The effects of selection presuppose that after transmigration women continue the same pattern of fertility as they would have had if they had remained in their places of origin. Adaptation on the other hand, implies that changes have occurred. It is argued that such changes are the result of transmigrant women being resettled in a different environment from their origins. Consequently, their life styles are affected. The effects of the environment on people's activities will be described in this chapter.

Besides fertility, many other aspects of life are affected by changes in the environment. Opportunities and restrictions imposed by the environment affect not only the women for whom fertility will be measured but also all members of their households. In order to gain an insight into how changes in fertility behavior of transmigrant women could have occurred within the context of their households, the demographic and social characteristics as well as economic activities of all members in the selected households will be examined.* It is

---

*Technically not all household members are transmigrants because some of them were born in Lampung, however, in this study all the selected household members in the transmigration settlements are referred to as transmigrants.

also useful to gain an understanding of the setting of the households in which women live. This requires an examination of the household composition. Some economic indices are only relevant when measured at the household level and attention will also be paid to these measures.

Since the focus of this study is on the consequences of the changes in environmental conditions that transmigrants live in, it is necessary to emphasize comparisons between transmigrants and stayers on Java. Such comparisons presuppose that had the transmigrants remained on Java their characteristics would resemble those of the stayers. Similarities are indicative of continuity and differences of change. In this study it is argued that even after resettlement the transmigrants continue some of their Javan patterns of culture. Therefore it is anticipated that there are a few characteristics of the transmigrants which resemble those of the stayers. In chapter 2 it has been mentioned that the purpose of resettlement is to improve the well-being of the transmigrants. Hence, their economic conditions are most affected and differences between transmigrants and stayers should be most pronounced in this regard.

Comparisons between transmigrants and stayers require a dependence on secondary data. However, because comparable data are not always available, we will also rely on our collection of supplementary data for Wonogiri. Furthermore, because the environmental conditions in the two selected settlements are different, their impact on the activities and characteristics of the transmigrants need to be examined separately.

4.1. DEMOGRAPHIC AND SOCIAL CHARACTERISTICS

As mentioned in chapter 3, the sample was drawn purposively. Hence, the composition of the sample by current age should differ from that of the stayers in rural Java as recorded in the second phase of the intercensal population survey (SUPAS II) conducted in 1976 by the Central Bureau of Statistics.*

The data in Table 4.1 show the rather different pattern of age distribution between the sampled households and rural Java. With the age limitation of the selected ever married women for whom fertility is to be measured, there were relatively fewer older people, i.e. aged 45 years and over, included in the sample compared to the overall population of rural Java. Consequently, among the sample, the percentages of younger people, i.e. less than 15 years, were larger than in rural Java. There are a few more observations to be noted from these data on the sample. Due to the criteria for inclusion in the sample, the proportions of females aged 25-44 years were over-emphasized. On the other hand, the proportions of females aged 15-24 years were depressed as few of the selected households would have had daughters aged 20-24 years living with them since most of them would have been married by then and they would have set up independent households. The somewhat higher proportions of males aged 15-24 years compared to females of the same ages can be attributed to differences in ages at entrance into matrimony between men and women. This difference in ages at first marriage between the sexes is reflected by the data on the percentage remaining single by current

---

*See chapter 6 for a discussion of the intercensal surveys.

Table 4.1 -Percentage Distribution of People by Current Age, Sex and Residence.

Current Age	Way Abung*		Punggur*		Wonogiri*		Rural Java+	
	M	F	M	F	M	F	M	F
0-14	52.3	52.2	53.5	55.8	53.9	51.4	42.4	39.5
15-24	13.1	9.1	15.0	9.8	9.9	7.3	17.2	17.9
25-44	22.0	36.8	20.2	31.8	20.8	37.2	23.7	25.7
45+	12.4	1.8	11.2	2.5	15.4	4.1	16.6	16.8
N.S.	.2	.1	.2	.1				
Number	1205	1070	1314	1273	578	551		
Sex ratio	1,126		1,032		1,049		967	

Sources: *1976 Survey.

+Biro Pusat Statistik, special unpublished tabulations from the 1976 SUPAS II tape.

Notes : -The numbers for rural Java are not presented because they represent the total population.

-M = Males F = Females

-Sex ratio = the number of males per 1000 females.

age. Even for the total rural Java population, which was not affected by the sampling procedure, the proportions of single males were higher for every age category (see Table 4.2). The difference in ages at first marriage between men and women is one of the factors which account for the differences in the percentages of males and females

aged 45 years and over.* The other reason is of course the sampling design, which included women of those ages only if they belonged to their children's households.

Table 4.2 -Percentage Single by Current Age, Sex, and Residence.

Current Age	Way Abung		Punggur		Wonogiri		Rural Java	
	M	F	M	F	M	F	M	F
10-14	100.0 (179)	98.7 (153)	100.0 (219)	99.5 (210)	100.0 (95)	98.9 (87)	99.8	98.0
15-19	97.3 (112)	61.0 (82)	98.6 (138)	78.7 (108)	95.6 (45)	70.6 (34)	93.2	54.2
20-24	54.3 (46)	13.3 (15)	71.2 (59)	17.6 (17)	66.7 (12)	16.7 (6)	48.0	13.0

Sources: Same as Table 4.1.

Notes : -M = Males F = Females

-The numbers in parentheses indicate the population at risk. No numbers for rural Java are presented because they represent the total population.

-No data are presented for older cohorts because by then the proportions single have become minimal.

-No tests of differences are made because such tests assume randomness which is not fulfilled by the sample.

---

*According to the 1973 Fertility-Mortality Survey conducted by the Demographic Institute of the University of Indonesia, in Java, well over 90 percent of the husbands were older than their wives, and for more than 50 percent there was a difference of five or more years (Sutarsih Mulia Kusuma, 1976, Table II.9: 34).

A further difference which can be noted between the sample and the population in rural Java is the difference in the sex ratios. Among the sampled people, the sex ratio was in favor of males while in rural Java it was the opposite. This pattern is also a consequence of sampling design, as the sample emphasized relatively young households. Another contributing factor is again the difference in marriage pattern between sons and daughters.

The sampling design has also affected the patterns of proportions single by current age (see Table 4.2). Differences in the proportions single are most pronounced among females aged 15-19 years and among males aged 20-24 years, being higher among the sample than among the people in rural Java. Because of sampling design and Javanese practices regarding residence after marriage, men and women residing in the selected households were more likely to be single relative to the total population of rural Java.

While differences between the transmigrants and rural Java are a function of sampling design, real differences distinguish the transmigrants in Way Abung from those in Punggur. The proportions of single females aged 15-19 years and single males aged 20-24 years were lower in Way Abung than in Punggur, thus reflecting earlier entrance into matrimony in Way Abung compared to Punggur.

As a consequence of differences in marriage patterns between the sexes, and also owing to sample design, (i.e. every household had an ever married women aged 25-44 years), differences can also be observed

in current marital status composition.* The composition by current marital status is examined for people aged 10 years and over, because, as noted from Table 4.2, changes in marital status usually occur thereafter. The data in Table 4.3 indicate that consistently the percentages of single males were substantially higher than the percentages of single females. The proportions of single males and females were also lower in Way Abung than in Punggur.

Table 4.3 -Percentage Distribution of People 10 Years and Over by Current Marital Status, Sex and Residence.

Current Marital Status	Way Abung		Punggur		Wonogiri		Rural Java	
	M	F	M	F	M	F	M	F
Single	42.6	30.6	48.9	38.4	40.7	31.8	43.9	32.9
Married	55.3	63.1	49.3	52.7	58.7	60.0	52.9	55.2
Divorced/ Separated	1.4	2.4	.2	1.0	.3	1.1	1.3	4.9
Widowed	.7	3.9	1.6	7.9	.3	7.0	1.8	7.0
Number	754	664	830	773	361	355		

Sources: Same as Table 4.1.

Notes : +Standardized by the age distribution of all transmigrants.

-M = Males F = Females

*Due to the differences in the age composition between the sample and the rural Java population, any further analysis, where age is not controlled, requires that the data be standardized. Since the pattern of age composition of the sample of transmigrants in Way Abung resembles that of Punggur, age standardizations for rural Java will be based on the age composition of the total transmigrants.

Another interesting feature of these data is that in all areas, the proportions of divorced or separated and widowed women were higher than for men. These differences were not only a function of the sampling design, which excluded households headed by men who were no longer married, but cultural factors also contributed to the difference. There is a tendency among males to marry sooner after marital disruption than among females.*

On the basis of the foregoing observations regarding differences in patterns of marriage between men and women and between areas, it was anticipated that such patterns would also be reflected in the data on relationships to household heads. Since sons enter marriage later than daughters it was anticipated that the proportions of sons should be higher than the proportions of daughters (see Table 4.4). In all areas the proportions of sons were consistently higher than the proportions of daughters, however, the differences were only minimal, because most of the children were young. If, however, only those aged 15 years and over are considered, then the differences in the proportions sons and daughters become more pronounced. In Way Abung the proportions of sons and daughters aged 15 and over among the sampled people were 24 and 16, in Punggur they were 29 and 19, in Wonogiri they were 18 and 12, and in rural Java they were 25 and 19 percent respectively.

---

*According to H. Geertz, Javanese men usually remarry quickly because they no longer feel welcome at the home of their parents while they are emotionally as well as practically dependent on women whom they need to perform the household tasks. For a woman, on the other hand, the pressure to remarry soon after dissolution of a marriage is not as strong because she can either maintain herself independently or return to her parental home and resume her role as daughter (1961: 34 and 123).

Table 4.4 -Percentage Distribution of People by Relation to Household Head, Sex and Residence.

Relation to Household Head	Way Abung		Punggur		Wonogiri		Rural Java	
	M	F	M	F	M	F	M	F
Heads	31.7	.8	28.1	2.4	34.1	.5	30.9	3.8
Wives	-	35.8	-	29.0	-	35.8	-	30.8
Sons/ Daughters	61.1	57.8	65.9	62.8	60.6	54.4	58.5	56.4
Grand Children	1.3	1.4	.5	.8	1.2	3.1	5.1	5.1
Parents/ in Law	.7	1.7	1.2	2.2	.7	3.6	.4	.4
Sons/Daughters in Law	1.3	.8	1.3	.8	1.7	.4	2.1	.8
Other Relatives	3.7	1.3	2.4	1.7	1.4	2.2	2.2	2.3
Others	.2	.4	.6	.3	.3	-	.8	.4
Number	1205	1070	1314	1273	578	551		
Mean household Size	5.8		6.5		5.6		4.6	

Sources: Same as Table 4.1.

Notes : +Standardized by the age distribution of all transmigrants.

-Children include step children, adopted children and also married children.

-M = Males F = Females

Because these data were collected on the basis of households, in general, little variation can be observed between areas in the

patterns of distribution of people by relationship to household heads. (Similar patterns are also found throughout the country. See Biro Pusat Statistik, 1971 Census, Series E, Nos. 1-26). Many Indonesian households consist of more than the nuclear family only. Married children, their spouses and offspring, parents, or other relatives, often reside with a nuclear family for extended periods of time.* There is, however, a Javan pattern indicated by the data. It has been explained in chapter 3 that Javanese follow bilineal patterns of kinship and that the preferred pattern of residence upon marriage is to set up independent households, with no fixed rule in the choice of residence. However, uxorilocality has been more commonly observed (Koentjaraningrat, 1960: 102 and Jay, 1969: 40). Among the transmigrants too the same pattern of preference for uxorilocality has been observed. Consistently, in all areas under consideration, there were more sons in law than daughters in law.** Such a pattern of residence reflects the continuation of the Javan cultural practices even after resettlement.

---

*Depending on how lineage is traced and personal preferences, in many of the ethnic groups in Indonesia marriage is followed by one of the spouses retaining membership in their parental households (see the various ethnographic studies published in two books edited by Koentjaraningrat, 1964 and 1979).

**In other types of society, the pattern of residence of children and their families differs from the Javanese. In a matrilineal society, such as the Minangkabau, for instance, there were about ten times as many sons as daughters-in-law (Biro Pusat Statistik, 1971 CENSUS, Series E, No. 3). However, in the patrilineal society of the Batak in North Sumatra, the ratio of sons to daughters-in-law was approximately 2 to 3 (Biro Pusat Statistik, 1971 CENSUS, Series E, No. 2).

While variations between the transmigrants and stayers in terms of current age composition, proportions single, and current marital status composition were influenced by the sampling design, differences in education are mainly attributed to environmental conditions prevailing in a specific area. The data in Table 4.5 show the distribution of people aged 10 years and over by their educational attainment.

Table 4.5 -Percentage Distribution of People Aged 10 Years and Over by Educational Attainment, Sex and Residence.

Educational Attainment	Way Abung		Punggur		Wonogiri		Rural Java	
	M	F	M	F	M	F	M	F
No School	25.5	47.7	15.4	31.0	28.5	47.0	26.1	43.2
Grades 1-3	35.8	31.2	31.5	26.2	19.1	14.9	27.7	23.7
Grades 4-6	34.5	19.3	44.7	37.1	36.3	30.4	37.7	29.0
High School	4.2	1.8	8.4	5.7	16.1	7.6	8.4	4.0
N.S.							.1	.1
Number	754	664	830	773	361	355		

Sources: Same as Table 4.1.

Notes : +Standardized by the age distribution of all transmigrants.

-M = Male F = Female
-N.S. = Not stated.

Notably, by 1976, notwithstanding the rapid expansion in educational facilities since Independence in 1945, and more so since the decade of

the 1970s,* substantial proportions of people in rural Indonesia had never attended school. In Way Abung, Wonogiri and rural Java, about a quarter of the males and almost half of the females aged 10 years and over had never attended school. The proportions were somewhat lower among the sample in Punggur. Moreover, among those who had attended or were currently attending formal schooling, only a small minority went beyond elementary school.** Officially, children cannot start elementary school until they have passed their seventh birthday. Many children start at even later ages and withdraw not long thereafter. Not only are drop-out rates high, but so are repeater rates, so that continuation rates are rather low. During the years 1974-76, between each level, only 8 out of every 10 children in Indonesia continued to the next grade so that only about 30 percent of the children who started elementary school in 1974 or 1975 could expect to successfully complete within six years (BP3K, 1977: Table 36).

An examination of the data on those with some schooling shows further variation. Transmigrants in Punggur stayed in school longer than the sampled people in Way Abung or the population in rural Java. Far higher proportions of both males and females who had attended more

---

*Especially with the institutionalization of the S.D. INPRES (Presidential Instruction), a program specially designed to expand elementary school facilities, which was funded through allocations in the development budget (as opposed to the routine budget which finances all routine expenditures).

**In Indonesia, elementary school consists of six grades, at the end of which one has to pass a state examination to be eligible for entrance into high school. High school is divided into junior and senior high school, each lasting for three years and successful completion is indicated by successful passing of an examination. It is only thereafter that one continues to a tertiary educational institution.

than third grade of elementary school were found among the sample in Punggur compared to Way Abung or rural Java. Furthermore, if rural Java were to be the standard, then Wonogiri is atypical and unrepresentative of rural Java in general. Lower proportions of males and females had attended grades 1-3 only and far higher percentages had attended high school in Wonogiri than in rural Java.

Attention is drawn, however, to the fact that notwithstanding the emphasized differences between the sexes and the areas, the levels of achieved education of the sampled people and the general population in rural Java were still rather low. Very few people had gone beyond elementary school. Except in Wonogiri, not even one out of every ten persons aged 10 years and over had attended high school or more.

In chapter 3 it has been asserted that Way Abung was far less developed than Punggur. There were fewer schools available in Way Abung than in Punggur. Later in this chapter it will be shown that the sampled households in Way Abung were also economically worse off than in Punggur. Under such circumstances it is no surprise to find that the sampled household members in Punggur were 'better' educated than in Way Abung or rural Java. Even though some areas in rural Java may have been more developed than Punggur, many more were less developed. On average, educational institutions were less accessible to the general population of rural Java compared to Punggur. The same was true of Wonogiri, relative to rural Java. Differential accessibility between the areas is indicated by differences in school attendance ratios, which will be examined hereafter.

The school attendance ratios presented in Table 4.6 indicate inverted u-curves, with peak levels for the age category of 10-14 years. This pattern is mainly a consequence of children being able to start elementary school after reaching age seven,* and children remaining in school for only a few years.

Table 4.6 -School Attendance Ratios by Current Age, Sex and Residence.

Current Age	Way Abung		Punggur		Wonogiri		Rural Java	
	M	F	M	F	M	F	M	F
5-9	39.4 (236)	40.9 (203)	41.2 (250)	42.1 (254)	56.4 (110)	63.7 (102)	48.6	47.1
10-14	75.4 (179)	65.4 (153)	84.5 (219)	82.9 (210)	85.3 (95)	82.8 (87)	65.6	57.0
15-19	22.3 (112)	13.4 (82)	39.9 (138)	28.7 (108)	66.7 (45)	17.6 (34)	18.9	9.9

Sources: Same as Table 4.1.

Notes : -M = Males F = Females

-The numbers in parentheses indicate the population at risk.

-No data are presented for older age cohorts because by then school attendance ratios are minimal.

---

*Prior to attending elementary school, children can attend kindergarten. However, because state-supported schools start at the elementary level, kindergartens are usually privately run. Hence, fees are generally higher than for elementary school and not as many children can afford to attend such institutions.

Since fewer females than males had attended school, it is anticipated that current school attendance for males should be higher than for females. This is, however, not necessarily the case. For those aged 5-9 years there appears no preferential treatment by parents to give sons greater opportunities than daughters to attend school. Differences appear for children aged 10-14 years. Among the children in Way Abung the difference was substantial, and the same was true of rural Java. However, for Punggur and Wonogiri the differences were minimal. For the following age category of 15-19 years, the school attendance ratios decreased drastically. In all the areas, male-female differences were substantial, however, the problem of small numbers may have accentuated the differences.

The higher school attendance ratios among those aged 15-19 years in the sample compared to rural Java were also partly due to sampling design. As shown in Table 4.2, among the sample, the proportions single were higher than among the population in rural Java. Few people continue to attend school after marriage. Among the transmigrants all of those currently attending school were still single. In a survey conducted in 1978 in Yogyakarta, it was found that only 6 out of 571 women had married while still in School (Kasto, forthcoming). School attendance should be higher when the proportions single are higher. The effects of differences in proportions single can be eliminated through standardization. Because differences in proportions single between transmigrants and rural Java were due to sampling design and the sample for Way Abung indicated lower proportions single than in Punggur, the preferred standard proportions to be used are those for rural Java. The results are that the school attendance ratios for those aged 15-19 years for the sample decrease

slightly. For Way Abung they become 21.4 and 11.9, for Punggur 37.0 and 9.8 and for Wonogiri 65.0 and 13.5 respectively. After standardization, school attendance ratios for Way Abung resembled those for rural Java while for Punggur and Wonogiri they remained higher.

The variation in school attendance ratios between areas is consistent with the pattern of educational attainment indicated by the data in Table 4.5. In Punggur the proportions of those who had attended formal schooling were higher than in either Way Abung or rural Java. Substantially higher school attendance ratios can also be noted for both males and females aged 10-14 and 15-19 years in Punggur compared to Way Abung or rural Java. Educational attainment in Wonogiri was found to be substantially higher than in rural Java, consistent with school attendance ratios being also far higher for the sample in Wonogiri compared to rural Java. This finding again shows how atypical the sample drawn in Wonogiri was in relation to the general population of rural Java.

Cultural and economic considerations influence the earlier withdrawal of daughters than sons from attending school, since their labor is required for the maintenance of the household. It has been found that at each age, larger proportions of girls than boys were working (T. H. Hull, 1975: 242), and that at each age daughters worked longer hours than sons (White, 1976: 271-310). The extent to which school attendance competes with household maintenance activities will be examined in the following section.

4.2. ECONOMIC ACTIVITIES OF INDIVIDUALS

The analysis of economic activities of members in the selected households is limited to a few characteristics. Priority is given to the examination of usual activities during the year preceding the survey. Thereafter, the analysis focusses on those recorded as working for whom patterns of occupational structure will be identified.

Using a basically labor force approach,* in collecting the data on economic activities, two time references were used, namely one week and one year preceding the survey. However, only the data on the preceding year will be analyzed. The survey concerned mainly agriculturalists, therefore, economic activities during the previous week are strongly affected by seasonality during the agricultural cycle. This consideration becomes important because of the emphasis

---

*It is acknowledged that the labor force concept suffers from deficiencies. This approach was developed in the United States during the depression to measure the level of unemployment. However, as Hauser rightly pointed out, this approach produces an 'unrealistic' picture when applied to less developed societies. The most important weakness is that the most severe problem in less developed societies is not so much open unemployment but rather under-employment (Hauser, 1974: 1-3).

Peluso addresses another side of the weaknesses in classifying people on the basis of the labor force approach which, she holds, favors the modern sector. Emphasizing the small-scale traders and family production enterprises (who at peak times also participate in agricultural activities) she recommends an instrument for data collection which will better reflect the real employment structure on Java (1979).

However, it is not the primary concern of this study to determine the extent of either unemployment or underemployment; neither is it only concerned with small-scale traders and family production enterprises. Instead, the purpose of this study is to show how the surrounding environment impinges on people's options. The instrument used is regarded as satisfactory for this purpose.

on comparative analyses between the transmigrants and the population in the areas of origin of the transmigrants, namely rural Java. The survey for the current study was conducted between the months of May and August of 1976, just after the rainy season and the big harvest.* The available data for Java which are most comparable were collected in SUPAS II, which was conducted over a period of one month starting at the end of February 1976. This is the time when farmers on Java wait for their crops to mature, and except for weeding, which is usually done by women and children, there is actually not much work on the land.

As described in chapter 3, information on economic activities was collected for all members of the selected households who were aged 10 years and over. The age 10 cut-off was used rather than a later age, as is the case in more developed countries where child labor is illegal, because in agrarian societies such as rural Indonesia, children start contributing their labor for maintenance of the household at fairly early ages. A lower cut-off age was undesirable because it is not until children are about 10 years old that they are

---

*In most areas of Indonesia farmers produce two crops, during the wet season and during the dry season (of course the wet season crop is the major crop). Prior to the introduction of the high-yielding variety seeds, if farmers were to have grown rice during the wet season, during the survey months they would have started planting secondary crops. However, with the new rice varieties they often grow rice again though sometimes on dry land if no irrigation water is available. Similarly, in Way Abung, cassava was grown during the two agricultural seasons.

expected to do regular household maintenance duties.*

Table 4.7 -Percentage Distribution of People Aged 10 Years and Over by Usual Activity During the Previous Year, Sex and Residence.

Usual Activity During the Previous Year	Way Abung		Punggur		Wonogiri		Rural Java	
	M	F	M	F	M	F	M	F
Working	75.9	37.7	65.4	23.3	63.4	27.3	71.3	38.7
Seeking work	.1	.1	-	.1	.3	.3	.5	.2
Housekeeping	.7	42.9	1.0	44.9	.6	47.0	1.5	39.1
Attending school	19.1	15.7	29.2	29.8	31.6	22.5	19.4	15.6
Unable to find work	1.3	.8	1.1	1.0	.6	1.1	1.8	1.5
Other**	2.9	2.8	3.4	.9	3.6	1.7	5.5	4.9
Number	754	664	830	773	361	355		

Sources: Same as Table 4.1.

Notes : +Standardized by the age distribution of all transmigrants.

**Includes the not stated.

-Working refers to gainful employment.

---

*From his examination of data on the productive contributions of children to the household economy, T. H. Hull concluded: "In sum, it can be said that while SOME children begin to work at ages as young as 6 or 7 years old, it is not until around ages 10-12 that a majority of children are found to be doing any sort of work whatsoever" (1975: 247). Similar findings were reported by White. According to their parents, except for such activities as caring for younger siblings and poultry and water fetching, the modal age was at least 10 years for most other household maintenance activities performed by children (1976: Table 8.1: 277).

The distribution of those aged 10 years and over by usual activity during the previous year is presented in Table 4.7. Well over 90 percent reported their usual activity as either working, housekeeping or attending school. The sex roles are clearly reflected by the first two categories. Men, more so than women, were categorized as working, while housekeeping was the domain of women. Except for Punggur, proportionately more males than females were attending school. These data are consistent with the data on school attendance ratios shown in Table 4.6. Higher school attendance ratios were noted for males than for females in Way Abung, Wonogiri and rural Java. Of those aged 10 years and over, the proportions attending school in these areas were also higher for males than for females. For Punggur, school attendance ratios for those aged 10-14 years were similar for males and females. It was only for those aged 15-19 years that a difference for males and females was observed, however, for these ages, school attendance ratios were rather low and had little impact on the total aged 10 years and over.

It has been mentioned to above that differential school attendance ratios between the sexes are due to cultural and economic considerations. As will be shown later in this chapter, like most households in rural Java, the households selected for study were equally poor. It is poverty which causes rather low school attendance ratios for those aged 15-19 years.* If parents can afford it, usually

---

*Even though a substantial proportion of girls were married when they were 15-19 years old, it is not common that daughters are withdrawn from school for marriage. For this age category, well over half were still single (Table 4.2), however, school attendance ratios were far lower (Table 4.6). In the Yogyakarta survey conducted in 1978, respondents were asked the reason why they left school. Only 21 out of 271 females (or 8 percent) who were no longer in school mentioned that they withdrew from school for marriage (Kasto, forthcoming).

children of both sexes are given equal opportunities to attend school. When, however, parents are faced with decisions to withdraw their children from school, then priority is usually given to sons to remain in school longer. The reason for such differential treatment between sons and daughters is that daughters have to start contributing their labor for household maintenance duties earlier than sons.

Table 4.8 -Percentage Participating in Household Maintenance Activities by Current Age, Sex and Residence.

Current Age	Way Abung		Punggur		Wonogiri		Rural Java	
	M	F	M	F	M	F	M	F
10-14	20.7 (179)	32.0 (153)	11.4 (219)	14.3 (210)	7.4 (95)	18.4 (87)	21.8	29.8
15-19	77.7 (112)	81.7 (82)	54.3 (138)	62.0 (108)	26.7 (45)	70.6 (34)	68.8	79.4

Sources: Same as Table 4.1.

Notes : -Household maintenance activities consist of working and housekeeping.

-The numbers in parentheses indicate the populations at risk.

-No data are given for ages beyond 20 years because there is little variation in the percentages which remain at around 90 percent for both sexes.

In order to find out whether there are differences in responsibilities laid upon sons and daughters to share the duties of household maintenance, participation rates in household maintenance

activities have been calculated, which are presented in Table 4.8. Household maintenance activities are defined as consisting of the two categories of 'working' and 'housekeeping'. The reason for the combination of these two categories is based on the consideration that for households to be maintained there has to be a division of labor. While some members have to be involved in 'gainful employment' others have to take care of housekeeping chores. The results indicate that consistently, for both age groups and for all areas, household maintenance activity rates were higher among girls than boys. This is because parents depend more on their daughters than their sons for sharing in household maintenance activities, so that in hard times daughters are withdrawn from school earlier than sons.

These data also lend support to T. H. Hull's finding that girls start contributing to household maintenance at younger ages than boys (1975: 242). This inference is drawn from the data on those aged 10-14 years. Substantially higher percentages of girls participated in household maintenance activities, thus girls start contributing their labor earlier than boys.

Besides differences between males and females, noticeable differences can also be observed between areas. Since age-specific school attendance ratios were higher in Punggur and Wonogiri than in Way Abung or rural Java (Table 4.6), similar differences can be observed in the percentages attending school among those aged 10 years and over (Table 4.7). Consequently, the proportions working were found to be lower in the first two than in the last two areas (the proportions of female housekeepers were rather similar). Similarly, controlling for current age, the percentages participating in

household maintenance activities were lower in Punggur and Wonogiri than in Way Abung or rural Java.

Table 4.9 -Percentage Distribution of People Aged 10 Years and Over Who Worked for at Least Two Months During the Previous Year by Occupation, Sex and Residence.

Occupation During the Previous Year	Way Abung		Punggur		Wonogiri		Rural Java	
	M	F	M	F	M	F	M	F
Farmers	94.9	92.1	87.8	69.9	57.2	55.9	71.6	69.6
Traders	1.1	4.9	2.2	21.4	6.2	33.9	7.4	11.7
Production Workers**	2.0	.9	6.5	6.4	30.0	5.9	10.5	9.4
Other++	2.0	2.1	3.4	2.3	6.6	4.2	10.5	9.3
Number	606	328	581	299	243	118		
% of Population Aged 10+	80.4	49.4	70.0	38.7	67.3	33.2	80.4	56.9

Sources: Same as Table 4.1.

Notes : +Standardized by the age distribution of all transmigrants.

**Includes artisans and laborers (non-agricultural).

++Includes those doing professional, administrative and clerical work, and those working in the service sector as well as those workers not classifiable by occupation.

Differences between areas become even more pronounced when data on occupation are examined.* In general, people in rural Indonesia have few options regarding the type of occupation on which they depend for their livelihood. Consequently, there is a high degree of concentration in a few occupations only (see Table 4.9). The important occupations which have been identified among the sample are farming, trading and production work.

Among the characteristics examined so far it is the differences in occupational composition which best reflect the impact of environmental conditions. The dominant occupation was farming. In Way Abung, almost all working persons were farmers. As explained in chapter 2, in order to retain their claim on their allotments, transmigrants must cultivate the land themselves. The very heavy concentration in farming is also a consequence of the unavailability of alternative opportunities. Alternative occupations or income earning opportunities are created by the ecology and the market. Even though the soil in Way Abung was rather similar to that found in Punggur, very few people were engaged in production work, such as the production of bricks and roof tiles. In Way Abung it was difficult to find typical Javanese kinds of processed food, such as TAHU and TEMPE (soy bean curd and soy bean cake) on other than market days. As will

---

*Information on occupation was recorded not only for those who reported working as their usual activity but also for those who claimed that they had worked for at least two months during the preceding year. The percentages of those who did not report working as their usual activity but who worked for at least two months during the previous year, from all persons aged 10 years and over, were lower among males than females. This pattern is a result of already high proportions of males who were usually working, while the proportions of working females were substantially lower. When the opportunity arises, such as harvest time, some women, who reported their usual activity as housekeeping, participate in gainful employment.

be shown later, people in Way Abung were far poorer than in Punggur. Hence, there was little demand for such commodities in Way Abung. Neither could such products be exported due to the poor infrastructure.

In Punggur, which is far more developed than Way Abung, a greater demand existed for goods produced as cottage industry; therefore, more people were engaged as production workers. The residents of Punggur had access to a daily market. In comparison to Way Abung, far more women were traders in Punggur, approaching the proportion in Wonogiri. Cultural factors account for the predominance of females in trade. There is no stigma attached to Javanese women being active in trade; thus, if one visits a market in a Javanese town, women often dominate the scene.* Even among women of high social status, trade or brokering is at times regarded as a desirable activity because it can be conducted from their homes. For instance, middle and upper class women in urban areas can be found active in trading handicrafts, especially batik or jewelry. Women also often act as intermediaries in the real estate business (Papanek, 1976: 118).

As a consequence of differential availability of other occupations outside agriculture, the percentage of farmers in Punggur is somewhat lower than in Way Abung. Even though Punggur is an older settlement than Way Abung, and Punggur was, for several years, no longer a transmigration project so that some residents could have entered the settlement without government support, especially the

---

*The dominance of trade by women is typically Javanese (and Balinese). The 1971 census recorded more women than men in trade only in Central Java, Yogyakarta, East Java and Bali (Biro Pusat Statistik, 1971 POPULATION CENSUS, Series E, Nos. 1-26).

allotment of agricultural land, as will be shown later, the difference in the proportions of households which owned land was only minimal. Thus, differential accessibility to agricultural land could not have caused the difference in the proportions of farmers, especially among women.

While accessibility to agricultural land was not a constraint on people in Punggur to be farmers, in Wonogiri this was more likely to be the case. Fewer households in Wonogiri compared to the transmigrants had access to agricultural land (see Table 4.10). Therefore, the percentage of farmers was also lower. Interestingly, the other major occupation categories differ according to sex. While it has been claimed that ecological and economic or market forces can induce the existence of occupations other than farming, the differences between the sexes are attributed to cultural factors. It has been mentioned that Javanese women are very active in trade, hence the rather large percentage of women in this occupation. Production work, on the other hand, was dominated by men. The ecology and market forces favored them in this respect. As described in chapter 3, a greater part of Wonogiri consists of limestone. This appears to be a blessing in disguise. Limestone country is very poor agricultural land. On the other hand, because of demand from within as well as outside the area, this limestone can be processed into useful products. Lime (KAPUR), when properly processed through heating in a kiln, can be used for white-wash. Harder limestone or BATU CADAS is quarried for tiles and poles. In the Wonogiri area many men were involved in the processing of limestone, from quarrying to laborers who carried the limestone to the plant or processed it there. Most of these jobs involved in processing limestone were male jobs. Few women

were involved because their labor was only used in pounding the limestone into sufficiently small pieces, ready for burning. Many opportunities in the limestone industry were available in the area. In the surveyed KECAMATAN of Baturetno alone there were 25 processing plants. Hence, a substantial proportion of the working males in the Wonogiri sample were active as production workers.

An important advantage in participating in industry was that, in exchange for labor, workers received cash payments as wages or from sales of poles and tiles. Although small, these cash incomes were important to the household economy. Tile and pole quarriers made an average of Rp. 300* a day. The lowest wages were Rp. 200 per day for the least skilled laborers who carried the limestone to the plant or who were involved in pounding. Far higher wages were earned by the more skilled laborers. On average, a limestoker made Rp. 600 while a firestoker made Rp. 700 a day. Such favorable opportunities for residents of Wonogiri to earn cash incomes are not always available in other areas of Java. Since school attendance often reequires cash expenditures such as for fees, supplies and uniforms, the cash income earning opportunities available to the residents of Wonogiri may explain the higher school attendance among the sample compared to rural Java in general.

The occupational composition in Wonogiri differed substantially from rural Java in general. This difference is indicative of the variation in the ecological make-up of the island and the consequent variations in population densities. Since the population in rural

---

*At the current exchange rate this amount equalled approximately 75 cents U.S.

Java are basically peasants, most people live off the land by finding their sustenance from agriculture. It has been mentioned in the previous chapter that owners of 'large' plots of land provide opportunities to share-croppers. Those who have no access to land become landless laborers. However, continuous population growth and the introduction of new technology in agriculture have caused a closure of even this avenue to the less advantaged. Combined with skills and traditions and especially favorable market conditions some have found occupations outside agriculture, as traders or production workers. Interestingly, males and females in rural Java share more similarity in terms of the occupational composition of the work-force than was the case in Wonogiri. Environmental conditions have contributed to such patterns. While many women are traders, trade is not an exclusive occupation for women. Neither is production work exclusive to men. In limestone processing, most jobs were done by men, but handicrafts and food are mostly produced by women.

The variation in occupational structure between the studied areas is indicative of other economic conditions as well. The high degree of concentration on farming as a source of livelihood indicates that the studied people were heavily dependent on agricultural land. Patterns of land holding are meaningful within the context of the household, since land, as a factor of production, provides access to income which, in turn, is disbursed at the household level. Household level economic indicators will be examined in the following section. No comparable secondary data were, however, available. Hence, the discussion is limited to the sampled households in the surveyed areas only.

4.3. HOUSEHOLD LEVEL ECONOMIC INDICATORS

As mentioned before, almost all transmigrant households had access to agricultural land. However, since the studied villages are located in two areas which have different histories, there are differences in the patterns of land acquisition. In order to assess how land was acquired four means were identified. Household heads were asked whether they were renting land and if so what was the area. The other means by which land was acquired were through purchase, government allotment and inheritance. In addition, information was also collected on the type of land they had access to, whether irrigated or dry.

In Way Abung there was no need to rent land because the households which were dependent on agriculture either had more land than they could cultivate or if they wanted more land they could easily purchase additional land. At the time of the survey, in the Way Abung area, land prices were relatively low and therefore expressed in terms of hectares. Of the 373 households which had access to agricultural land 37 had purchased land,* which varied in size between .2 hectares and 5 hectares (30 percent bought less than 1 hectare, 49 percent between 1 and 2 hectares, and 21 percent between 2 and 5 hectares). Most of the selected households in the area were given government allotments (90 percent of the 391 households), thus indicating their settlement under the auspices of the transmigration scheme. Of the beneficiaries of the scheme, 96 percent were given the

---

*Since land cannot be sold while a settlement remains under the jurisdiction of the Transmigration Authority, land sales were not legal.

standard 1.75 hectares of agricultural land. This shows that the regulation concerning size of the allotments was generally followed in Way Abung. Only 10 households received smaller plots, the smallest being .25 hectares, while 2 households had 2 hectares and 3 households had 3 hectares. According to the regulation, if one settles in a transmigration project not as a farmer but as a trader or craftsman then one is usually eligible for .25 hectares only, the plotsize for a house and vegetable garden. As it is a relatively new settlement, few households have had the opportunity to be beneficiaries of inherited land. Only six households had inherited land, which varied in size from .25 hectares (2 households), to .5 hectares (2 households), and 1.75 hectares (2 households). Way Abung had no irrigation system, but a few farmers whose plots were located near a water source had constructed their own system. Seven households had done so, 3 of whose plots were .25 hectares, another 3 had .5 hectare plots, and 1 was 1.75 hectares. Among the interviewed households 95 percent had dry land, of which 87 percent had 1.75 hectares, 4 percent had less and the remaining 8 percent had more. The mean was 1.81 hectares. With so few households having had access to irrigated land, the mean size of agricultural land accessible to a household was very similar to the mean size of dry land, specifically 1.86 hectares.

A very different pattern of distribution of accessible agricultural land existed in Punggur. Of the 400 households, 90 (22.5 percent) had access to rented land. The size of the plots varied between .125 and 1.5 hectares. More than half were less than .5 hectares (54 percent) and 42 percent between .5 and 1.0 hectare. Since Punggur was no longer a transmigration project, transfer of landownership had become increasingly more common. It was not only

the possibility but also the desirability of the land which had created the demand. The construction of Punggur's irrigation system started during the fiscal year 1971-72 and by 1974 about one-fourth of all the agricultural land in the area was irrigated (based on I Gusti Made Raka and Imam Soeprijono, 1975, Table 3: 9). With irrigation, the soil has become far more productive and demand for land has increased. In 1976 land prices were expressed in square meters. Large areas had changed ownership. Many of the interviewed households had purchased agricultural land (279 households or 70 percent). The size of the purchased plots varied from as small as .075 hectare to as large as 5 hectares. One and fifth were less than .5 hectare, 34 percent between .5-.99 hectare, 35 percent between 1 and 1.99 hectares and the remaining 11 percent 2-5 hectares, with an average size of .99 hectare. On the contrary, far fewer were still beneficiaries of the government land allotments (16 percent). As a project ages, the latest arrivals under the government scheme often receive less than the stipulated 1.75 hectares of agricultural land. Among the beneficiaries in the Punggur sample, one-fifth received less than 1 hectare, 42 percent were given between 1 and 1.5 hectares, and the remaining three-eights were allotted the standard 1.75 hectares.* Even though Punggur was a fairly old settlement, very few plots of land had been passed on to descendants. Only 19 households had inherited land, of which 15 plots were less than 1 hectare and 4 varied in size between 1 and 1.25 hectares. The fact that so few households had inherited land in Punggur was probably due to several

---

*These results are consistent with observations made by I Gusti Made Raka and Imam Soeprijono (1975: 10-11) as discussed in chapter 3.

factors. First, during the stages of the project when offspring of the original settlers would have been eligible to inherit their parents' land, such as at time of marriage, they were still able to acquire their own plot within the project area or in another project area (these are referred to as local transmigrants by the authorities). Second, instead of passing on their land, many had sold it, as reflected by the large number of households which purchased land. At the time of the survey 312 (85 percent) of the 367 households which had access to agricultural land had access to irrigated land. A wide range of sizes characterize this type of land, from .075 to 5 hectares. Thirty percent were less than .5 hectare, 39 percent .5-.9 hectare, 26 percent 1-1.9 hectares, and 5 percent 2-5 hectares. The mean size was .691 hectare. Fewer households owned dry land, only 234 or 58 percent of all the interviewed households. Among the dry land plots 71 percent were less than 1 hectare, 27 percent 1-1.9 hectares and only 3 percent had 2 hectares or more. The average was .762 hectare. With 312 households owning irrigated land and 234 households owning dry land it is obvious that many households owned both irrigated and dry land. Consequently, the combined average was larger than either of the two, amounting to 1.1 hectares.

Population pressures on the land in Wonogiri had resulted in less accessibility to agricultural land. Moreover, those who had access to land had smaller plots to cultivate. The limitation on agricultural land is reflected by the fact that of the 200 interviewed households, only one-eighth were able to rent land. By transmigration area standards the rented plots were very small. Of the 25 households that rented land, 16 were less than .5 hectare and the remaining 9 were between .5 and 1 hectare. Nor were many households able to purchase

land. Only one-fifth of the households had done so. Of these 41 households, 21 had bought land which was less than .5 hectare, 13 between .5 and .75 hectares, and only 7 between 1 and 1.5 hectares. Until fiscal 1980-81 village administrators were given agricultural land in lieu of a salary. This land is referred to as TANAH BENGKOK. A few of these village administrators were included in the study. Five households had access to land which varied in size between .5 and 1 hectare. The limitation on land is also reflected by the few households which had inherited land (only 39 percent). The smallest plot was only 60 square meters while the largest was 1.5 hectares. Of the 77 households which inherited land 57 percent had less than .5 hectare, 35 percent between .5 and .9 hectare and only 8 percent had between 1 and 1.5 hectares. Not only was the quality of the soil poor but water for irrigation purposes was also scarce. Hence, only 33 or 16 percent of the interviewed households had access to some irrigated land, of which more than half were less than .5 hectare and another third were .5-.74 hectare. More than three times as many of the selected households had access to mainly small plots of dry land (76 percent had access to less than .75 hectare of dry land). With such a concentration on rather small plots of agricultural land, the mean plot size of irrigated land was .44 and dry land was .48 hectare and the total was .5 hectare.

A recapitulation of land types for the sampled households is shown in Table 4.10.

Table 4.10 -Percentage Distribution of Accessible Agricultural Land to Households by Size and Type of Land.

Size (in hectares)	Way Abung			Punggur			Wonogiri		
	I	D	T	I	D	T	I	D	T
< .25	42.9	.5	.5	3.5	3.0	.8	27.3	22.9	23.1
.25- .49	-	2.2	2.1	26.6	23.5	15.8	27.3	32.1	29.1
.50- .74	42.9	1.1	1.1	24.0	23.1	15.0	36.4	21.1	25.4
.75- .99	-	.3	.3	15.1	20.9	16.1	-	8.3	6.7
1.00-1.24	-	-	-	16.7	12.0	15.8	6.0	12.8	11.2
1.25-1.49	-	.5	.3	4.2	3.4	6.0	-	.9	.7
1.50-1.74	-	.8	-	1.6	4.3	7.4	3.0	1.8	3.7
1.75-1.99	14.2	87.1	87.9	3.2	6.8	9.0	-	-	-
2.00+	-	7.5	7.8	5.1	3.0	14.2	-	-	-
Number	7	372	373	312	234	367	33	109	134
Percent of households	1.8	95.1	95.4	78.0	58.5	91.8	16.5	54.5	67.0
Mean size	.571	1.810	1.816	.691	.762	1.108	.440	.477	.496

Source: 1976 Survey.

Notes : -Accessible land consists of land acquired through rent, purchase, government allotment, and inherited land.

-The classification of type of land is not mutually exclusive, thus the two columns are not additive.

-I = Irrigated D = Dry T = Total

Among the selected areas for study, households in Way Abung had the most and in Wonogiri the least advantageous position in terms of accessibility to agricultural land. While out of every 10

transmigrant households at least 9 had access to agricultural land, among the Wonogiri households it was only 7 out of every 10 households. Differences in plot sizes are even more pronounced with mean plot sizes of 1.8, 1.1 and .5 hectares for households in Way Abung, Punggur and Wonogiri respectively. As will be shown later, however, soil quality is a more important criterion than size for land cultivation. In Way Abung very few households had access to irrigated land (2 percent). Almost 8 out of every 10 households in Punggur and fewer than 2 out of every 10 households in Wonogiri had access to irrigated land. While most of the land in Way Abung was dry land, the mean plot sizes of irrigated and dry land in Punggur and Wonogiri were rather similar. In Punggur, more households had access to irrigated than dry land and 75 percent of those who had access to dry land also had access to irrigated land. In Wonogiri far fewer households had access to irrigated than dry land and only 6 percent of the households which had access to dry land also had access to irrigated land.

If compared to Punggur, farm households in Wonogiri were rather poorly off, compared to another poor area in Yogyakarta they were better off. In the DUKUH (hamlet) of Miri in the village of Srihardjo, the KABUPATEN of BANTUL, households with access to land had access to far smaller plots of agricultural land. Of the 116 households, 7 had no access to land at all, while 71 had access to up to .2 hectare. Worse is the pattern of land ownership of SAWAH or wet rice land. Of the 104 households which owned SAWAH 77 households or 74 percent owned up to .2 hectare (Penny and Singarimbun, 1973, Tables 4 and 3: 13 and 10).

The area of agricultural land households had access to was usually more than the area they cultivated. Especially when households had access to dry land, not all the land was cultivated at any one time. One of the reasons is that they often rotate the area being cultivated in order to return some of the soil nutrients. Moreover, especially among the transmigrants, household labor shortage, the lack of traction power, and their inability to hire additional hands caused them to cultivate only a relatively small proportion of their total land area. In addition, Javanese households usually depend on their home gardens for supplying their vegetable needs. Thus, those households which had access to agricultural land may have been cultivating part or all of their agricultural land only or they might also have been cultivating their home gardens. On the other hand, households which claimed not to have had access to agricultural land might still have cultivated land around their house.

Data on cultivated area is calculated from data on harvested area which was collected by crop. Mixed cropping was the usual pattern especially on dry fields. The transmigrants often grew rice and cassava on the same plot. Hence, the harvested area by crop was half the planted area. On irrigated land farmers grew rice exclusively. With the high yielding variety seeds multiple cropping was practiced. A maximum of two harvests was achieved because water was provided for one planting season only. In such cases the harvested area was recorded as twice the planted area. Thus, the cultivated area is computed as the sum of the harvested area by crop, in the case of mixed farming, and half of the harvested area in the case of multiple cropping.

Table 4.11 -Percentage Distribution of Households by Cultivated Area and Residence.

Cultivated Area (hectares)	Way Abung	Punggur	Wonogiri
< .25	5.5	5.9	31.4
.25 - .49	37.7	24.1	30.0
.50 - .74	37.5	24.4	22.1
.75 - .99	4.7	15.1	6.4
1.00 - 1.49	9.2	22.7	8.6
1.50 +	5.3	7.8	1.4
Number	379	357	140
Mean	.529	.716	.421

Source: 1976 Survey.

The data in Table 4.11 show some interesting findings. First of all, in Way Abung and Wonogiri, more households claimed that they cultivated some land compared to the number that had access to agricultural land (379 and 140 as compared to 373 and 134 households). This pattern is a result of households cultivating their homegardens. Among the Punggur sample, the reverse occurred with 367 households having had access to agricultural land while only 357 households were cultivating land. Second, most households were able to cultivate only very small areas. On average, among the transmigrant households the cultivated area was only .6 hectare. In Way Abung for 80 percent and in Punggur for 52 percent of those households which cultivated any

land, the plot sizes were less than the mean. For the Wonogiri households the average was only .4 hectare with 53 percent of the households cultivating less than the average. Third, compared to the amount of land the households had access to, transmigrants tended to cultivate only a small proportion. On the other hand, in Wonogiri there appears to be a tendency to cultivate almost all the land to which one has access. Fourth, while transmigrants in Way Abung had access to more land, transmigrants in Punggur cultivated more land. In addition, many of the farming transmigrant households in Punggur cultivated better quality land as a result of the availability of irrigation water. The consequences of these differences are reflected in the pattern of household expenditures, which is to be analyzed hereafter.

Since most of the studied households were poor their expenditures were mainly for food and clothing (On average food expenditures constituted 70 percent of all household expenditures). Such expenditures were usually made by women who were responsible for running their households. Therefore, these women became the informants for data on household expenditures.

Because the study concerns subsistence farmers, not all their food expenditures were real expenditures. Instead, information was collected to find out how much they would have had to spend if they had to purchase what they consumed. Market values given by respondents were used to determine levels of food expenditures.

There was great variation in the volume and combination of staples consumed throughout the preceding year. The variation was the least among the better off, with the wealthiest eating rice only. The

poorest identified four patterns of staple consumption between the big harvest and PACEKLIK, the time of scarcity before the harvest. Respondents first identified the number of months each of the patterns lasted and their daily intake. Because rice is the desirable staple, soon after harvest almost everybody ate at least some rice even if they did not produce rice themselves. Those who could not afford to eat rice only added cassava and/or corn to their diet (corn was a less desirable staple among the respondents). Over time, the balance shifted to cassava or corn. Substitution of cassava for rice was not at an equal weight basis. Instead, more cassava was consumed for a unit weight of rice. There was great variation in the quality of rice consumed as reflected in the per unit prices. Rice prices varied also over the agricultural cycle. Cassava prices varied according to season, stage of processing and location. Over the year, the consumption patterns varied in terms of both the quality and quantity of rice and the quantity of cassava and/or corn. A similar approach was used in collecting data on other household expenditures. It was up to the respondents to report the frequency that a particular item was purchased or paid for. These details were the basis for calculating total household expenditures during the preceding year (the results are presented in Table 4.12).

Since for most of the households, a great proportion of their expenditures were for food, the difference in the quality of land between Way Abung and Punggur affected the patterns of consumption in the two areas. With almost all having access to only dry land in Way Abung, while a substantial proportion of the households in Punggur had access to irrigated land, with similar sizes of cultivated land, households in Punggur lived better than those in Way Abung.

Table 4.12 -Percentage Distribution of Households by Annual Expenditures and Residence.

Household Expenditures (in Rp.1000)	Way Abung	Punggur	Wonogiri
10 - 49	18	2	2
50 - 74	22	7	7
75 - 99	17	13	18
100 - 124	16	18	15
125 - 149	11	19	16
150 - 199	9	23	22
200 - 299	5	10	11
300 +	2	7	9
Number	391	400	200
Mean	102	159	174

Source: 1976 Survey.

There are various concepts of poverty. In his study on Indonesia's income distribution, Hendra Esmara used four measures to determine an absolute standard of poverty: (1) based on per capita rice consumption; (2) based on consumption of nine essential commodities; (3) per capita expenditures; and (4) minimum nutritional requirements (1975). In designing the extension of the Way Abung project, the World Bank noted that in order to meet minimum nutritional requirements, the per capita rural subsistence income should have been Rp. 43,000 at 1975 prices (1976, Annex 2: 2). This

means a current annual requirement of Rp. 215,000 for a family of five members.* However, the report also mentioned that the per capita annual income in Way Abung was only U.S. $35, which equalled Rp. 14,525 or Rp. 72,625 per family of five, at the then current exchange rate (US $1=Rp.415). Penny and Singarimbun found that a Javanese family is said to be CUKUPAN (to have enough) if they could derive 1200 kilograms of rice equivalents from their SAWAH and home garden per annum (1973: 2-3). A similar standard was used by Sajogyo to indicate the poverty threshold (1977). An absolute standard of poverty thresholds has received wide acceptance in Indonesia, in preference over the often used measure by economists, of a US $ standard. Sajogyo used three poverty thresholds. For rural areas, those whose annual per capita expenditures were equivalent to 320 kilograms of rice were categorized as 'poor'; 240 kilograms of rice equivalents was used to categorize the 'very poor'; and 180 kilograms the 'destitute' (KOMPAS, 17 Nov. 1977). Redmana et al. used the 20 kilograms of rice equivalents as monthly per capita expenditures to measure incomes in their labor utilization study (1977, Vol. I, Table 3-19: 60). The per unit price that they used was Rp. 125 per kilogram in 1976 (also reported by Moir, 1980: 53-54). White (1978) and IBRD (1978) also used Sajogyo's poverty thresholds in their further examination of trends in income distribution in Indonesia.

Using the middle level standard suggested by Sajogyo, i.e. 1200 kilograms of rice equivalents for household expenditures, but a lower

---

*The commonly used standard household size in Indonesia.

per unit price of Rp. 100 per kilogram,* then the poverty line should have been Rp. 120,000 per household. (This is based on an average household size of 5 persons even though the average household in Way Abung consisted of 5.8 persons; in Punggur 6.4 and in Wonogiri 5.4 persons). At such a conservative estimate, among the selected households in Way Abung, 7 out of every 10 households were living below the poverty line of the 'very poor'. Both in Punggur and Wonogiri it was 4 out of every 10 households. On the other hand, very few households were able to fulfill their minimum nutritional requirements. Based on the standard used by the World Bank of around Rp. 200 thousand per annum, in Way Abung only 7 percent of the households achieved this level. In Punggur it was 17 percent and in Wonogiri 20 percent.

If however, a different measure is used, then the picture becomes more gloomy. The data allow for the computation of per capita expenditures at the household level. Per capita expenditures are the quotient of total household expenditures divided by the household size. The results are shown in Table 4.13. On the basis of an expenditure requirement of 20 kilograms of rice equivalents per month per person, the annual per capita requirements are 240 kilograms, which at Rp. 100 equals Rp.24,000 per annum. At this level of poverty threshold, members in 8 out of every 10 households in Way Abung were at least 'very poor'. The greatest increase is observed for Punggur, where members in 6 out of every 10 households would then be classified

---

*The government's stabilization program includes controls on rice prices. Hence, there was little variation in rice prices of the same quality between the transmigrant settlements and Java. However, intra-area variation was great because the wealthier could afford far better quality rice than the poor.

as living below the poverty line (At the household level, it was only 40 percent). Less discrepancy is observed for Wonogiri. At the per capita expenditures level, members of only every other household would be classified as living below the poverty line (at the household expenditures level it was 42 percent). These variations are of course due to differences in household size.

Table 4.13 -Percentage Distribution of Households by Per Capita Annual Expenditures and Residence.

Per Capita Expenditures (Rp.1,000)	Way Abung	Punggur	Wonogiri
< 10	18	2	1
10 - 14	24	15	8
15 - 19	22	25	18
20 - 24	16	21	24
25 - 29	7	13	15
30 - 34	6	6	12
35 - 39	2	6	7
40 - 44	2	3	2
45 - 49	1	2	2
50 +	2	7	11
Number	391	400	200
Mean	18.8	26.2	31.5

Source: 1976 Survey.

The picture at the other end of the continuum is also modified when using per capita expenditures instead of household expenditures. According to the World Bank standard, Rp. 43 thousand would have been required per person per annum to fulfill the minimum nutritional requirements. The change in index causes a decrease in the proportions of households obtaining this standard. For Way Abung, instead of 7 percent it was only 3 percent of the households who could have managed. In Punggur only 9 instead of 17 and in Wonogiri only 13 instead of 20 percent of the households could have done so.

The above analysis shows that an examination of the standard of living of a people on the basis of total household incomes and a standard family size often underestimates the real poverty conditions because many households consist of more than 5 members only. It is felt that the measure of per capita levels of consumption within a household better reflect the real situation. It appeared that Punggur with its longer existence and its irrigation system had gone a long way in improving the standard of living of its households, when measured in terms of the overall household expenditures, however, when the examination was done in terms of per capita expenditure within households, Punggur had not really made much more progress than Way Abung. Even the averages reflect the situation. At the household expenditure level, Punggur was fairly close to Wonogiri and 60 percent higher than Way Abung, while at the per capita level, Punggur was only half-way between Way Abung and Wonogiri.

In comparison to the rest of the country, the areas selected for study were very poor indeed. Based on monthly per capita expenditures recorded during the 1976 SUSENAS (National Socio-Economic Survey) and

using the poverty threshold of 20 kilograms of rice equivalents per capita at Rp. 100 per kilogram, only 22 percent of the households in rural Java-Madura spent less than Rp. 2,000 per capita per month. In other rural areas outside Java, it was only in 10 percent of the households that the per capita monthly expenditures were less than Rp. 2,000* (Biro Pusat Statistik, INDONESIA, SURVEY SOSIAL EKONOMI NASIONAL, VUS 79-29, 1979b Table 1: 1). However, Sajogyo used a slightly higher price of rice for 1976; Rp. 120 and Rp. 125 per kilogram for rural Java and outside Java respectively. As a result, he found that 40 percent of the population in rural Java were either 'destitute' or 'very poor'. For outside Java he arrived at 26 percent (1977). In comparison to the results from the current study, as a group, the respondents in Wonogiri resembled the population in rural Java. Such was however not the case with the transmigrants who lived in Lampung. In general, the standard of living of the people in Lampung is below the average for the people in the other islands; many of whom cultivate cash crops. The transmigrants are only subsistence farmers. In all three areas, most of the respondents were poor. At the per capita expenditure level, in Way Abung 80 percent were living below the poverty line, in Punggur it was 63 percent and in Wonogiri 51 percent. The level achieved in Punggur may be indicative of improvements in standards of living. However, the improvements have only recently been achieved due to the recent

---

*These data may not be exactly comparable because of differences in collection procedures. The report states that the data covers the period from January to December of 1976. However, instruction manuals state that the monthly expenditures referred to the one month preceding the interview, which for a year may be under- or over-estimated, depending on when the data were actually collected. Furthermore, they used local standard market prices while we found great intra-area variation in prices.

construction of the irrigation system. Almost all of the households in the transmigration areas depended on agriculture as their source of income. In Way Abung only 4 percent and in Punggur 8 percent of the households did not derive any income at all from agriculture. In Wonogiri, the effect of land limitation was that 32 percent of the households depended entirely upon non-agricultural sources of income. It is suggested that prior to the construction of the irrigation system, Punggur would have been similar to Way Abung.

4.4. SUMMARY AND CONCLUSIONS

In addition to highlighting a few similarities between transmigrants and stayers, in this chapter the emphasis has been on identifying differences. Two patterns of difference have been identified: between the studied areas and between the sexes. Due to criteria for selecting the women for whom fertility will be measured, the age distribution of all members of the selected households differed markedly from the age distribution of the general population in rural Java. The differences in the age distributions between males and females aged 15 years and over has been attributed to differences in ages at entrance into matrimony. Even though the differences in the proportions single between males and females in the sample have been affected by sampling design, the assertion that males tend to marry later than females is supported by the data for the general population of rural Java, for whom the proportions of single males aged 15-19 and 20-24 years were also substantially higher than the proportions of single females of the same ages. While the higher proportions of single females aged 15-19 and males aged 20-24 years

among the sample compared to rural Java were affected by sampling design, the differences between Way Abung and Punggur reflect a later age at first marriage among the sample in Punggur than in Way Abung. Similar patterns of difference have also been observed from the data on proportions single among those aged 10 years and over. The proportions of single males were higher than the proportions of single females and that both the proportions of single males and females were higher in Punggur than in Way Abung. While later age at entrance into matrimony among males compared to females is reflected by the higher proportions of sons and daughters of all ages, the difference becomes more pronounced among those aged 15 years and over. A Javanese pattern of preference of residence after marriage is indicated by the higher proportions of sons-in-law rather than daughters-in-law among the people in rural Java, including Wonogiri, as well as among the transmigrants in Way Abung and Punggur. Educational compositions show similar patterns of difference. More males than females had ever attended school and more people in Punggur had ever attended school than in Way Abung, Wonogiri or rural Java. Even though based on a dichotomous classification of those with no schooling and those with some schooling the sample in Punggur appeared to be better off than in other areas, in general the studied people were still rather poorly educated with very few having gone beyond elementary school. The rather low level of achieved education among the people aged 10 years and over is consistent with rather low levels of school attendance ratios for those aged 15-19 years. At those ages, students generally attend secondary school.* School attendance ratios were higher among

---

*Only 11 percent of students aged 15-19 years in Indonesia in 1976 were still attending elementary school (BP3K, 1976, Table 13).

males than females and higher in Punggur and Wonogiri than in Way Abung or rural Java. As a consequence, the proportions of people aged 10 years and over who were working during the previous year were found to be lower in Punggur and Wonogiri than in Way Abung or rural Java. Also as a consequence of differential patterns of school attendance ratios, the proportions participating in household maintenance activities varied accordingly. The proportions were lower among males than females, and lower in Punggur and Wonogiri than in Way Abung and rural Java.

It is only for such demographic and social characteristics that similarities were found between areas. If, however, economic characteristics were to be examined, then each area becomes identifiably different from another. In Way Abung, almost all working people were farmers. In Punggur, slightly fewer males and even fewer females were farmers because a substantial proportion were traders. In Wonogiri the proportions of farmers were the lowest. On the other hand, the proportions of male production workers and female traders were the highest. While about 7 out of every 10 workers in rural Java were farmers, about 3 out of every 10 were either traders, production workers, or had another occupation. With the majority being dependent on farming as their source of livelihood, patterns of land holding are important. Almost all households in Way Abung had access to agricultural land of fairly large sizes, which were, however, mainly dry land. In terms of accessibility and quality of the soil, households in Punggur were best off. Though somewhat smaller in size, many more had access to irrigated land. The households in Wonogiri were less fortunate with only two-thirds having access to agricultural land of rather small sizes and only very few having access to

irrigated land. Notwithstanding differences in accessibility to agricultural land sizes, in the end, only rather small holdings of similar size were cultivated at any one time. While there were similarities in the plot sizes of the cultivated area, differential soil quality produced different standards of living as measured in terms of annual household expenditures. Household expenditures were, however, made not only from livelihood acquired from agriculture, but also from non-agricultural activities. On average, households in Way Abung were the worst off while in Punggur they were somewhat better off, almost reaching the level of households in Wonogiri, of which many had cash and more steady incomes.

These patterns of differences are the result of environmental conditions. The descriptions of economic indices best reflect individual and household responses to ecological, economic and social forces. Even though most of the selected households were poor, those in Wonogiri were still somewhat better off than in either Punggur or Way Abung. It is the degree of dependence on agriculture which produced differences in the standard of living. Even though there were great differences in the sizes of accessible agricultural land, little variation was found in the sizes of cultivated land. The degree of dependence on agriculture is best reflected by the occupational composition of the work force. With almost all households in Way Abung having access to agricultural land and very limited opportunities outside agriculture, almost all working people had to be farmers. In Punggur too most households had access to agricultural land, but a substantial proportion participated in non-agricultural activities, especially as traders among females. It has been explained that Javanese culture and market forces have

contributed to such an occurrence. The ecology in Wonogiri had further contributed to even greater proportions of the working people participating in non-agricultural activities. With far fewer households having access to agricultural land, limestone dominating the physical make-up of the area and favorable market conditions inducing its processing, while economic and cultural factors contributed to sex-specific roles, the occupational composition became quite different from the patterns found in the transmigration settlements, and even deviated from the pattern of the general population in rural Java. With substantial proportions working outside agriculture, more monetary returns to labor were received and a better, although still poor, standard of living was enjoyed.

Differences in standard of living explain differences in school attendance. Compared to Way Abung, the somewhat higher standard of living enjoyed by households selected in Punggur and Wonogiri was consistent with equally higher school attendance. While it has been suggested that the standard of living among the Wonogiri sample resembled that of rural Java, since the data were not exactly comparable no inferences can be drawn about the relation between standard of living and school attendance in Wonogiri and rural Java. If, however, the degree of dependence on subsistence agriculture is indicative of the standard of living, then the higher dependence on farming of the general population in rural Java may reflect that they were somewhat worse off than the sample in Wonogiri, hence, relatively fewer people in rural Java were attending school.

As a consequence of resettlement transmigrants have been placed in areas with different environmental conditions from their origins. In this chapter it has been shown how environmental conditions have affected especially the economic characteristics of individuals. By comparing transmigrants with stayers in Wonogiri and rural Java the underlying assumption is that had the transmigrants remained on Java their characteristics should have resembled those of the general population in rural Java. In terms of economic conditions, the best transmigrants could have hoped to achieve if they stayed on Java would have been the average standard achieved by the population of the island, for, as explained in chapter 2, transmigrants are selected from among the poor and often landless people in high density areas. Instead, transmigrants in Punggur, an area which has received substantial development inputs, appear to have made some improvements in their standard of living. With no compulsory education, children's schooling is still a function of whether parents can afford to send their children to school or not. Education is therefore a good indicator of the standard of living of a group of people. Higher proportions of the sampled transmigrants in Punggur had and were currently attending school compared to rural Java. Conditions of the transmigrants in Way Abung had not yet improved as much. A high degree of dependence on subsistence farming left them few opportunities to earn cash incomes. The levels of achieved education and school attendance ratios among the youngsters in Way Abung still resembled those of the people in rural Java. If residents of Way Abung could expect to receive similar or even higher levels of development inputs as residens in Punggur, a better future may await them. The sample drawn from Wonogiri appeared to be better off and

not typical of the general population of rural Java. Levels of achieved education and school attendance ratios were higher among the sample residing in Wonogiri. The reason for them to be better off could be that, as mentioned in chapter 2, Wonogiri has had a long history of being a sending area of transmigrants and therefore, those who remained were somewhat better off than the 'average person' in rural Java.

The patterns of differences of individuals and household characteristics which have been discussed in this chapter have been explained in terms of environmental conditions. It has been shown how the interrelation between ecological, economic and social forces has produced the patterns of characteristics which have been identified for all members of the selected households. With resettlement transmigrants have changed their surrounding environmental conditions. The consequences of such changes on fertility will be examined in the following chapter.

CHAPTER 5

FERTILITY OF TRANSMIGRANT WOMEN

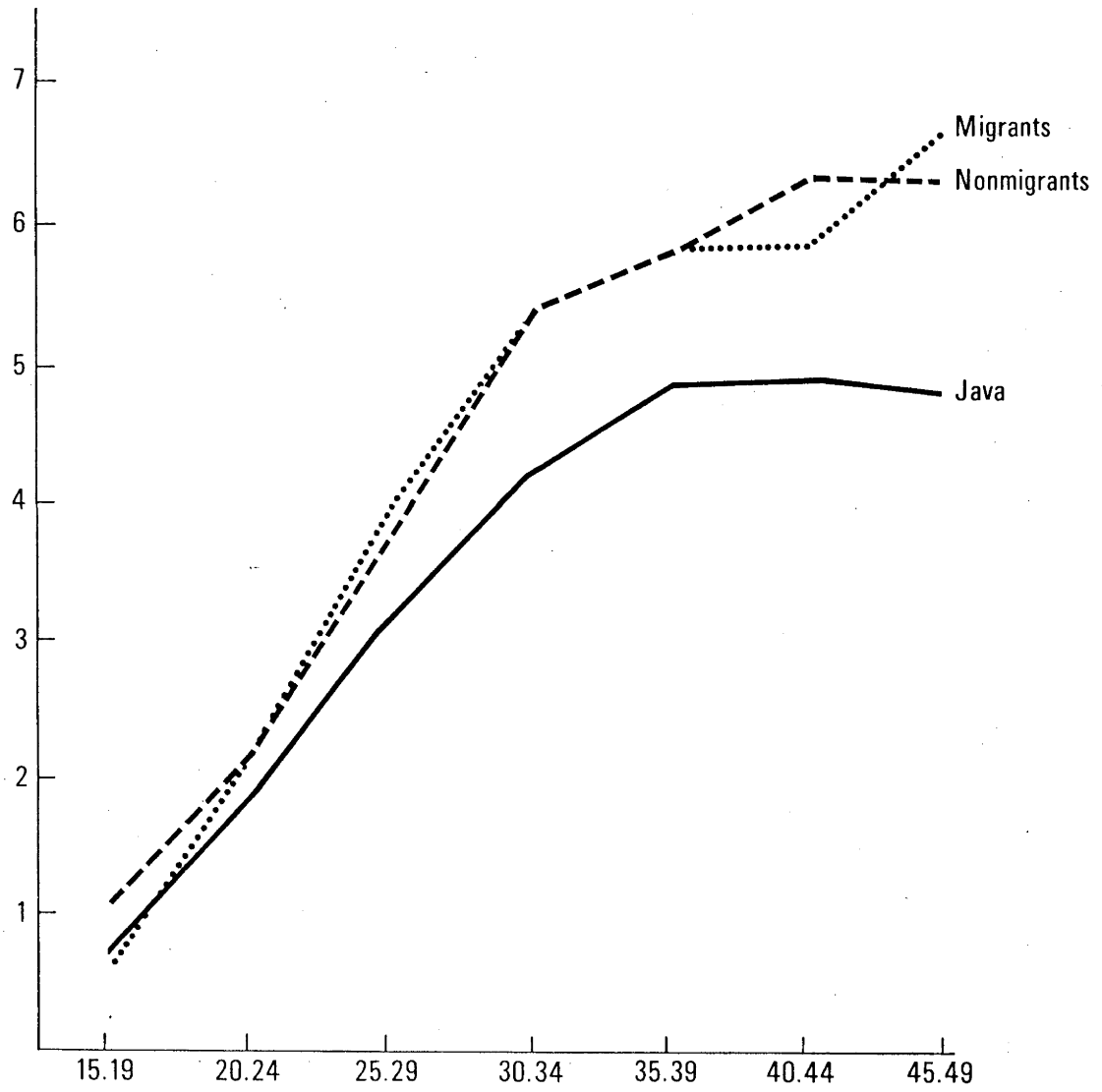
5.1. INTRODUCTION

In Indonesia there are two policies which directly affect population. The transmigration program has as its main objective the redistribution of Indonesia's population and the National Family Planning Program was established with the goal to reduce fertility. In describing the Transmigration Program it has been mentioned that it is the Government's intention to vastly accelerate the activities of the Program. However, very little is known regarding specific consequences of transmigration on fertility. Do transmigrant women support the goal of the National Family Planning Program or do they instead increase their fertility? This is the question which will be addressed in this study. Furthermore, the processes which cause changes in fertility of women as a consequence of transmigration will also be identified.

It is anticipated that the studied transmigrant women have fertility either higher than, or at the same level as the women they left behind in the areas of origin. This anticipation is not based on findings from other societies but rather the result of an earlier study. Using the 10 percent sample tape of the 1971 Indonesian population census, it was found that age-specific mean numbers of children ever born to migrants in Lampung were higher than for women

in Java as a whole* (Oey, 1975). Not only were differences found, but the differences also increased with age (see Fig. 5.1).

Fig. 5.1 -Mean Numbers of Children Ever Born per Ever Married Woman by Age, for Migrants and Nonmigrants in Lampung and Java.



Source: Oey, 1975, Figure 8-5: 228.

*Of the migrants in Lampung, 86.7 percent were born on Java, and could therefore be considered transmigrants.

As discussed in chapter 3, the anticipated higher fertility experienced by transmigrant women relative to the stayers is a function of the variation in the ages at transmigration, especially because, like migrants in general, most transmigrants too move before reaching the end of the peak ages at child bearing. Age at transmigration is therefore an important criterion in determining the impact of transmigration on fertility. Because the sample of transmigrant women was drawn from two settlements which differ in their duration of existence, there should be differences in the composition of transmigrant women by age at transmigration between these two settlements. This difference is also a function of the selection of women by their current age as one of the eligibility criteria for inclusion in the study was that they had to be between 25 and 44 years old at the time of the survey.

Table 5.1 shows the differences in the composition of transmigrant women in the two studied areas by age at transmigration and current age. The difference in the duration of existence between the two settlements is reflected by the fact that very few of those currently residing in Way Abung arrived before reaching age 15 years. Since Way Abung became an official transmigration settlement only in 1965, very few of its inhabitants could have arrived as children and be aged 25 or more at the time of the survey in 1976. Those who arrived as children and were currently aged 25 or more residing in Way Abung are what the government refers to as 'local transmigrants', i.e. those already in Lampung and allowed to move into a new transmigration settlement.

Table 5.1 -Percentage Distribution of Transmigrant Women in the Studied Areas by Age at Transmigration and Current Age.

Residence and Age at Transmigration	Current Age 25-29	30-34	35-39	40-44	Total
Way Abung					
0 - 14	12	2	1	--	4
15 - 19	30	12	3	1	12
20 - 24	46	38	15	2	26
25 - 29	12	34	38	13	24
30 +	--	14	43	84	34
Total	100	100	100	100	100
Number	101	98	98	94	391
Punggur					
0 - 14	81	53	16	6	39
15 - 19	14	33	43	15	26
20 - 24	3	9	26	52	23
25 - 29	2	4	9	14	7
30 +	--	1	6	13	5
Total	100	100	100	100	100
Number	99	98	102	101	400
Total Transmigrants					
0 - 14	46	27	9	3	21
15 - 19	22	22	23	8	19
20 - 24	25	24	21	28	24
25 - 29	7	19	23	13	16
30 +	--	8	24	47	20
Total	100	100	100	100	100
Number	200	196	200	195	791

Source: 1976 Survey.

Provisions are made for them, and they receive similar benefits to those of the new arrivals from the designated sending areas. On the other hand, in Punggur the percentages of the studied women who arrived as children are far higher but decline for older current age categories. The very low percentage of transmigrant women in Punggur aged 40-44 years who arrived before age 15 (6 percent) compared to those aged 25-29 years (81 percent) is again a function of the age of the settlement. Punggur was opened in 1953 and the survey was conducted 23 years later. Since the sample included women between the ages of 25 and 44 years only, most of those belonging to the 25 and 29 years age cohort arrived in Lampung as dependents of their parents. The proportion that came over as children rapidly declines with older age cohorts because the settlement is not sufficiently old. Even the youngest of the oldest age category, i.e. those currently aged 40 years, if they arrived in the settlement when it was first opened should have been around 17 years old. At that age, as will be shown in the next chapter, most of the studied women were married and therefore less likely to have arrived as dependents. The few (6 percent) of the transmigrant women in Punggur who were currently aged 40-44 years and transmigrated before age 15 were either 'local transmigrants' or they moved into the settlement at a later stage in the settlement's history from other settlements in Lampung and were therefore not beneficiaries of the government's scheme.

A shift can be observed in the concentration by age at transmigration categories from younger to older age cohorts. While almost half of the transmigrant women currently aged 25-29 years moved before age 15, almost half also of the oldest cohort moved at or after they were 30 years old. For the two five-year age cohorts in between

the lowest percentage is recorded for those who arrived in Lampung by age 30 and before age 15 while an almost equal distribution can be observed for other age at transmigration categories.

Table 5.2 -Percentage Distribution of Transmigrant Women in the Studied Areas by Current Age and Age at Transmigration.

Area and Current Age	0-14	15-19	20-24	25-29	30+	Total
Way Abung						
25-29	3.1	7.7	12.0	3.1	--	25.9
30-34	.5	3.1	9.5	8.4	3.6	25.1
35-39	.2	.8	3.8	9.7	10.5	25.0
40-44	--	.2	.5	3.1	20.2	24.0
Total	3.8	11.8	25.8	24.3	34.3	100.0
Number	15	46	101	95	134	391
Punggur						
25-29	20.0	3.5	.8	.5	--	24.8
30-34	13.0	8.0	2.3	1.0	.2	24.4
35-39	4.0	11.0	6.8	2.3	1.5	25.5
40-44	1.5	3.8	13.3	3.5	3.3	25.3
Total	38.5	26.3	23.0	7.3	5.0	100.0
Number	154	105	92	29	20	400
Total Transmigrants						
25-29	11.6	5.6	6.3	1.8	--	25.2
30-34	6.8	5.6	5.8	4.7	1.9	24.7
35-39	2.2	5.9	5.3	5.9	5.9	25.5
40-44	.8	2.0	7.0	3.3	11.6	24.6
Total	21.4	19.1	24.4	15.7	19.5	100.0
Number	169	151	193	124	154	791

Source: 1976 Survey.

Thus, while most of the studied transmigrant women in both settlements arrived in Lampung between the ages of 15 and 29 years, of the remaining women most of those currently aged less than 35 came as children and were currently residing in Punggur. On the other hand, most of those aged 35 years or over who arrived in Lampung at ages 30 or beyond were concentrated in Way Abung. In other words, aside from those who arrived between the ages of 15 and 29 years, the difference between Way Abung and Punggur is a difference in the generation of the migrants. This difference is better reflected by the data in Table 5.2. Among the sampled women in Way Abung only four percent arrived prior to reaching age 15 while in Punggur it was 39 percent. On the other hand, 35 percent of the sampled women in Way Abung arrived at age 30 or later while in Punggur only 5 percent did so. Furthermore, the young arrivals are concentrated among the youngest age cohort while the oldest arrivals are concentrated among the oldest age cohort. Interestingly, as a consequence of the reverse patterns of distribution of the studied women by age at transmigration found for the two settlements, the youngest and oldest arrivals each constitute about one-fifth of the total sample of transmigrant women.

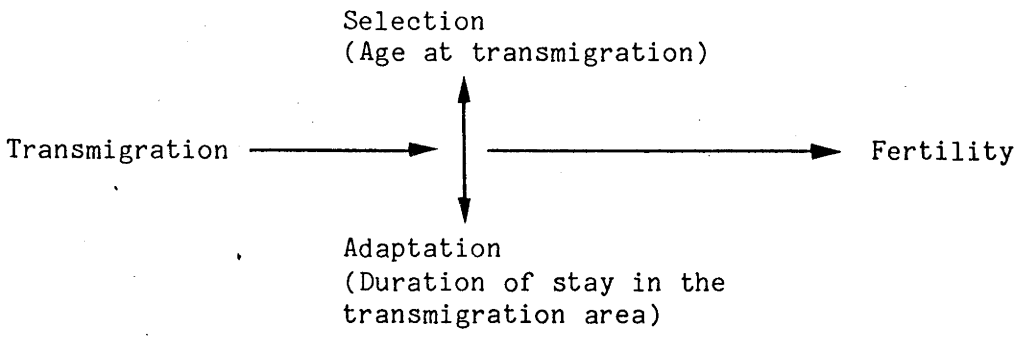
There are two reasons for the observed patterns of distribution by age at transmigration and current age. Firstly, it is a consequence of the ages of the selected settlements and the ages considered for inclusion in the study. Because the settlements were only ten and twenty years old, the majority of the women who transmigrated before reaching age 15 had to belong to the current age cohort of 25-29 years at the time of the survey. The second reason is that, at the other end of the age at transmigration continuum, among those who transmigrated after they were 30 years old, the majority had

to belong to the oldest age group. For this group, the pattern of the distribution by current age is a result of a truncation effect. Of course no woman in this age at transmigration category could have been 25-29 years old during the survey. The distributions of the other age at transmigration categories are in between the two extremes mentioned, with the majority shifting from the younger to the older current age categories according to the classification by age at transmigration.

5.2. THE FRAMEWORK

In chapter 3 we have presented the overall framework to study the impact of transmigration on fertility through various intervening factors. This framework is based on the framework developed by Hendershot in two studies (1970 and 1976). As a modification to Hendershot's studies, in which he was able to measure only the combined effects of the interrelations between selection and adaptation processes on fertility, in this study it is possible to identify the separate effects of each of these processes on fertility. This separation is made possible because fertility data were collected in pregnancy histories. Hence, the dynamics of fertility changes experienced by transmigrant women can be assessed. In this chapter we will concentrate on only that part of the framework which specifies the effects of selection and adaptation on fertility. The impact of transmigration on fertility through the interrelations between these two processes is shown in Fig. 5.2.

Fig. 5.2 -The Impact of Transmigration on Fertility Due to Selection and Adaptation Processes.



In terms of the two processes of selection and adaptation it is anticipated that until the time the women transmigrated their fertility was only slightly higher than that of the stayers, because the program is designed to favor those with stable marriages and proven fertility. Moreover, the longer the time spent in the transmigration settlement, the more likely they tend to adapt to and adopt high fertility behavior, because the environment in the destination tends to support high fertility. Thus, the consequence of the interrelation of both processes tends to raise fertility of transmigrant women relative to that of the stayers on Java. Furthermore, after controlling for current age, the interrelation between selection and adaptation can be considered in terms of a continuum with the following extremes at each end:

1. those women who transmigrated before age 15 have only adapted their fertility behavior to the environment in the settlement area and tend therefore to have substantially higher fertility than stayers;

   on the other hand,

2. those women who transmigrated after about age 30 are mainly affected by the process of selection and hence, their fertility tends to be only slightly higher than that of stayers.

This study will show that age at transmigration is a good indicator of selection while duration of stay in the transmigration area can be used as an indicator of adaptation.

5.3. METHODOLOGY

A comparative analysis will be used to assess the impact of selection and adaptation on the outcome of fertility of transmigrant women. The analysis of fertility is divided into two parts. In the first part, the pattern and levels of fertility of transmigrant women will be compared to that of women in the areas of origin of the transmigrant women. Through such a comparative analysis it can be established whether fertility of transmigrant women differs from that of the stayers. In the second part, more detailed analyses of fertility of transmigrant women will be carried out by comparing different groups of transmigrant women. By controlling for several variables, the transmigrant women can be divided into various categories, and through such a procedure the effects of the interrelated forces of selection and adaptation on fertility can be assessed.

In this study the women in the areas of origin of the transmigrant women are represented by women in rural Java and its subpopulation in Wonogiri. Data for rural Java are taken from secondary sources such as the 1971 Census and the 1976 Indonesia

Fertility Survey, which is part of the World Fertility Survey. Even though there is a difference of five years between the census and the survey for the current study, it is argued that fertility among the women of the relevant age cohorts hardly changed during the interim.* Data for Wonogiri were collected during the survey to supplement available secondary sources. Since Wonogiri is only one KABUPATEN of Java, the sample may not be representative of all of Java, as no specific area is expected to be.** Moreover, as shown in chapter 4, the sample selected from Wonogiri had more favorable social and economic characteristics than the average population of rural Java. It has been mentioned that the problem of small numbers could have contributed to the deviation from the general population of the wider area. Therefore, greater reliance is placed upon comparisons with rural Java as the area of origin of the transmigrant women. However, as shown in Table 5.3, the transmigrant women were neither equally nor proportionately distributed in terms of the total female population in

---

*As a matter of fact, for rural Indonesia, the mean numbers of children ever born to ever married women by current age was recorded to be slightly lower in the 1971 census than in the 1976 SUPAS II (Biro Pusat Statistik, 1975, Series D, Table 25: 111-112; and 1977, Tabulation Series Number 1, VP 78-02, Table 3: 22.

**On the basis of the 1971 Census, age specific fertility rates and total fertility rates were calculated for every KABUPATEN on Java and for rural and urban areas. For the rural areas of the KABUPATEN the following variation has been noted. For Wonogiri the total fertility rate was 5555 children per 1000 women for the decade of the sixties. For the same period, the lowest estimate was 3410 for Panarukan in East Java while the highest estimate was 7265 children per 1000 women for Lebak in West Java. The average for rural areas of the island was 5365 children per 1000 women (Cho et al., 1976, Table 2.3: 22-28).

the provinces of rural Java.*

Table 5.3 -Percentage Distribution of Transmigrant Women by Province of Birth and Current Residence.

Province of Birth	Way Abung	Punggur	Total Transmigrants
West Java	10	2	6
Central Java	61	37	49
Yogyakarta	10	7	9
East Java	19	54	36
Total	100	100	100
Number	391	400	791

Source: 1976 Survey.

Instead, while West Java was underrepresented, Central Java and Yogyakarta were overrepresented relative to the female populations in those provinces. The predominance of the Javanese (i.e. those coming from Central Java, Yogyakarta, and East Java) among these transmigrant women is not an accident. The design of the Program favors people from poor and high-density areas, which are more commonly found in Central and East Java and around Yogyakarta. Therefore proportionately more transmigrants should come from these provinces.

---

*According to the 1971 census, of the total female population in rural Java, 30.2 percent were currently residing in West Java, 31.3 percent in Central Java, 3.4 percent in Yogyakarta and 35.1 percent in East Java.

Another consequence of program implementation is also reflected when the data for Way Abung are considered separately from those for Punggur. Although ideally transmigration settlements should become the residence of people coming from various sending areas to speed up the process of national integration, in fact, settlements are often designated to receive transmigrants disproportionately from particular sending areas. Consequently, the majority of the women in Way Abung were born in Central Java (61 percent) while in Punggur the majority came from East Java (54 percent). Because of these disproportionate distributions of transmigrant women by province of birth and the regional variation on the island of most indices, comparisons with rural Java will be made on the basis of measures weighted by the composition of transmigrant women by their province of birth.

In addition, data for rural Lampung will also be considered. The purpose of including these data is not to show that transmigrants have assimilated into the culture prevailing in rural Lampung, since it is argued that women in these settlements have little communication with the outside world and are therefore not receptive to prevailing cultural norms and values outside their settlements (see chapter 3). Instead, the purpose of such an inclusion is to find out whether the selected transmigrant women resemble women in rural Lampung and can therefore be regarded as representative of the general province, or whether they are atypical. Furthermore, since cultural norms and values develop as responses to demands made by the surrounding environmental conditions, data for rural Lampung are presented to indicate results of behavioral responses to environmental conditions found in the province.

5.4. DIFFERENTIAL FERTILITY

The question of whether fertility of transmigrant women differs from that of other women in the wider area of their origins, is examined in terms of children ever born. The distributions by parity for the relevant age cohorts are shown in Table 5.4. The similarities in the distributions of ever married women aged 25-44 years by parity for rural Lampung, Way Abung and Punggur, and therefore all the transmigrant women, indicate that fertility of the studied transmigrant women is fairly representative of that of women in the province of destination. Interestingly, even for the interviewed women in Wonogiri too, the distribution by parity resembles that of the transmigrant women. However, while Wonogiri is a KABUPATEN of Java, the distribution for the Wonogiri sample deviates substantially from that for women in all of rural Wonogiri and rural Java. Far higer percentages of women in rural Wonogiri and rural Java never had a live birth compared to the sample of women selected from Wonogiri (9, 11 and 4 percent respectively). On the other hand, the proportion of women with high fertility, i.e. 7 children or more, is far higher among the sampled women in Wonogiri than in either rural Wonogiri or Java according to the 1971 census (28 as compared to 13 and 18 percent respectively). The higher fertility experienced by the sampled women in Wonogiri compared to rural Wonogiri or Java may be a function of the small number of women included in the study. Therefore, greater reliance is placed on data for rural Java to represent the patterns and levels of fertility among the stayers.

Table 5.4 -Percentage Distribution of Ever Married Women Aged 25-44 Years by Parity and Residence.

Parity	Rural Lampung*	Way Abung	Punggur	Total Trans-migrants	Wonogiri	Rural Wonogiri*	Rural Java**
0	7.5	3.8	4.0	3.9	4.0	8.8	11.2
1-2	15.5	17.9	12.5	15.2	19.0	22.5	22.7
3-4	24.9	28.6	22.7	25.7	27.0	31.5	26.9
5-6	24.8	23.5	31.0	27.3	22.5	24.1	21.4
7+	27.3	26.1	29.8	27.9	27.5	13.1	17.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number		391	400	791	200		

Sources: -1976 Survey.

*Based on Biro Pusat Statistik, 1971 POPULATION CENSUS, Series E, No. 8, and special tabulations for rural Wonogiri.

**Based on Biro Pusat Statistik, 1971 POPULATION CENSUS, Series E, Nos. 10-13.

Notes : *Weighted by the age distribution of transmigrant women.

**Also weighted by the distribution of transmigrant women by province of birth.

-No numbers are presented for rural Lampung, Wonogiri and Java since they are derived from the census.

The lower proportions of transmigrant women with zero parity compared to rural Java are as expected on the basis of the program which favors stable families, since marital instability is often associated with childlessness. Thus, these data tend to indicate a

selection in favor of transmigrant women who had given birth to at least one child. This difference should have the effect of slightly raising the average fertility of transmigrant women relative to that of the stayers. Moreover, while at least half of the women in rural Lampung and among the transmigrant women had given birth to 5 or more children, in rural Wonogiri and rural Java only two-fifths of the women had experienced the same fertility.

The distributions of women by parity indicate that transmigrant women in Way Abung and Punggur had higher fertility than those left behind in rural Java. Whether the same pattern of fertility difference persists after controlling for age can be examined from the data in Table 5.5. For each of the four age groups, the mean numbers of children ever born to transmigrant women are substantially higher than those for women in rural Wonogiri or rural Java, with a difference of at least one child in favor of the transmigrant women. When the group of transmigrant women is separated by their current residence then there appears some difference between Way Abung and Punggur. For those aged 25-29 and 40-44 years, the mean numbers of children ever born to transmigrant women in Punggur are .8 of a child higher than in Way Abung.

At the age specific level, the effects of small numbers for the interviewed women in Wonogiri produces mixed results. For those women aged 25-29 years the mean number of children ever born is similar to that for rural Wonogiri or Java. However, for increasingly older age categories, the difference in the means increases so that for women aged 40-44 years, the difference is up to two children. Therefore, fertility of the sampled women in Wonogiri cannot be used to represent

Table 5.5 -Mean Numbers of Children Ever Born by Current Age and Residence.

Current Age	Rural Lampung	Way Abung	Punggur	Total Trans-migrants	Rural Wonogiri	Rural Java*
25-29	3.5	3.0 (101)	3.8 (99)	3.4 (200)	2.7 (50)	2.8	2.8
30-34	4.8	5.0 (98)	4.9 (98)	4.9 (196)	4.4 (51)	3.7	3.9
35-39	5.5	5.6 (98)	5.7 (102)	5.7 (200)	5.1 (48)	4.5	4.5
40-44	5.4	5.4 (94)	6.2 (102)	5.8 (195)	6.6 (51)	4.5	4.6
Total	4.8**	4.7 (391)	5.1 (400)	4.9 (791)	4.7 (200)	3.9**	3.9**

Sources: -1976 Survey and based on Biro Pusat Statistik, 1971 POPULATION CENSUS, Series E, Nos. 8, and 10-13 and special tabulations for rural Wonogiri.

Notes : -The numbers in parentheses indicate sample sizes.

*Weighted by the distribution of transmigrant women by province of birth.

**Weighted by the age distribution of transmigrant women.

the stayers. These data reinforce the need to use secondary sources, which are based on all women or a far larger sample of women in rural Java.

While the distribution of women by parity for rural Wonogiri and rural Java appear to indicate different fertility experiences, the mean numbers of children ever born by age and for the total do not.

In fact, the indices are rather similar. Thus, there is further confirmation that the selected women in Wonogiri are neither representative of the KABUPATEN nor of rural Java in terms of their fertility. Then, because of the similarity in the fertility indices by current age between rural Wonogiri and rural Java and the broader representativeness of the rural Java data, it is considered sufficient to rely on rural Java to represent women in the areas or origin of the transmigrant women.

On the basis of the comparison of fertility differences between transmigrant women and women in rural Wonogiri and rural Java it can be concluded that transmigrant women have higher fertility than women in either rural Wonogiri or rural Java. Higher fertility of transmigrant women is not only observed for all women of the relevant ages but also when controlled for current age. The overall average difference is about one child. Furthermore, some difference in fertility of transmigrant women selected from the two studied areas has been observed. However, due to relatively small numbers, in the following analyses all the transmigrant women will have to be considered together as one group.

5.5. INTERRELATION BETWEEN SELECTION AND ADAPTATION

Having established that transmigrant women had higher fertility than women in their areas of origin, let us now consider the interrelation between selection and adaptation and its effect on fertility. As shown earlier in the chapter, transmigrant women moved at different ages. The time in their life-cycle that they transmigrate in relation to their reproductive period, especially

their peak reproductive period, is an important criterion which affects their selection and therefore also their adaptation.

5.5.1. THE EFFECTS OF SELECTION

In order to examine the extent of transmigrant women's selectivity with regard to their fertility, one must focus on a comparison of the experiences of transmigrant women while still on Java with that of the stayers. An index of fertility which can be used for this purpose is a measure of cumulative fertility up to specific ages. A special computer program was written for this purpose. This program allows for the estimation of the mean numbers of children ever born to a group of women as they grow older. Since births were recorded in pregnancy histories, with dates corresponding to pregnancy outcomes, which can therefore be converted into the relevant ages of the women, the number of children the women had given birth to as they passed through specific ages can thus be calculated. Furthermore, because the sample of women included in the study were between 25 and 44 years old at the time of the survey, all women had at least reached age 25 years. However, not all women had reached the various ages from 25 to 44 years. Therefore, the calculations of cumulative indices are based on discounting both the women as well as their live births if they had not reached particular ages after 25 years. Similar tabulations have been prepared using the 1976 Indonesia Fertility Survey, which is part of the World Fertility Survey. This survey is often referred to as the 1976 SUPAS III.*

---

*See chapter 6 for a discussion of the intercensal surveys.

During this survey, data were collected to represent all of Java and also the island of Bali. The published tabulations refer to these data.

Table 5.6 -Cumulative Mean Numbers of Children Ever Born Up to Exact Ages for Transmigrant Women Who Arrived in Lampung Aged 30+ and Women in Java Aged 35-44 Years.

Up to Exact Age	Transmigrants*	Java+
Number	154	2676
15	.15	.13
20	1.04	0.96
25	2.44	2.26
30	3.89	3.52

Sources: *1976 Survey

+Based on CBS and WFS, 1978, Vol. I, Table 6.17: 65.

Note : +Weighted for ever married women aged 35-44 years.

There are, however, some limitations with the data for the transmigrant women. Comparable estimates from SUPAS III are presented for consecutive five years. To make the relevant comparisons we will have to rely on only a few indices. As shown in Tables 5.1 and 5.2, most women transmigrated prior to their peak ages at child bearing. For these women all or most of their child bearing was experienced after resettlement. Therefore, in order to examine fertility behavior

of transmigrants while they were still on Java, the emphasis will have to be on those who migrated by the time they reached age 30 or over. Among this group of transmigrant women, 90 percent were aged 35-44 years (see Table 5.2). Hence, a comparison with the stayers is most appropriately done for women of similar ages (see Table 5.6).

These data for Java and Bali represent a broader area than the areas of origin of the studied women. It can be argued, however, that there is hardly any difference between these and more comparable estimates representing the stayers in rural Java. The inclusion of urban Java and Bali should not have greatly affected the estimates for rural Java because according to the 1971 census, of the women aged 35-44 years in Java and Bali only 16 and 2 percent respectively resided in urban Java and Bali (based on Biro Pusat Statistik, 1975, Series D, Table 3: 14-20). Moreover, there were hardly any differences in the relevant fertility indices of these areas. For these particular age categories, the mean number of children ever born to women in urban areas was 5.2 children, for rural areas it was 5.0 and for Bali it was 5.1, so that the overall mean was 5.1 children (CBS and WFS, 1978, Vol. II, Tables 3.1.5A and B: 118-120). Second, because these measures were only computed for the total sample for Java and Bali, no weighting by province of birth of the transmigrant women can be done. However, this shortcoming should not affect the results greatly, for there was also little difference between the weighted and unweighted fertility estimates derived from the 1971 census.

The comparison of the cumulative fertility estimates for transmigrant women prior to leaving Java with those for the stayers indicate that the transmigrant women had higher fertility than the stayers. Thus it can be said that transmigrant women were selected among those with higher fertility than the stayers. This is consistent with the finding that proportionately fewer transmigrant women had never given birth compared to women in rural Java (see Table 5.4).

These data however, do not allow for an exact estimation of the proportion of the difference in fertility between transmigrants and stayers which can be attributed to selection processes. Because transmigrant women are selected among the high fertility women from their origins, then their fertility should continue to be higher than that of the stayers if they had remained on Java, but the difference cannot be ascertained beyond age 30. It can, however, be argued that for these particular women, whose data are presented in Table 5.6, the difference up to their current fertility should not be much higher because the peak child bearing ages are 20-29 years and the impact of childless women is already fully included by age 30. Hence, it can be speculated that the difference would not greatly exceed .4 of a child. Up to exact age 30, the difference between the transmigrant women and the women in Java (and Bali) was .37 of a child. This difference is probably slightly higher than the difference between the transmigrants and stayers in rural Java. As mentioned above, the mean numbers of children ever born to women in rural Java was slightly lower than to women in urban Java or women in Bali. Moreover, the weighted indices of fertility by province of birth of the transmigrant women were slightly lower than the unweighted indices because women in rural West

Java, who had higher fertility than women in the rest of rural Java, were slightly underrepresented among the transmigrant women. Now, remembering from the data in Table 5.5 that for the total transmigrant women aged 35-39 years, the mean numbers of children ever born were 1.2 higher than for rural Java, then it can be surmised that between 30 and 40 percent of the total difference can probably be attributed to selection processes.

Whether the same pattern would apply to the other interviewed transmigrant women not included in this particular analysis cannot be established since they moved at younger ages and it will never be known what their fertility behavior would have been had they remained on Java.

In conclusion, it has to be acknowledged that an examination of migration selectivity with regard to fertility is not an easy, if not an impossible task. Human behavior is not predictable. Under different circumstances people behave differently. When transmigrants are resettled in an environment which differs from their origins they also tend to react differently. It is the adaptation with regard to their fertility which will be examined hereafter.

5.5.2. THE EFFECTS OF ADAPTATION

It has been mentioned that an important indicator of fertility change experienced by transmigrant women is age at transmigration. Since adaptation occurs over time, the complement of age at transmigration, duration of stay in Lampung, is an equally important variable which helps to explain the extent of changes in fertility

experienced by transmigrant women.

Consequences of Age at Transmigration

The underlying assumption of an analysis of fertility pattern by current age, that as the younger women become older they follow the same pattern of fertility as the older women, is not acceptable for transmigrant women. The reason for such a position is that, over time, which also means as women become older, transmigrant women may change their fertility behavior by adapting to life in the settlement. In other words, women who transmigrated at different ages may have made different adaptations to their environment by changing their social values and those aspects of behavior which are conducive to affect fertility.

In order to examine the impact of age at transmigration on fertility, while as noted in Tables 5.1 and 5.2, age at transmigration is positively related to current age and fertility is also a function of current age, it is necessary to control for current age. If, however, fertility were to be estimated by controlling for both age at transmigration and current age, then the problem of small numbers arises. Therefore, in order to partially overcome this problem, cumulative fertility indices up to specific ages have been computed. Such measures have the additional advantage of providing a dynamic pattern of fertility for women as they age rather than a cross-sectional picture of fertility. Moreover, cumulative fertility indices are better measures of fertility in this study because of the interest in identifying possible changes in fertility of women by the time they reached particular ages. While the tabulations were made

Table 5.7 -Cumulative Mean Numbers of Children Ever Born Up to Exact Ages by Age at Transmigration.

Up to Exact Age	Age at Transmigration 0-14	15-19	20-24	25-29	30+	Total
			Experiences on Java			
15	.18 (169)	.14 (151)	.19 (193)	.22 (124)	.15 (154)	.18 (791)
20	1.57 (169)	1.25 (151)	1.34 (193)	1.31 (124)	1.04 (154)	1.31 (791)
25	3.27 (169)	3.01 (151)	2.82 (193)	2.71 (124)	2.44 (154)	2.86 (791)
30	4.86 (77)	4.45 (107)	4.30 (143)	3.99 (110)	3.89 (154)	4.24 (591)
35	6.26* (23)	5.87 (63)	5.30 (97)	4.85 (73)	4.92 (139)	5.23 (395)
40	6.83* (6)	7.13* (16)	6.20 (55)	4.04* (26)	5.52* (92)	5.69 (195)
			Experiences in Lampung			

Source: 1976 Survey.

Note : The numbers in parentheses indicate sample sizes.

*Based on fewer than 30 cases.

for single years, the results are shown for every five years, starting at age 15 through to age 40 years. The lower limit is taken as the approximate onset of the reproductive period, while the upper limit, on the other hand, is not determined to be indicative of the end of the reproductive period, but rather because the oldest women in the study were only 44 years old.

There are several observations which can be made from the data in Table 5.7. The general pattern is that the younger the women were when they transmigrated, the higher their fertility. There is a pattern of adaptation implied by the data. The comparisons of the different groups of transmigrant women who are classified by their ages at transmigration, can be translated into different durations of stay in the settlements. From such a comparison it appears that the longer they have lived in the settlement the higher their fertility. Those who transmigrated before they were 15 years old and had all their fertility experience in the settlement, had far higher levels of fertility at each specific age compared to those who transmigrated at older ages and had therefore part or most of their reproductive life in the area of origin. A comparison of, for instance, three age at transmigration categories indicates the following. For the youngest age at transmigration category, fertility levels increase from 0.2 children when they were 15 years old to 6.8 children by the time some of the members of the group had reached age 40; for those who transmigrated between the ages 20-24, the rise is from 0.2 to 6.2; and for those who transmigrated after they were 30 years old, the comparable indices show an increase from 0.2 to 5.5 children per woman. While there is practically no difference in the levels of fertility between different age at transmigration categories up to age 15, as they age, it can be observed that the difference increases to approximately half a child between each of the categories being compared.

In addition, on the basis of the above data the pattern of fertility increase between successive five-year ages can also be assessed. The differences in the mean numbers of children ever born

between successive five year ages indicate the additional fertility experienced during the intervals. In Table 5.7 we have drawn a diagonal which separates the fertility experienced before and after transmigration. The estimates above the diagonal reflect the experiences while still on Java and those below the diagonal indicate the experiences in Lampung.

Table 5.8 -Differences in Cumulative Mean Numbers of Children Ever Born between Exact Ages by Age at Transmigration.

Age Intervals	Age at Transmigration 0-14	15-19	20-24	25-29	30+
			Experiences on Java		
15-20	1.39	1.11	1.15	1.09	.99
20-25	1.70	1.76	1.48	1.40	1.40
25-30	1.59	1.44	1.48	1.28	1.45
30-35	1.40*	1.42	1.00	.86	1.03
			Experiences in Lampung		

Source: Table 5.7.

Note : The last five year interval is excluded due to small numbers emaining by the time some of the women reached age 40 years.

*Only 23 cases were left by the time this category of women reached 35 years.

Rather interesting patterns emerge from the data in Table 5.8. Though not conclusive, the data appear to indicate the importance of transmigration itself on fertility. While the transmigrant women were still on Java until the interval during which the move took place incremental fertility does not differ within age intervals. However, during the interval following the move a sudden rise in the incremental fertility can be observed and this higher level is then retained. These inferences are drawn on the basis of the first three age intervals. Consider for instance the increments for the interval between ages 15 to 20 years. The highest incremental fertility was experienced by women who moved when they were aged 0-14 years, while for other age-at-transmigration categories the estimates are lower and rather similar. For the interval between the ages 20 and 25 years the rise in the increments can be observed for those women who migrated when they were 15-19 years old as well as for those who migrated under age 15. If this pattern were to continue then the rise in the first increment during the interval of 25 to 30 years should have been for those transmigrating when they were 20-24 years old. The pattern is somewhat disturbed by the similarity in the level of increments for those women who transmigrated when they were 30+ years old and those transmigrating when they were 0-14, 15-19 and 20-24 years old. Notwithstanding the latter-mentioned weakness in the pattern, these data imply that the process of transmigration itself may be more important than the age at which they transmigrated in affecting the outcome of their fertility.

Moreover, the data also indicate that generational differences are less relevant in affecting fertility changes. If those who arrived in Lampung as children can be considered second generation

migrants while those who were resettled as adults were first generation migrants, then the difference in generation has not caused differences in incremental cumulative fertility between two successive five year ages.

The observed change in fertility is also not settlement area specific. From the data in Table 5.2 it has been observed that the second generation of transmigrant women were mainly residents of Punggur and those who were resettled between the ages of 15 and 29 years were almost equally divided between Way Abung and Punggur. Therefore, the similarity in the incremental cumulative fertility between two successive five-year periods for the second and first generation of transmigrant women also suggests that the area of settlement has not affected the pattern of fertility change.

Instead, as has been suggested above, it is the transmigration process itself which is the determinant of fertility change. Therefore it is argued that the similarities in the pattern and levels of fertility between the studied transmigrant women and women in rural Lampung (see Tables 5.4 and 5.5), are a consequence of adaptations to being transmigrants. The implication of becoming a transmigrant is that one is resettled into a new environment and becomes the beneficiary of various types of assistance. Thus new opportunities arise. Consequently new needs arise also. The fulfillment of these needs develops new habits and eventually new norms and values, including those regarding family size. It is therefore argued that the observed changes in fertility are a consequence of having to adopt a life style which differs from the life style followed in their areas of origin.

Table 5.9 -Cumulative Mean Numbers of Children Ever Born Up to Exact Ages by Current Age for Women in Java and Bali.

Up to Exact Age	Current Age 25-29	30-34	35-39	40-44
15	.13	.14	.14	.11
20	.96	1.02	1.02	.89
25	2.31	2.37	2.31	2.20
30		3.62	3.57	3.46
35			4.53	4.53
40				5.17
Number	1576	1443	1422	1254
Percentage Ever Married	94.9	98.0	98.5	99.2

Source: Based on CBS and WFS, 1978, Vol. I, Table 6.17: 65.

Note : These data are weighted by the proportions ever married.

Furthermore, the changing pattern in fertility of transmigrant women the longer they stay in the transmigration settlement is not a function of differences between younger and older cohorts but rather due to adaptations to life in the settlement. In support of this assertion it has been found that the same cumulative fertility indices for women in Java show no changing trend in fertility levels up to specific ages for successive cohorts (see Table 5.9). Instead, fertility levels for the relevant cohorts of women by the time they

reached a particular age tend to be fairly constant.*

If, however, we examine similar data for the transmigrant women, these are more indicative of a change, where younger age cohorts had higher cumulative fertility by the time they reached a particular age compared to older cohorts (see Table 5.10).

Table 5.10 -Cumulative Mean Numbers of Children Ever Born Up to Exact Ages by Current Age for Transmigrant Women.

Up to Exact Age	Current Age			
	25-29	30-34	35-39	40-44
Number	200	196	200	195
15	.17	.24	.18	.12
20	1.35	1.45	1.27	1.16
25	3.00	3.00	2.89	2.55
30		4.54	4.25	3.92
35			5.42	5.04
40				5.69

Source: 1976 Survey.

The negative relation between cumulative fertility, and current age is

---

*These data also support the use of the 1971 census to represent the women in the areas of origin of the transmigrant women.

a consequence of adaptation. The younger the birth cohort, the more they are composed of those who transmigrated at younger ages and therefore the longer they have lived in the transmigration area. From Tables 5.7 and 5.8 it was observed that cumulative and incremental fertility experiences were higher after transmigration. Consequently, the younger the birth cohort the higher their cumulative fertility levels.

Consequences of Duration of Stay in the Transmigration Area

The effect of duration of stay in the transmigration area on fertility has so far only been indirectly inferred. This inference can also be directly substantiated by controlling instead for duration of stay. However, prior to examining the effects of duration of stay on fertility, let us first examine the current age and age at transmigration distributions when controlled for duration of stay. These are shown in Tables 5.11a and 5.11b. From the data in Table 5.1 and 5.2 it was observed that for the studied women, current age is positively related to age at transmigration. The data in Table 5.11a also indicate a positive, but weaker relation between current age and length of stay in the transmigration area. The highest percentage shifts from the youngest current age cohort and shortest duration of stay category to the highest age cohort and longest duration of stay category.

While current age and age at transmigration are positively related, as are current age and duration of stay, from the data in Table 5.11b it appears that age at transmigration and duration of stay are inversely related. This raises the question as to whether there

Table 5.11a -Percentage Distribution of Transmigrant Women by Duration of Stay in the Transmigrant Area and Current Age.

Current Age	Duration of Stay in the Transmigration Area 0-9	10-14	15-19	20+
25-29	32	21	22	25
30-34	25	27	30	19
35-39	22	27	33	21
40-44	21	25	15	35
Total	100	100	100	100
Number	223	255	126	187

Table 5.11b -Percentage Distribution of Transmigrant Women by Duration of Stay in the Transmigration Area and Age at Transmigration.

Age at Transmigration	Duration of Stay in the Transmigration Area 0-9	10-14	15-19	20+
0-14	-	7	37	56
15-19	3	25	34	20
20-24	24	26	22	24
25-29	24	24	7	-
30+	49	18	-	-
Total	100	100	100	100
Number	223	255	126	187

Source: 1976 Survey.

is an anomaly. At first glance this appears to be the case. A closer examination, however, clarifies the apparent anomaly. First of all those cells for which there are no cases in Table 5.11b are a result of a truncation effect due to the selection of transmigrant women by age. Thus, no women in the sample could have migrated before they reached their fifteenth birthday and have lived in the transmigration area less than ten years because the youngest women included in the study were only 25 years old at the time of the survey. The same holds true for the oldest age at transmigration and duration of stay categories because the oldest women in the sample were only 44 years old at the time of the survey. Secondly, the apparent contradiction can be explained in terms of the data in Table 5.11a, which indicate a rather weak positive relation between current age and duration of stay. Let us for instance consider the 0-9 years duration of stay category. Even though the highest percentage, when controlled for current age, is for those women aged 25-29 years, the highest percentage when controlled for age at transmigration is for those who transmigrated after they had reached age 30 and over. This latter category, which comprises 49 percent, consists primarily of a combination of the last three current age categories. Furthermore, the concentration in this cell is also consistent with the data in Table 5.1 which shows that the highest percentage of women who transmigrated when they had reached age 30 or over is for women who belonged to the age cohort 40-44 years during the survey. The same argument applies for the other duration of stay categories shown in Table 5.11b. Thirdly, duration of stay in the transmigration area has to be negatively related to age at transmigration because, controlled for current age, these two variables complement each other. As a

result of the age limitations, a woman who transmigrated at a young age had, by definition, to have been in the transmigration area for a long time, and vice versa. Thus, the apparent anomalous relations between the three variables of current age, age at transmigration and duration of stay are a function of the fact that the transmigrant women were purposely selected in terms of their current ages during the survey.

Table 5.12 -Cumulative Mean Numbers of Children Ever Born Up to Exact Ages by Duration of Stay in the Transmigration Area.

Up to Exact Age	Duration of Stay in the Transmigration Area			
	0-9	10-14	15-19	20+
15	.18 (223)	.19 (255)	.13 (126)	.18 (187)
20	1.17 (223)	1.26 (255)	1.28 (126)	1.56 (187)
25	2.64 (223)	2.73 (255)	2.95 (126)	3.25 (187)
30	4.08 (152)	4.03 (201)	4.27 (98)	4.67 (140)
35	5.15 (96)	4.89 (133)	5.26 (61)	5.72 (105)
40	5.83 (46)	4.86 (64)	5.05* (19)	6.58 (66)

Source: 1976 Survey.

Note : -Numbers in parentheses indicate sample size.

*Based on fewer than 30 cases.

Since age at transmigration and duration of stay in the transmigration area are complementary variables, and age at transmigration has been found to be inversely related to fertility, then duration of stay should be positively related to fertility. The data in Table 5.12 confirm such a relation. When the groups of transmigrant women, as categorized by duration of stay, reached a specific age, the longer they had lived in the transmigration area the higher their fertility. This positive relation between the two variables confirms the earlier drawn inference on the basis of the analyses of fertility indices controlled for age at transmigration and current age: over time, transmigrant women adapt to the environment of the transmigration settlement by increasing their fertility.

5.6. SUMMARY OF FINDINGS

On the basis of a framework developed by Hendershot (1970 and 1976), this chapter sought to examine the impact of transmigration on fertility through the processes of selection and adaptation. While the final outcome, as measured in terms of the mean number of children ever born by current age, reflects the combined consequences of selection and adaptation processes, the data collected for the current study, which were collected in pregnancy histories, allow for the examination of the separate effects of the two processes on fertility. The findings indicate the following:

1. The combined effect of the interrelation between selection and adaptation processes is that transmigrant women had higher fertility than the stayers on Java.

2. Until resettlement, transmigrant women had slightly higher fertility than women on Java. Therefore, it can be concluded that transmigrant women were selected from among those with slightly higher fertility than the average stayers on Java. The design of the transmigration program, which favors women of proven fertility, has contributed to the difference, so that the proportion of childless transmigrant women was smaller than the proportion of childless women in rural Java.

3. The younger the women were when they transmigrated, the higher their fertility.

4. For women who moved before the end of the peak childbearing ages, incremental cumulative fertility rose sharply in the five-year interval following the interval during which the women transmigrated and remained at the higher level thereafter. Therefore, the importance of the resettlement itself in affecting fertility should be emphasized for it appears to be more important than the age at which the movement was made.

5. In general, transmigrant women adapted to their new surroundings by raising their fertility and maintaining it at higher levels than when they were still on Java. Consequently, the longer the time they spent in the transmigration area, the higher their fertility.

6. The mean number of children ever born by current age for transmigrant women was found to be higher than that of the stayers. Even though transmigrant women were selected from among the women in rural Java who had slightly higher fertility than the

stayers, among the group of the studied transmigrant women a greater proportion of their reproductive lives was spent in the transmigration area where it had been found that their fertility rose relative to their experiences prior to departure from their origins. Therefore it is concluded that the higher fertility experienced by transmigrant women is primarily due to adaptation processes to life in the new environment of the settlement.

In this chapter the consequences of transmigration on fertility through the two processes of selection and adaptation have been examined. The heavy emphasis on the transmigrant women led to a reliance on secondary sources for data on the areas of origin of the transmigrant women. Secondary sources are of course often not strictly comparable. Consequently, in this study we have not been able fully to explain fertility differences between transmigrant women and stayers in terms of the contribution of the separate effects of the two processes. This is an area which needs to be studied in far greater detail, especially since the Indonesian Government is determined to vastly expand the transmigration program, while so little is understood concerning the consequences of resettlement on fertility. The above analysis indicates that fertility rises as a consequence of transmigration. This finding is contradictory to the objective of the National Family Planning Program which is to reduce fertility.

Furthermore, by focussing on the direct consequences of selection and adaptation processes on fertility we have not yet addressed ourselves to the question of how these processes affect fertility. It

has been postulated in chapter 3 that the effects are through several intervening variables. The following chapters will be devoted to an examination of the consequences of the intervening variables on the fertility of transmigrant women.

CHAPTER 6

NUPTIALITY

We have examined the effects of transmigration on fertility through the processes of selection and adaptation, which are in turn a function of age at transmigration and duration of stay in the transmigration area. This chapter will be devoted to an examination of a few of the most basic determinants of fertility. Since these determinants are examined for the purpose of explaining the patterns and trends of fertility, the analysis will follow the framework set out in chapter 3 in that it is directed at finding out whether these determinants for transmigrant women are affected by the processes of selection and adaptation. Basically, this is a chapter on nuptiality. This analysis will concentrate on three aspects of nuptiality: current marital status, first marriage and marital instability. The purpose of is to ascertain whether higher fertility observed amongst transmigrant women compared to stayers can be attributed to differences in marriage patterns.

The identification of similarities or differences in marriage patterns between transmigrant women and stayers is again made by comparison with rural Java. From the preceding chapters it has been learned that the supplementary data collected from a small sample in Wonogiri were not representative of rural Java in general. Therefore, as a more reliable source of information on rural Java, secondary sources of data will be utilized. The first source is the 1971

Population Census conducted by the Central Bureau of Statistics (CBS). Increasing activities in population research led the CBS to conduct three rounds of Intercensal Surveys in 1976 (the following census, which was originally planned for 1981, because of the forthcoming elections, was brought forward to 1980). The first round, SUPAS I, is a household listing covering some 257.1 thousand households. This survey was conducted between 12 February and 19 March. During this phase a limited amount of information was collected on all household members, consisting of name, relation to household head, sex, age, marital status, and own mother status. The second round, SUPAS II, which was conducted between 26 February and 30 March, is the most comprehensive, covering a great variety of characteristics of both households and individuals. SUPAS II is based on a subsample of SUPAS I and covered 60.7 thousand households. In addition to characteristics of individual members, questions were also asked of ever married women concerning their marriages, fertility and related aspects. Household information covered such topics as housing conditions, household assets as well as household income and expenditures. Then, the third phase, called SUPAS III, was the Indonesia Fertility Survey, part of the World Fertility Survey (WFS). Data for SUPAS III were collected during April and May. Unlike SUPAS I and SUPAS II which covered all provinces of Indonesia, SUPAS III was confined to the islands of Java and Bali only (which in 1971 contained 66 percent of the country's population). Similar to SUPAS II, SUPAS III was again a subsample of SUPAS II, resulting in the inclusion of all ever married women aged less than 50 years living in 10.5 thousand households (Biro Pusat Statistik, 1976a: 4 and Appendix B; and CBS and WFS, 1978: 3-4). Another source of secondary

data is the 1973 Fertility-Mortality Survey (1973 F-M Survey) conducted by the Demographic Institute of the Faculty of Economics, University of Indonesia.

6.1. CURRENT MARITAL STATUS

Current marital status was a criterion of eligibility for inclusion in the survey. However, a different procedure was adopted in the selection of women by marital status from that by age. For the age selection, a definite quota for each of the five-year age groups was to be fulfilled while no such quota was determined for marital status. The only criterion was that the selected women had to be ever married.

Considering that the requirements of eligibility for transmigration,* and certain features of agricultural production in the transmigration area, tend to support greater marital stability among transmigrants as compared to the stayers in rural Java, it is not surprising to find that a larger proportion of transmigrant women were currently married. Among the sampled transmigrant women in Way Abung and Punggur 98 and 92 percent were currently married while only 85 percent of the women in rural Java were currently married (see

---

*As explained in chapter 2, in order to be an eligible applicant for transmigration, one had to be married.

Table 6.1)* Selection of transmigrants favors those living in stable unions. In rural Java most of the women in the age categories being studied had been married: 96.2 percent of the women were ever married according to the 1971 Census** (weighted by the proportional distribution of the transmigrant women by province of birth and age).

---

*Due to changing categories and definitions between 1971 and 1976, there is some confusion about the composition of the different categories. It has been argued that the category 'married' in the 1971 Census is comparable to a combination of the two categories 'married' and 'separated' in SUPAS II (Hull and Riningsih Saladi, 1977; and McDonald, 1978), rather than that the 'separated' in 1976 were included in the 'divorced' category in 1971. From the interviewers' manual it is not clear whether it was actually the case. For the 1971 Census 'married' was defined as:

> Those who had 'married' status at the time of the Census, WHETHER THEY WERE LIVING TOGETHER OR APART (my emphasis). In this case, it includes not only those who were legally married (according to ADAT, religion, state, or other laws) but it also includes those who were living together and were considered by the community as husband and wife. (BPS, no date: 27).

and 'divorced' was defined as:

> Those who had been divorced from their spouse and had not remarried. In this case it includes THOSE WHO WERE NOT LEGALLY DIVORCED (my emphasis, BPS, no date: 28).

It is because the 'married' category was to include 'those living apart' and the 'divorced' category 'those not legally divorced' that the uncertainties arise.

Since, however, the data are presented here only for the purpose of comparing the marital status composition of transmigrant women and the women left behind in rural Java, rather than an analysis of trends of marital status composition for rural Java, it is not necessary to attempt to resolve this issue.

**According to SUPAS I this proportion is 98.5 percent (special tabulations) and SUPAS II recorded 98.6 percent ever married (special tabulations). Both figures are weighted by the proportional distribution of transmigrant women by province of birth and age. These figures are however not necessarily indicative of a trend, but may rather be indicative of differing sampling procedures and sizes or to changing definitions.

Table 6.1 -Percentage Distribution of Ever Married Women Aged 25-44 Years, by Current Marital Status and Residence.

Current Marital Status	Way Abung*	Pung-gur*	Rural Java** 1971 Census	1976 SUPAS 2	1976 SUPAS 3
Married	97.7	92.3	84.7	84.7	85.1
Widowed	2.0	7.0	10.3	9.4	8.8
Divorced	.3	.5	.5	4.0	4.5
Separated	.1			1.8	1.6
Not Stated				.1	
Number	391	400			

Sources: *1976 Survey.

**Based on Biro Pusat Statistik, 1971 POPULATION CENSUS, Series E, Nos. 10-13, and special unpublished tabulations from the Intercensal Surveys.

Notes : **Standardized by the proportional distribution of transmigrant women by province of birth and current age.

Many Javan marriages are dissolved through divorce,* Following

---

*During 1973, 1974 and 1975, on the island of Java, excluding Jakarta, for every three registered marriages about one divorce was also filed (Based on Biro Pusat Statistik, 1975, Table II.3.2.: 55; 1976, Table II.3.1.: 40; and 1977, Table II.3.2.: 59). Even though the President presented a proposed Marriage Bill to Parliament on July 31, 1973, heavy opposition delayed the passage of the Bill. (A good description of the hectic debates that followed the presentation of the Bill was prepared by Gandhi-Lapian, 1979.) Known as the 1974 Marriage Law, it finally became effective only on October 1, 1975 (Wantjik Saleh, 1976: 2-3). Consequently, the number of registered divorces declined drastically during 1976, when only 13 divorces were registered for every 100 marriages (Biro Pusat Statistik, 1978, Table II.3.2.: 59).

divorce, women often return to their parental homes.* Such opportunities are less available to women who have moved to transmigration areas. Furthermore, the re-marriage market is more limited in transmigration areas. Since families are given agricultural land, life in these settlements demands the labor input of whole families (both males and females) because usually there is a shortage of labor in these settlements** and transmigrants are often too poor to hire labor from outside the settlements. It is therefore more likely that transmigrant women lived in marital unions. Thus, the fact that proportionately more transmigrant women than women in rural Java were currently living in marital unions can be attributed to both selection and adaptation processes. Program implementation favors those transmigrants living in stable unions and the social and physical conditions of the transmigration settlements further reinforce the desirability of stable unions.

6.2. FIRST MARRIAGE

The studied women are peasants who can reasonably be expected to be following traditional norms. In such traditional communities, teenage promiscuity is unlikely, so that the relatively rare instances of sexual unions outside legal marriage tend to be marriage-like

---

*The results of a survey on nuptiality in a Javanese village recorded that 26 out of 44 or 59 percent of the women whose first marriages ended in divorce returned to their parents' homes while 12 or 27 percent stayed in the same residence (Kasto, forthcoming).

**Labor shortage in relatively 'new' transmigration settlements has been claimed to be one of the reasons for the fact that not all the land allotments were currently cultivated (Hameed, 1975 and 1976).

relationships which receive a degree of social tolerance.* Furthermore, because most Javan women of the ages being considered in this study married early (a parental preventive measure to avoid the possibility of promiscuous relationships, H. Geertz, 1961: 56), age at first marriage is here considered to be co-terminous with age at entry into sexual unions (the first of the Davis and Blake, 1956, 'intercourse variables').

However, when some marriages are not consummated or consummation is delayed (Singarimbun and Manning 1974a: 19-20; 1974b; V. Hull, 1975: 214-217; and Chapon, 1976: 39-41), age at first marriage is not always a valid substitute for 'age at entry into sexual unions' (Davis and Blake, 1956). Because no data were collected which allow for the calculation of exact age at entry into sexual unions, as another determinant of the onset of fertility, age at birth of the first child will also be examined.

6.2.1. AGE AT FIRST MARRIAGE

It was not until the Demographic Institute of the Faculty of Economics, University of Indonesia, conducted the 1973 F-M Survey that large-scale marriage history data were collected. Until the 1971 census, age at marriage could only indirectly be estimated using Hajnal's (1953) method, producing the Singulate Mean Age at Marriage

---

*Note the definition for 'married' used in the 1971 Census cited above. For the Intercensal Surveys similar definitions were used (Biro Pusat Statistik, Buku Pedoman SUPAS I, 1976c: 16; SUPAS II, 1976d: 11). Such definitions imply a recognition by an official institution that non-legal marriages exist in Indonesia.

(SMAM). This measure had been useful in the past when no data were available on actual age at marriage of ever married women.* Since the 1973 F-M Survey, there have appeared two other major sources which include information on age at first marriage. Both of them were collected by the CBS. These two sources of data are SUPAS II and SUPAS III discussed above.

Mean ages at first marriage by current age and residence are presented in Table 6.2. There are three general observations to be made regarding these data. First, the most striking feature of these data is that Javan women tended to marry at rather young ages with means varying from as low as 14.9 to 16.6 years.** Second, it appears that the mean ages at first marriage hardly changed with younger cohorts of women, except perhaps for slightly higher levels for the youngest cohort of women, those currently aged 25-29 years. Third, the mean ages at first marriage of the women selected for study resembled those of women in rural Java as recorded in SUPAS III, which were all lower than those recorded during SUPAS II. Because of the similarity in the mean ages at first marriage between the selected

---

*On the basis of Hajnal's method, Iskandar (1970: 70-97) and McNicoll and Mamas (1973: 20-22) have analyzed the results for Indonesia.

**These levels are low compared to other societies in the region, like the ASEAN countries. In their analysis of the WFS data from 9 countries, Caldwell, McDonald and Ruzicka, noted approximately 2 and 3 years higher mean ages at first marriage in Malaysia and Thailand than in Indonesia (1980, Table 3). Age at entrance into matrimony is also far younger in Indonesia in general compared to the Philippines and Singapore. According to the 1971 Census, 62.6 percent of females aged 15-19 years were never married (Biro Pusat Statistik, 1974, Series D, Table 8: 44). In 1970, the proportions never married among females of the same ages were 89.1 and 95.2 percent in the Philippines and Singapore respectively (United Nations, 1976 DEMOGRAPHIC YEARBOOK, Table 25: 485).

Table 6.2 -Mean Ages at First Marriage, by Current Age and Residence.

Current Age	Way Abung*	Pung-gur*	Lam-pung*	Rural Java** SUPAS 2	Rural Java** SUPAS 3
25-29	16.3 (101)	15.8 (99)	16.1 (200)	16.5	15.5 (874)
30-34	15.1 (98)	15.7 (98)	15.4 (196)	16.2	15.4 (830)
35-39	15.4 (98)	15.8 (102)	15.7 (200)	16.3	15.2 (825)
40-44	15.4 (94)	15.3 (101)	15.4 (195)	16.4	15.2 (768)
Total	15.6 (391)	15.7 (400)	15.7 (791)	16.4+	15.3+ (3297)

Sources: *1976 Survey.

**Based on Biro Pusat Statistik, unpublished special tabulations.

Notes : -The numbers in parentheses indicate sample sizes.

-No sample sizes are presented for SUPAS II because the total sample was large and these indices are based on the estimates weighted by sample weights.

**Standardized by the distribution of transmigrant women by province of birth.

+Also standardized by the age distribution of the transmigrant women.

transmigrant women in Way Abung and Punggur, and the small numbers involved, in subsequent analyses, the transmigrant women will be treated as one group only. Before the different results derived from the two intercensal surveys are discussed these data are also

Table 6.3 -Ages by which 25, 50 and 75 Percent of the Women Had Married, by Current Age and Residence.

Current Age	Lampung*	Rural Java** 1973 F-M Survey	1976 SUPAS 2	1976 SUPAS 3
25 Percent				
25-29	14.0	15.1	15.1	13.6
30-34	13.3	14.8	14.9	13.4
35-39	13.6	14.8	15.0	13.0
40-44	13.8	14.8	15.1	13.2
Total	13.8	14.9+	15.0+	13.3+
50 Percent				
25-29	15.9	16.9	16.7	15.8
30-34	15.0	16.5	16.1	15.6
35-39	15.3	16.5	16.5	15.2
40-44	15.0	16.7	16.6	15.5
Total	15.3	16.6+	16.6+	15.7+
75 Percent				
25-29	18.0	19.2	18.7	18.1
30-34	17.5	18.6	18.4	18.0
35-39	17.5	18.7	18.4	17.8
40-44	17.0	19.1	18.5	17.9
Total	17.7	18.9+	18.5+	17.9+

Sources: *1976 Survey.
**Based on the 1973 F-M Survey, Lembaga Demografi, Fakultas Ekonomi, Universitas Indonesia, for West Java, Table II.10; Central Java, Table II.14; and East Java, Table II.14; and Biro Pusat Statistik, SUPAS II AND SUPAS III, unpublished special tabulations.

Notes : -The data for rural Java are comparable to the 1976 Survey in that they are based on ever married women only.
**Standardized by the distribution of transmigrant women by province of birth.
+Also standardized by the age distribution of transmigrant women.

presented in terms of the distributions because of the skewed distribution of age at first marriage.

The data in Table 6.3 show the ages at which 25, 50 and 75 percent of a category of women were married for the first time. Before reaching age 14, 25 percent of the transmigrant women were married. Similarly, in rural Java, according to SUPAS III 25 percent of the women were married before reaching age 14 years. However, according to the 1973 F-M Survey and SUPAS II it was around age 15 years that 25 percent of the women were married. The 75 percent level fell between ages 17 and 19 years for the various sources.

Consistent with the data on mean ages at first marriage, the quartile levels for the transmigrant women were rather similar to the figures for women in rural Java from SUPAS III. The levels from these two sources of data are however somewhat lower than the results from the 1973 F-M Survey and SUPAS II. These inconsistencies in the data from the various sources are probably a result of variations in the accuracy of data collection. It has been claimed, for instance, that the 1973 F-M Survey suffers from omissions of divorced and widowed women aged 25 and over (McDonald et al., 1976: 29). As mentioned before, during SUPAS II a vast amount of data were collected so that the accuracy of individual items could have been minimal. On the other hand, it is argued, better data were collected during SUPAS III and the 1976 Survey. SUPAS III was a far smaller survey than SUPAS II in terms of both sample size and volume of information collected. It was therefore easier to control for the quality of the data obtained. Similarly, the 1976 Survey data collection was well supervised and editing was done in the field. Thus it is argued that SUPAS III best

represents the pattern of age at first marriage in rural Java.

On the basis of the similarity in the means and distributions of ages at first marriage (Tables 6.2 and 6.3), it can be deduced that as a group, the transmigrant women appeared to have followed the normative pattern of women in their areas of origin. One of the reasons suggested for the similarity is that as mentioned before, one of the eligibility requirements demands that the women be married. Hence, among the studied transmigrant women 73 percent were married prior to departure from their communities of origin. It is suggested that because most of the transmigrant women were married on Java they followed the normative patterns of age at first marriage prevailing on the island. Whether this was actually the case will be examined later. From the similarity in the levels and patterns of age at first marriage among transmigrant women and women in rural Java, it could be inferred that as a group the transmigrant women were not selected in this respect.

Because of the inconsistencies in the data coming from the different secondary sources and collected in two different years, no trends can be determined on the basis of a comparison of the data for 1973 and 1976. If there were a trend, it can only be ascertained from a comparison between cohorts. An examination of the age-specific data appears to indicate a slight increase in age at first marriage.* This increase was however limited to the cohort aged 25-29 years, while for

---

*These data differ somewhat from an earlier tabulation prepared for a preliminary report (Oey and Sigit, 1977: 56). The reason for the discrepancy is that different methods of calculation were utilized. For the preliminary report, data were only presented as means which were derived from interval data, while for the present analysis, the figures are calculated from raw data on individuals.

the three older cohorts the levels were either the same or rather similar (this similarity led McDonald, 1978, to combine the figures for women aged 30-49 years). Using data from the 1920 and 1930 Censuses and SUSENAS I of 1963/64 (National Socio-Economic Survey conducted by the CBS) on the proportion of persons never married among the total population, Iskandar concluded that age at marriage was rising (1970: 79). McNicoll and Mamas based their analysis on data from four SUSENAS, i.e. 1963, 1964, 1967 and 1969, and the 1971 Census. The increase in the proportions single, especially for the age categories 15-19 and 20-24 years led them to draw the same conclusion that age at marriage was rising (1973: 20-22). Then, as mentioned before, during the seventies several surveys collected data on age at first marriage. Using the 1973 F-M Survey, Mulia Kusuma did a cross-sectional analysis on age at first marriage by birth cohorts and arrived at a similar conclusion (1976: 13-15). However, when McDonald attempted to do a time series analysis by comparing the results of the 1973 F-M Survey, SUPAS II and SUPAS III, as mentioned before, he was faced with some inconsistencies. But, by comparing the ages at first marriage between cohorts, McDonald supported earlier claims of a rising trend in age at first marriage; very slight between the cohorts 30-49 and 25-29 and steeper between 25-29 and 20-24 years (1978). The data for the transmigrant women are consistent with McDonald's conclusion that there was an increase for women aged 25-29 compared with older women, but that the increase was only slight.

Having analyzed the patterns and trends in age at first marriage, let us now turn to an examination of whether there are any effects of transmigration on age at first marriage. In the previous chapter it

has been pointed out that the effects of transmigration on fertility are through the two processes of selection and adaptation, which are in turn functions of age at transmigration and duration of stay in the transmigration areas. Such an analysis could have been undertaken in terms of fertility because fertility is a measure of possible multiple events. Because first marriage is a single event, the effects of the processes of selection and adaptation on age at first marriage have to be examined somewhat differently from the fertility analysis.

Age at transmigration can be considered a control variable to ascertain whether a selection process had occurred. Such an analysis is an attempt to answer the question whether women who transmigrated at certain ages were selective of younger or older marrying women. However, duration of stay cannot be used to find out whether transmigrant women had adapted their ages at first marriage to the transmigration area because, as mentioned earlier, most of the transmigrant women married prior to departure for the transmigration area. However, differentiation of transmigrant women according to their place of first marriage provides the best measure of the existence of selection and adaptation processes.

Let us now first examine the effects of a possible selection process through analyzing the relation between age at transmigration and age at first marriage. The data are shown in Table 6.4. The fact that there is no pattern is consistent with an earlier assertion that transmigrant women were probably following the normative pattern of age at first marriage among women in rural Java. Therefore, age at transmigration should have had no effect on the pattern of age at first marriage. Moreover, the various indices are rather similar for

all the age at transmigration categories. With regard to the selection hypothesis these data imply that age at transmigration was not a selection criterion for transmigrant women by age at first marriage.

Table 6.4 -Indices of Age at First Marriage by Age at Transmigration. (years and percentages)

Age at Trans-migration (Years)	Mean Age at First Marriage (Years)	Ages at which 25, 50 and 75 % of the Women Were Married			% Married under Age Sixteen
		25%	50%	75%	
0-14	15.4 (169)	14.0	15.0	17.0	60.9
15-19	16.0 (151)	14.3	16.0	18.0	49.7
20-24	15.6 (193)	13.6	15.3	17.8	56.0
25-29	15.3 (123)	13.0	15.0	17.1	58.5
30+	15.7 (155)	13.3	15.4	17.7	52.9

Source: 1976 Survey.

Note : The numbers in parentheses indicate sample sizes.

The selection hypothesis with regard to age at first marriage needs to be further examined. In fact, this hypothesis needs to be tested only for women who were married for the first time prior to transmigration. Those who were married before resettlement did so

Table 6.5 -Indices of Age at First Marriage by Current Age and Place of First Marriage.
(years and percentages)

Current Age	Mean Ages at First Marriage		Ages at which 25, 50 and 75 % of the Women Were Married						% Married under Age 16	
			25 %		50 %		75 %			
	J	L	J	L	J	L	J	L	J	L
25-29	15.3 (87)	16.6 (113)	12.8	15.0	15.2	16.4	17.9	18.1	60.9	42.5
30-34	15.0 (126)	16.2 (70)	12.8	14.2	15.0	15.8	17.1	18.0	62.7	51.4
35-39	15.3 (176)	18.2* (24)	13.1	16.3*	15.0	17.9*	17.0	19.4*	60.2	16.7*
40-44	15.2 (186)	19.4* (9)	13.2	16.1*	15.0	16.9*	17.0	21.7*	60.2	22.2*
Total	15.2 (575)	16.8 (216)	13.0	15.0	15.0	16.7	17.0	18.2	61.4	41.7

Source: 1976 Survey.

Notes : J=Married before transmigration, i.e. on Java.
L=Married after transmigration, i.e. in Lampung.

-The number in parentheses indicate sample sizes.

*Based on less than 30 cases.

while they were still on Java. If they were married after resettlement then their marriage took place in Lampung. Indices of age at first marriage for these two categories of transmigrant women are presented in Table 6.5. In order to establish whether the group of transmigrant women who were married for the first time on Java were selected in terms of age at first marriage, a comparison needs to be made with the stayers on Java. For convenience sake let us consider

the mean ages at first marriage. From the data in Table 6.2 derived from SUPAS III the following mean ages at first marriage can be noted. For the four successive five-year age categories starting with those aged 25-29 years, and the total, the mean ages at first marriage were 15.5, 15.4, 15.2, 15.2 and 15.3 years respectively. For those transmigrant women whose first marriages took place on Java, the mean ages at first marriage were 15.3, 15.0, 15.3, 15.2 and 15.2 years. The similarity in the mean ages at first marriage between transmigrant women who were first married on Java and the stayers in rural Java implies that transmigrant women were not selected in this regard.

The data in Table 6.5 also allow for an examination of whether transmigrant women were adapting their ages at entrance into matrimony. In this case the analysis focuses on those transmigrant women who entered matrimony in Lampung. Compared to the stayers in rural Java, and also to those transmigrant women who were married on Java, transmigrant women who were married in Lampung did so at later ages. At both the overall group and age-specific levels there were substantial differences in the levels of age at first marriage. This difference implies that transmigrant women who arrived in the settlement area prior to first marriage tended to adapt their practice regarding age at entrance into matrimony to environmental conditions of the settlement. It is suggested that this delay in age at entrance into matrimony may be due to differential accessibility to educational opportunities, the details of which will be examined in chapter 9.

If transmigrant women who entered matrimony in Lampung did so at at later ages than their sisters who were first married on Java, then there appears to be some inconsistency with the data in Table 6.4,

which show that women who transmigrated prior to reaching age 15 were among those who married earliest, since 61 percent were married prior to reaching age 16 years. This apparent inconsistency is due to two factors. First, ages at first marriage among women who transmigrated prior to reaching age 15 tended to be more concentrated. This is reflected by the quartile levels. Second, as a group, women who transmigrated between the ages of 15 and 19 years married at older ages than women who transmigrated at other ages. Among the group of women who transmigrated when they were 15-19 years old, one-third arrived in Lampung prior to first marriage.

From the above analysis on age at first marriage it has been learned that, as a group, the transmigrant women had followed the normative pattern prevailing among women in rural Java of similar ages. On the issue of whether selection and adaptation processes had taken place in terms of age at first marriage among transmigrant women, it has been shown that unlike fertility, age at transmigration did not seem to effect a selection process among the overall group of transmigrant women. Duration of stay, which was an important control variable for examining the effects on adaptation among transmigrant women in terms of their fertility behavior cannot be used to analyze the pattern of age at first marriage among transmigrant women. Place of first marriage is a more relevant differentiating variable to identify the occurrence of selection and adaptation processes in terms of age at first marriage. Apparently, the transmigrants who were married for the first time on Java tended not to be selected with regard to age at first marriage. However, those transmigrant women who entered matrimony in Lampung tended to delay their marriage somewhat, on average by about one and a half years. Because those

transmigrant women who were married for the first time in Lampung constituted only a minority among the total group of transmigrant women selected for this study (27 percent), and also because the differences in the levels of age at first marriage were rather small, they had limited impact on the overall group of transmigrant women. The similarity in ages at first marriage between the transmigrant women and women in rural Java indicates that differential fertility between the transmigrant women and women in rural Java cannot be explained in terms of age at first marriage.

6.2.2. AGE AT BIRTH OF THE FIRST CHILD

There are hardly any data sources available which allow for the estimation of ages at birth of the first child on Java. The only large-scale data source accessible to compute this index is SUPAS III. After excluding women who were childless until the time of the survey, the resulting estimates are presented in Table 6.6.

With regard to this indicator of the onset of fertility, the overall averages for transmigrant women in Lampung resembled those for women in rural Java. This result is a consequence of a reverse pattern of difference for the youngest cohort of women compared to the older women being considered. For the cohort 25-29 years, ages at birth of the first child were higher among the transmigrant women than among the women in rural Java. On the other hand, for each of the three older age categories, ages at birth of the first child were higher among women in rural Java than among the transmigrant women. The latter result suggests that the transmigrant women were possibly selected from among women in rural Java who started childbearing

slightly earlier than women who remained in rural Java.

Table 6.6 -Indices of Age at Birth of the First Child by Current Age and Residence.
(years)

Current Age	Mean Age at Birth of the First Child		Ages at which 25, 50 and 75 Percent of the Women Had Their First Child					
			25 Percent		50 Percent		75 Percent	
	L*	J**	L*	J**	L*	J**	L*	J**
25-29	18.6 (195)	17.7 (805)	16.5	16.2	18.8	18.2	20.4	20.5
30-34	18.4 (187)	18.9 (780)	16.3	16.9	18.7	18.9	20.1	21.6
35-39	19.0 (195)	19.1 (781)	16.4	16.8	18.7	19.1	21.0	21.8
40-44	19.2 (184)	20.0 (737)	17.0	17.5	19.0	19.9	21.0	22.7
Total	18.8 (761)	18.9+ (3103)	16.7	16.8+	18.8	19.0+	20.7	21.6+

Sources: *1976 Survey.

**Based on Biro Pusat Statistik, special unpublished tabulations.

Notes : -L=Lampung J=Rural Java

-The numbers in parentheses indicate sample sizes.

**Standardized by the distribution of transmigrant women by province of birth.

+Also standardized by the age distribution of transmigrant women.

As a consequence of rather similar ages at first marriage while ages at birth of the first child appeared to be lower among transmigrant women than among the stayers in rural Java, the first birth intervals should reflect the patterns of difference. Also excluding childless women, the means and distribution in terms of quartiles of the first birth intervals are shown in Table 6.7.

Table 6.7 -Indices of First Birth Intervals by Current Age and Residence. (years)

Current Age	Mean Length of First Birth Interval		Length of First Birth Intervals for 25, 50 and 75 Percent of the Women					
			25 Percent		50 Percent		75 Percent	
	L	J	L	J	L	J	L	J
25-29	2.6 (195)	3.5 (805)	1.2	2.2	2.0	3.3	3.1	5.9
30-34	2.9 (187)	3.6 (780)	1.3	2.2	2.0	3.7	3.8	5.4
35-39	3.3 (195)	4.0 (781)	1.3	2.4	2.4	3.6	4.0	5.6
40-44	3.9 (184)	4.7 (737)	1.8	2.7	3.0	4.1	5.0	6.6
Total	3.1 (761)	3.9 (3103)	1.3	2.4	2.3	3.6	4.0	5.6

Sources and Notes: Same as Table 6.6.

Substantially shorter first birth intervals among the transmigrant women compared to the stayers in rural Java can be observed. The direction of the difference is consistent at the age-specific levels in terms of both the means and the distributions. The difference in the lengths of the first birth intervals appear to be similar for successive cohorts. A comparison between younger and older cohorts indicates that the first birth intervals were becoming shorter for younger cohorts, a decline of slightly more than one year, which equals a 25-33 percent decline.

The examination of the two indicators of the onset of fertility has shown similarities in age at first marriage but differences in ages at birth of the first child between the transmigrant women in Lampung and the stayers in rural Java. Consequently, the first birth intervals were distinctly different. In order to explain fertility differences between transmigrants and stayers the data suggest that age at birth of the first child is a better indicator of fertility. In other words, age at birth of the first child is a more relevant contributor to the explanation of fertility differences between transmigrant women and women in rural Java. This finding raises the question why such differences in first birth intervals have been observed. What are the factors which contribute to the explanation of differences in lengths of the first birth interval? Are they related to disruption of marriage? Prior to examining the factors which may contribute to the explanation of differences in the lengths of the first birth interval, let us proceed with the examination of age at birth of the first child by controlling for other variables.

Table 6.8 -Indices of Age at Birth of the First Child by Age at Transmigration.
(years)

Age at Trans-migration	Mean Age at Birth of the First Child	Ages at Which 25, 50 and 75 Percent of the Women Had Their First Child		
		25 %	50 %	75 %
0-14	18.1 (165)	16.2	18.0	20.0
15-19	18.9 (143)	16.9	19.0	20.8
20-24	18.6 (187)	16.7	18.7	20.8
25-29	18.7 (114)	16.0	19.0	20.9
30+	19.7 (152)	17.0	19.2	21.8

Source: 1976 Survey.

Note : Numbers in parentheses indicate sample sizes.

The data in Table 6.8 show the means and distributions of ages at birth of the first child by transmigration status. Similar to the case of age at first marriage, no definite pattern is indicated by the introduction of age at transmigration as a control variable, thus again implying that age at transmigration is not related to age at birth of the first child.

Table 6.9 -Indices of Age at Birth of the First Child by Current Age and Place of First Marriage.
(years)

Current Age	Mean Age at Birth of the First Child		Ages at Which 25, 50 and 75 Percent of the Women Had Their First Child					
			25%		50%		75%	
	J	L	J	L	J	L	J	L
25-29	18.1 (84)	18.9 (111)	16.0	17.0	17.9	19.0	20.5	20.4
30-34	18.2 (119)	18.7 (68)	16.0	17.0	18.0	18.5	20.1	20.0
35-39	18.8 (172)	20.3* (23)	16.0	18.0*	18.1	20.0*	21.0	21.5*
40-44	19.1 (176)	20.7* (8)	17.0	17.0*	19.0	18.8*	21.0	20.2*
Total	18.7 (551)	19.1 (210)	16.0	17.0	18.4	19.0	20.9	20.5

Source: 1976 Survey.

Notes : Numbers in parentheses indicate sample sizes.

*Based on less than 30 cases.

-J=Married on Java.
L=Married in Lampung.

Let us now examine the impact of the place where women entered into matrimony on age at birth of the first child. Because transmigrant women who were married on Java did so at an earlier age than those who were married in Lampung, the former group of transmigrant women also tended to have their first born child at somewhat earlier ages than the latter group of transmigrant women.

However, the differences are much smaller than the differences in ages at first marriage. On average the difference in the mean ages at first marriage was 1.6 years (Table 6.5) while the difference in the mean ages at birth of the first child was only .4 of a year (Table 6.9). Since place of first marriage appears to be an important discriminator of both age at first marriage and at birth of the first child, there should also be substantial differences in the first birth intervals. These results are presented in Table 6.10.

Table 6.10 -Indices of First Birth Intervals by Current Age and Place of First Marriage.
(years)

Current Age	Mean Length of First Birth Intervals		Quartile Distribution of First Birth Intervals					
			25 Percent		50 Percent		75 Percent	
	J	L	J	L	J	L	J	L
25-29	2.9 (84)	2.3 (111)	1.3	1.1	2.0	1.9	4.0	2.9
30-34	3.1 (119)	2.5 (68)	1.3	1.3	2.3	2.0	4.1	3.2
35-39	3.4 (172)	2.3* (23)	1.4	1.0*	2.5	2.1*	4.2	3.0*
40-44	3.9 (176)	2.9* (8)	1.9	1.0*	3.0	1.8*	5.0	2.0*
Total	3.4 (551)	2.4 (210)	1.5	1.1	2.5	2.0	4.3	3.0

Source: 1976 Survey.

Note : *Based on fewer than 30 cases.

The differences in ages at first marriage and birth of the first child between transmigrant women who were married on Java and in Lampung were in the same direction, the differences between these two indices, as reflected by the lengths of the first birth interval, were substantial. Consistently, for all age categories, the first birth intervals were longer among transmigrant women who were married on Java compared to those married in Lampung. Remembering that the transmigrant women who were first married on Java tended to do so at somewhat earlier ages than those who were married in Lampung (Table 6.5), while the first birth intervals were longer among the former than the latter, these data indicate an inverse relation between age at first marriage and the length of the first birth interval. Two factors could have contributed to such an inverse relation. First, there could have been a 'catching up' effect (a phrase coined by McDonald in Caldwell, McDonald and Ruzicka, 1980), and/or second, there could have been differences in patterns of marital disruptions. This latter possibility will be examined in the following section.

From the above analysis on age at birth of the first child and the comparisons with age at first marriage as reflected by the first birth intervals, a summary of findings is as follows: (1) Age at birth of the first child among transmigrant women was generally lower than among women in rural Java; (2) In relation to age at first marriage, the first birth intervals were substantially shorter among transmigrant women than women in rural Java; (3) No relation was found with age at transmigration; (4) An important distinguishing variable was the place where the first marriage took place. Those transmigrant women who entered matrimony on Java tended to experience longer first birth intervals than those who were married in Lampung;

(5) Compared to the stayers in rural Java, except for the youngest age cohort of 25-29 years, older cohorts of transmigrant women who were married on Java also had shorter first birth intervals.

Within the framework of selection and adaptation, these findings suggest that transmigrant women were selected among those who gave birth to their first child at a somewhat younger age than the general stayer population of rural Java. Moreover, those who entered matrimony in Lampung, because they tended to marry somewhat later than their sisters who were married on Java, also experienced the birth of their first child at a slightly later age. However, their first birth intervals were substantially shorter than those of women who were married on Java. The process of adaptation is well reflected by the differences in these indicators of the onset of fertility. It is possible that those transmigrant women who were first married in Lampung delayed their entrance into matrimony because they had greater access to educational opportunities (see Chapter 9). Furthermore, their shorter first birth intervals appear to be related to their delay in entering matrimony.

If there was little variation in age at first marriage, why was there more variation in the first birth intervals? Was there a relation to other factors of marriage, such as marital instability? This possibility is examined in the following section.

6.3. MARITAL INSTABILITY

With regard to marital instability the focus of the analysis will be on the proportion of women married more than once. Because many first marriages in Java are unstable and this is a study of fertility, total duration of all marriages will also receive attention. This calls for an analysis of an equally important indicator of fertility with regard to marital instability, which is the percentage of time since first marriage spent in the married state.

6.3.1. MULTIPLE MARRIAGES

Not only is it common knowledge that marriages on Java are unstable but, as argued on the basis of the analysis of duration of first marriage by current age, marriages among the studied women also followed the same pattern of women on Java. It has been claimed that one of the contributing factors to marital instability is the very young age at first marriage as shown above. When girls marry at such young ages it is very likely that their marriages were arranged by their parents. The studies from the Yogyakarta area show that the younger the age at first marriage the greater the probability that the marriage was arranged by the parents (Singarimbun and Manning, 1974b, Table 3: 70; V. Hull, 1975, Table 5.11: 207; Chapon, 1976, Table 10: 16).

It has also been claimed that it is the dominant role parents play in arranging marriages of their daughters which is the main factor contributing to marital instability (Singarimbun and Manning, 1974b: 68). Such a claim is consistent with the function of first

marriages of daughters as described by H. Geertz:

> .... The elaborate wedding serves primarily the purposes of the parents, giving them an occasion to reaffirm their social status within the community. To a lesser degree it can also be a kind of celebration of the girls' formal entry into adulthood, after which she is relatively free to make her own decisions (1961: 69).

Hence, it is not surprising to find that many first marriages end in divorce. Geertz, who conducted her study in a village in East Java, claims that nearly half of all Javanese marriages end in divorce. On the basis of official records during the early fifties she observed that for every two marriages there was one divorce recorded (1961: 69). A high divorce rate among the Javanese continues to prevail. Data collected during the seventies show this to be the case (Singarimbun and Manning, 1974a: 17-23; 1974b: 73-39; V. Hull, 1975: 217-228; Chapon, 1976: 22-41; Sutarsih Mulia Kusuma, 1976: 53-64; Al Hadar, 1977: 63-76; McDonald, 1978; Kasto, 1978: 36-48; CBS and WFS, 1978: 35-36; and also the official statistics published by the Biro Pusat Statistik in the annual STATISTICAL POCKETBOOKS, some of which have been cited earlier.)

Marital instability can be analyzed in different ways. A very basic measure is the distribution by frequency of marriages. Alternatively, we can consider the proportion married once only or those married more than once. The latter is preferred because an analysis based on the proportions married once only includes those women who did not remarry after their first marriage was dissolved. In most cases, these are women whose first marriages were terminated through widowhood. The analysis of marital instability emphasizes marriages which are dissolved through divorce (including separations)

because such marital disruptions are more likely to be followed by remarriage than are marriages terminated through widowhood (V. Hull, 1975: 228-233). Remarriage is more likely to take place after divorce than widowhood because divorce tends to occur not long after the first marriage or when the woman is still young, while widowhood is usually experienced at an older age (Caldwell, McDonald and Ruzicka, 1980).

Using the proportion of women married more than once as an indicator of marital instability, the results are presented in Table 6.11.

Table 6.11 -Percentages of Ever Married Women Who Were Married More than Once, by Current Age and Residence.

Current Age	Lampung	Rural Java
25-29	22 (200)	31 (874)
30-34	31 (196)	36 (830)
35-39	40 (200)	41 (825)
40-44	42 (195)	43 (768)
Total	34 (791)	38 (3297)

Sources and Notes: Same as Table 6.6.

The differences in the proportions of ever married women aged 25-44 years who were married more than once between transmigrants and stayers suggest that marital instability may be a contributing factor in the explanation of differences in length of first birth intervals. The data in Table 6.7 indicate longer first birth intervals experienced by the stayers than the transmigrants. Similarly, the proportions of ever married women who were married more than once were also higher among the stayers than among transmigrants. However, where first children are usually born within the first few years of married life and marital instability, as measured by the proportion of ever married women who were married more than once, is subject to change, especially due to age, because of differential exposure to the probability of marital dissolution, it is also useful to measure marital instability for a more limited time of married life. As many first marriages which were terminated through divorce (including separations) generally occurred in the first years of married life, by concentrating on the first five years after first marriage and on those marriages which were dissolved though divorce, a similar pattern of difference continues to be observed (see Table 6.12). Except during the first year after first marriage, or within the first three and five years after first marriage, the divorce rates were higher among women in rural Java than among the transmigrant women.

The two indices of marital instability, i.e. the proportions married more than once, and the proportions of first marriages which were terminated through divorce during the first three and five years after first marriage, indicate that marriages among the transmigrant women were more stable than among the stayers. However, because the differences were rather small, only a slight contribution could have

been made by marital instability to the postponement of births of first children among the stayers relative to the transmigrants.

Table 6.12 -Cumulative Proportions of First Marriages which Were Dissolved through Divorce, by Current Age, Residence and Years Since First Marriage.

Current Age	Lampung			Rural Java		
	Years Since First Marriage					
	1	3	5	1	3	5
25-29	10.5 (200)	17.0	20.5	10.0 (874)	24.9	28.1
30-34	13.8 (196)	19.9	23.5	11.8 (830)	24.3	29.4
35-39	13.5 (200)	21.5	25.5	11.2 (825)	23.4	27.9
40-44	12.3 (195)	20.5	25.5	8.9 (768)	21.3	25.6
Total	12.5 (791)	19.7	23.6	10.5 (3297)	23.5	27.8

Sources and Notes: Same as Table 6.6.

Age at transmigration was not related to the indicators of the onset of fertility, nor was it related to marital instability, however, place of first marriage was strongly related to the indices examined so far in this chapter. Therefore, place of first marriage is also expected to be related to marital instability. Consistent with an earlier assertion from the analysis of current marital status,

it has been argued that the environmental conditions in the transmigration area warrant that women live in marital unions. It is more difficult for transmigrant women to terminate their marriages because often Javanese women return to their parental homes upon divorce, which in many cases means returning to Java, for which they lack the resources. Furthermore, where it is common practice for divorce to be soon followed by remarriage, the opportunities are rather limited for transmigrant women since single men are discouraged from transmigrating.* Javanese women do not consider polygyny desirable. V. Hull found that 97 percent of the women she interviewed considered it a bad practice (1975: 198). It is further argued that marriages are more stable in the transmigration areas because transmigrants are farmers who therefore depend on their agricultural land as their main source of livelihood. As shown in Chapter 4, other income earning opportunities are often very limited especially in relatively new settlements. Since eligible applicants for transmigration are married men, land allotments tend to be allocated to the men. As long as a transmigration settlement remains under the jurisdiction of the transmigration authority land rights can not be legally transferred to other people (Oey and Astika, 1978: 77). Even though the Marriage Act also contains regulations governing inheritance and the division of property upon divorce, women are often disadvantaged.

An examination of the proportions of women married more than once by place of first marriage (see Table 6.13) indicates that proportionately fewer women who were married for the first time in the

---

*Single men are discouraged because they are considered a source of community instability.

transmigration area, compared to those whose first marriage occurred

Table 6.13 -Proportions Married More than Once by Current Age and Place of First Marriage. (percentages)

Current Age	Place of First Marriage: Java	Lampung
25-29	24 (87)	20 (113)
30-34	33 (126)	27 (70)
35-39	41 (176)	29* (24)
40-44	43 (186)	22* (9)
Total	37 (575)	24 (216)

Source: 1976 Survey.

Note : *Based on fewer than 30 cases.

on Java, experienced multiple marriages. These data further imply that compared to women in rural Java (Table 6.11), transmigrant women whose first marriage took place on Java were not selective of those whose first marriages tended to be more unstable, and which were terminated and followed by remarriage. Moreover, if according to the data in Table 6.11, as a group, transmigrant women tended to have experienced more stable first marriages, then in comparison to the

data in Table 6.13, there is an indication that the greater marital stability among the transmigrant women was mainly due to the experiences of those transmigrant women who entered matrimony in Lampung. Possibly, one of the reasons for more stable marriages among women who were married for the first time in the transmigration area is that they also tended to marry at slightly older ages (see Table 6.5). This pattern is consistent with findings from the Yogyakarta study which show that the older the age at first marriage the lower the incidence of marital dissolution (Chapon, 1976: 29-33). A similar negative relation between age at first marriage and proportions married more than once has also been recorded in SUPAS II (Biro Pusat Statistik, 1977, Table 10: 59-64).

Even when marital instability is measured for a more limited period after first marriage, transmigrant women who were first married in Lampung experienced greater first marriage stability than their sisters who entered matrimony on Java. The data in Table 6.14 indicate lower proportions of first marriages which were dissolved during the first five years of married life among transmigrant women who were married in Lampung compared to those married on Java.

The analysis of marital instability has clarified the following: (1) compared to the stayers on Java, as a group, the transmigrant women experienced more stable first marriages; however, (2) the difference was mainly due to greater stability of first marriages experienced by transmigrant women who were first married in Lampung. If, as mentioned earlier, early age at marriage is probably related to those marriages being arranged by parents, which has been claimed to be the main contributing factor to marital instability, then these

data tend to support those findings. Transmigrant women who entered matrimony in Lampung tended to defer their first marriages, and their marriages also tended to be more stable.

Table 6.14 -Cumulative Proportions of First Marriages which Were Dissolved through Divorce, by Current Age, Place of First Marriage and Years Since First Marriage.

Current Age	Place of First Marriage: Java — Years Since First Marriage: 1	3	5	Place of First Marriage: Lampung — Years Since First Marriage: 1	3	5
25-29	11.5 (87)	19.5	24.1	9.7 (113)	15.0	17.7
30-34	13.5 (126)	19.8	24.6	14.3 (70)	20.0	21.4
35-39	13.6 (176)	22.2	26.7	12.5* (24)	16.7*	16.7*
40-44	12.4 (186)	20.4	26.3	11.1* (9)	22.2*	22.2*
Total	12.9 (575)	20.7	25.7	11.6 (216)	17.1	19.0

Sources and Notes: Same as Table 6.6.

*Based on fewer than 30 cases.

On the question of whether marital stability contributed to differences in lengths of the first birth interval, the answer is positive. The shorter overall length of the first birth intervals

experienced by transmigrant women were mainly a function of shorter first birth intervals experienced by those transmigrant women who entered matrimony in Lampung. It was also this group of women who experienced the fewest marital disruptions. In other words, length of the first birth intervals is positively related to marital instability.

6.3.2. DURATION OF MARRIAGE

Even though not as frequently as noted by Geertz (1956: 69), still a substantial proportion of the studied women had experienced unstable first marriages. Whether this had any impact on patterns of duration of marriage is the subject for examination in the last part of this chapter. First I will concentrate on duration of all marriages. With respect to this variable there are two types of women: (1) those who remained in their first marriage until the time of the survey; and (2) those whose married life had been disrupted through widowhood, divorce, or separation. Thus, for the first type of women, duration of all marriages is measured as the period between age at first marriage and current age, and for the second type it is the period between age at first marriage and current age minus the periods spent outside marriage.

The analysis of duration of all marriages will be done in terms of the cumulative mean duration of all marriages for a group of women as they age. A special program was written for this purpose, based on an idea similar to that used for the fertility analysis. The mean values are derived as the quotient of the cumulative total number of years a group of women had lived in the married state up to a given

Table 6.15 -Cumulative Mean Time Since First Marriage which Had Been Spent in the Married State Up to Exact Ages, by Current Age and Residence.
(years)

Up to Exact Age	25-29		30-34		35-39		40-44	
	L	J	L	J	L	J	L	J
N	200	874	196	830	200	825	195	768
15	.7	.9	1.0	1.0	.9	1.1	1.0	1.1
20	4.1	4.1	4.5	4.3	4.2	4.4	4.6	4.4
25	8.9	8.5	9.2	8.7	8.8	8.8	9.3	8.7
30			14.0	13.2	13.5	13.4	14.0	13.2
35					18.3	17.9	18.6	17.8
40							23.1	22.0

Sources: Same as Table 6.6.

Notes : L=Lampung J=Rural Java

The Data for rural Java have been standardized by the distribution of transmigrant women by province of birth.

age over the number of women who had reached that particular age. Since the program was written for single years, periods between events are calculated as completed years. For the first type of women, the cumulative duration of all marriages up to a given age is the period between age at first marriage and that particular age. For the second type of women, the cumulative duration of all marriages up to a given age follows the same pattern as for the first type until they reached the age at which the marriage was disrupted, from which age onwards her duration of marriage remained constant unless it was followed by

remarriage in which case additional years in the married state are cumulated again. Both the women and their number of years spent in the married state remain in the ratio until their current age, from which point they are withdrawn.

Table 6.16 -Cumulative Mean Time Since First Marriage which Had Been Spent in the Married State Up to Exact Ages, by Current Age and Place of First Marriage.
(years)

Current Age	Place of First Marriage: Java	Lampung
15	1.1 (575)	.4 (216)
20	4.7 (575)	3.5 (216)
25	9.3 (575)	8.2 (216)
30	14.1 (488)	12.8 (103)
35	18.7 (362)	15.9 (33)
40	23.3 (186)	18.3* (9)
Mean	19.6 (575)	12.5 (216)

Source: 1976 Survey.

Note : The numbers in parentheses indicate sample sizes.

*Based on less than 30 cases.

Controlling for current age, the results are shown in Table 6.15. The cumulative mean durations since first marriage which were spent in the married state were rather similar for transmigrant women and for women in rural Java. Furthermore, up to each exact age, the levels for the various age cohorts were also rather similar. On the basis of these similarities in the levels of mean duration of all marriages while the indices of first marriage instability were different (Tables 6.11 and 6.12), it can be inferred that first marriage instability had no impact on duration of all marriages. Thus, within the framework of the selection hypothesis, transmigrant women are said not to have been selected in this regard.

Place of first marriage is an equally relevant control variable of duration of all marriages (see Table 6.16). Those who were married after transmigration, upon reaching a certain age, had spent a shorter time in the married state since first marriage. This difference also rises with subsequent five-yearly points. However, the big differences at ages 35 and 40 may be influenced by the small numbers remaining for the transmigrant women married for the first time in Lampung.

Several factors have, however, contributed to the substantial difference in the overall mean duration of all marriages. The 7.1 years difference can be explained in terms of the components, where mean years in marriage is a function of the age composition and the difference between the period since first marriage and the time spent outside marriage, which can be expressed as:

$$M = \sum_x p_x \, (m_x - d_x)$$

where p_x = proportion aged x.

m_x = mean years since first marriage of persons aged x.

d_x = mean years lost by disruption of marriage of persons aged x.

The components of the difference in the mean years in marriage are shown below:

$$M - M' = \sum_x \delta p_x \, (d_x - m_x) - \sum_x p_x \, \delta m_x + \sum_x p_x \, \delta d_x - \sum_x \delta p_x \, \delta m_x + \sum_x \delta p_x \, \delta d_x$$

where: $p'_x = p_x + \delta p_x$

$m'_x = m_x + \delta m_x$

$d'_x = d_x + \delta d_x$

and the terms indicate the impact of:

$\sum_x \delta p_x \, (d_x - m_x)$ - age distribution;

$\sum_x p_x \, \delta m_x$ - age at first marriage;

$\sum_x p_x \, \delta d_x$ - disruption of marriage;

$\sum_x \delta p_x \, \delta m_x$ - interaction between age distribution and age at first marriage;

$\sum_x \delta p_x \, \delta d_x$ - interaction between age distribution and disruption of marriage.

The analysis of the components produces the following results as shown in Table 6.17. These results indicate that the difference in the mean years in all marriages between transmigrant women married on Java and in Lampung was primarily a function of the difference in age composition. These results further reflect the difference in age at first marriage between the two groups. However, the two groups appear rather homogeneous with regard to the time spent outside marriage. As

Table 6.17 -Analysis of Components of Difference of Mean Years in All Marriages.
(years)

The impact of age composition	+5.04
The impact of age at first marriage	+3.42
The impact of time spent outside marital unions	+ .11
The impact of the interaction between age distribution and age at first marriage	-1.18
The impact of the interaction between age distribution and time spent outside marital unions	- .30
T o t a l	+7.09

Source: 1976 Survey.

a matter of fact, the time spent outside marriage was the weakest explainer of the difference in the mean duration of all marriages, even weaker than the interactions between the variables. Thus, if the age distribution between the two groups of transmigrant women were the same, then the difference in the mean years in marriage would be

Table 6.18 -Percentage Time Since First Marriage which Had Been Spent in the Married State, by Current Age and Residence.

Current Age	Lampung*	Rural Java**
25 29	96.1 (200)	91.9 (1496)
30-34	94.7 (196)	92.0 (1414)
35-39	93.2 (200)	92.4 (1404)
40-44	92.3 (195)	89.9 (1244)
Total	93.6 (791)	91.6+ (5558)

Sources: *1976 Survey.

**Based on Biro Pusat Statistik, special unpublished tabulations from SUPAS III.

Notes : -These data are based on the number of months spent in the married state and the number of months since first marriage.

-The numbers in parentheses indicate sample sizes.

**Standardized by the distribution of transmigrant women by province of birth.

+Also standardized by the age distribution of transmigrant women.

mainly due to the difference in age at first marriage. Because transmigrant women married for the first time in Lampung did so at older ages than those whose first marriage occurred on Java (controlled for age, Table 6.5), the first group of transmigrant women

lived for a shorter period in the married state than the second group.

The very small contribution of time spent outside marital unions in explaining the difference in the mean duration of all marriages reflects the fact that with regard to this specific variable the two groups were very similar; it may also be that it had no important effect on the patterns and levels of marriage. Whether such is the case is examined in terms of the percentage of time since first marriage which has been spent in the married state (see Table 6.18). Very little variation is shown by the data. The indices were similar for the different populations as well as for the different age cohorts. Ninety percent or more of the time since first marriage had been spent in the married state. Since these percentages are so high they indicate that even though marriages among Javan women are characterized by instability, marital instability had very little effect on duration of all marriages.

As marital instability has been shown to have had very little impact on duration of all marriages, it is not considered necessary to examine the influence of selection and adaptation processes on this variable.

6.4. SUMMARY AND CONCLUSIONS

Various indices of nuptiality have been examined and their possible contributions to the explanation of fertility differences between transmigrants and stayers have been ascertained. Differences in marital status composition between the transmigrants and the stayers are due to both selection and adaptation processes. Selection

of potential transmigrants favors those living in stable unions. Furthermore, the social and physical conditions of transmigration areas promote marital stability and inhibit marital disruptions. Ages at entrance into matrimony among transmigrant women resembled those of the stayers. While age at transmigration and duration of stay in the transmigration area were indicative of patterns of fertility differences, these variables were not related to any of the nuptiality variables examined in this chapter. Instead, an important discriminator was the place where the transmigrant women entered matrimony. As a consequence of Program implementation, most of the transmigrant women were married prior to departure from Java. Hence, their ages at entrance into marriage also resembled those of the stayers in rural Java. Those who were first married in Lampung, however, tended to delay matrimony somewhat.

Even though according to the Davis and Blake (1956) intermediate variables, age at first marriage should be indicative of age at entry into sexual unions, because consummation has been found to be delayed among early marriers, in this study age at birth of the first child as an indicator of the onset of fertility has also been examined. It appears that this variable better explains fertility differences between transmigrants and stayers. Even though as a group transmigrant women started their fertility experiences at rather similar ages to those of the stayers, however, for the three age categories of 30-34, 35-39, and 40-44 years, as indicated by the quartile levels, transmigrant women tended to have their first child at an earlier age than the stayers in rural Java. As a consequence of the similarity in ages at first marriage but earlier commencement of child bearing among transmigrant women, they tended to have had

shorter first birth intervals. Even shorter first birth intervals were experienced by transmigrant women who had first married in Lampung. An attempt was made to examine whether differences in lengths of first birth interval could have been due to differences in marital instability. Whether marital instability was measured as the proportions married more than once or as the proportions of first marriages which were dissolved through divorce during the first five years of married life, consistently, it appeared that marital instability could have contributed to differences in length of first birth intervals. The positive relation between length of first birth intervals and marital instability is reflected by the fact that the stayers in rural Java had the longest first birth intervals and also the highest proportions of women who experienced unstable first marriages; those transmigrants who were first married on Java had intermediate experiences, while those transmigrant women who entered matrimony in Lampung had the opposite experience from the stayers.

The effects of marital instability were then examined on the basis of the length of time spent in the married state. Apparently, the time spent outside marital unions had little impact on the cumulative time spent in the married state. Marital disruptions also had very little impact on the percentage of time since first marriage which had been spent in the married state.

The major conclusion to be drawn from the examination of various nuptiality variables is that, in general, marriage patterns did not contribute to the explanation of fertility differences observed in the preceding chapter. Both among the transmigrants as well as the stayers, many women were first married at very young ages, several

years prior to commencement of their reproductive experiences. A more important contributor to the explanation of fertility differences was instead age at birth of the first child, and consequently also the length of the first birth intervals. Within the framework of the selection and adaptation hypotheses, the implication of the results are that as a group, transmigrant women tended to be selected among those who started child-bearing at slightly earlier ages than the stayers, therefore, transmigrants experienced shorter first birth intervals than stayers. Moreover, those transmigrant women who entered matrimony in Lampung indicated a further process of adaptation by having had even shorter first birth intervals than their transmigrant sisters who were married on Java. In this case, the adaptation process is considered to have started with entrance into matrimony. On average, those married in Lampung were almost 17 years old when they married for the first time, while on Java, women of the same ages tended to enter matrimony one and a half years earlier. It is suggested that differential education opportunities may have contributed to these patterns, the possibility of which will be examined in greater detail in chapter 9.

If fertility were to be a function of age at first marriage as suggested by the Davis and Blake 'intermediate variables' (1956), then the findings in this analysis do not support such an inverse relation. While transmigrant women who were first married in Lampung entered matrimony at a later age than their sisters who were married on Java, the former also experienced higher fertility than the latter, IF fertility is measured in terms of the cumulative mean number of children ever born up to a given exact age. A comparison of this fertility index gives the following results for transmigrant women

married in Lampung and on Java. By age 25 the cumulative mean numbers of children ever born were 3.0 and 2.8 and by age 30 they were 4.5 and 4.2 respectively (no indices are given for older ages because the number of transmigrant women who were married in Lampung decreases very rapidly thereafter). The results from SUPAS III indicate cumulative mean numbers of children ever born of 2.2-2.4 and 3.5-3.6 by the time they reached ages 25 and 30 years (see Table 5.9). Furthermore, as a consequence of the delay in age at first marriage, transmigrant women who were married in Lampung also commenced child-bearing slightly later than those married on Java. Moreover, those transmigrant women who entered matrimony in Lampung had also spent fewer years in the married state than those who were married on Java. These findings therefore suggest that fertility differences were not a function of differences in patterns of nuptiality. Instead, despite nuptiality patterns which, if other conditions were the same, should have resulted in lower fertility among transmigrant women married in Lampung than on Java, their observed fertility was higher, thus implying that the conditions were not the same. In other words, they were adapting to different environmental conditions which were conducive to raising their fertility relative to what it would have been had they remained on Java.

In this chapter it has been shown that patterns of nuptiality did not contribute to the explanation of fertility differences between transmigrants and stayers. A more important explainer was age at birth of the first child. Thus, the higher fertility experienced by transmigrant women is partly attributed to an earlier commencement of childbearing. A very relevant discriminator between the transmigrant

women was the place where they were first married. The contribution of other factors is sought in the following chapters. The next chapter focusses only on one of these factors, mortality.

CHAPTER 7

CHILD MORTALITY

Infant and child mortality have been found to be related to fertility. However, there are conflicting opinions regarding the direction of the causal relation. Without predetermining the direction of the causality, this chapter is an attempt to ascertain whether child mortality contributed to the explanation of fertility experienced by transmigrant women.

7.1. THE STATE OF THE ART ON THE RELATION BETWEEN MORTALITY AND FERTILITY

Proponents of the demographic transition theory continue to dominate research on the relation between mortality and fertility. The authors of the theory, such as Notestein (1945) and Davis (1945) have convincingly argued that fertility will eventually decline as a response to reductions in levels of mortality. This proposition of the causal direction of the relation was later supported by Freedman (1961/62: 67 and 1965).

The position on the direction of the causal relation has been challenged. There are those who argue for a modification of the demographic transition theory, such as Coale, who claims that "the decline in mortality does not always precede the decline in fertility" (1973: 60), or Caldwell, who holds that on the basis of the African experience, social factors determine fertility behavior rather than

that fertility is a reponse to mortality (1976), and again others have argued that mortality can also be a response rather than a stimulus to high fertility (this position has been most recently summarized and augmented by Scrimshaw, 1978). However, more work has been done with an emphasis on the effects of mortality on fertility.

Based on the argument that changes in mortality induce changes in fertility and that changes in mortality are mostly a function of changes in infant and child mortality through public health measures, several studies have focussed on the impact of infant and child mortality on subsequent fertility. Heer, for instance, is a staunch supporter of this argument. Using infant mortality as one of the indices of development, Heer (1966) shows that at the aggregate level there is a statistically significant positive relation between infant mortality and fertility. Moreover, infant mortality is found to be the strongest and most consistent predictor of fertility. These findings led him to favor an expansion rather than a curtailment in expenditures for public health which have the effect of reducing infant and child mortality. Heer further holds to this position in a joint study with Smith from which they conclude that desired family size will be reduced if mortality levels are of an intermediate magnitude (1968). A similar aggregate level study relating indices of development to fertility shows that child mortality is positively related to fertility. On the basis of this finding Friedlander and Silver argue that "there is strong support for the hypothesis that couples consciously adjust their fertility to achieve a given number of children who will attain adulthood" (1967: 60).

Even though macro-level studies have provided us with convincing evidence on the positive relation between mortality and fertility, the validity of their conclusions has been challenged through micro-level approaches. Moreover, as Ware argues:

> Aggregate data provide very poor materials for studying causal relationships. Associations between infant mortality and fertility levels may simply be the result of a common relationship with a mediating variable, equally parallel movements in time-series may only reflect an external factor causing systematic changes in both measures. Another problem with aggregate data is simply that generally the higher the mortality level the poorer the demographic data available (1977: 210).

For the above reasons Ware holds that:

> For the analysis of the causal relationship between child mortality and fertility it is necessary to turn to family studies (1977: 210).

Though not for the same reasons, but rather because, as stated by Preston, "The early 1970s was a period of almost unguarded optimism about the ability of reductions in child mortality to induce major declines in fertility through preexisting social mechanisms" (1978: 3), several studies were commissioned for presentation at a meeting held by the Committee for International Coordination of National Research in Demography (CICRED) in Bangkok in 1975, on the impact of child death in a family on parents' subsequent fertility (Preston, 1978: 4). Most of the studies used the micro-level or family approach in their analyses, with a focus on birth intervals. Especially in societies where prolonged breast feeding is commonly practiced, death of a child has physiological consequences on the length of the interval to the subsequent birth. However, besides

biological, there are also volitional responses of parents to child death, which may be more influential on subsequent births. These behavioral responses have been considered to be of two kinds: (1) replacement strategy and (2) insurance strategy. According to the replacement strategy parents intend to have a certain number of children at the end of their reproductive life. Therefore, if any of the children die before the end of reproduction, parents will attempt to replace them with another birth and practice contraception when the intended number is achieved. The insurance strategy, on the other hand, says that because of an awareness that some of the children will die beyond the point of replacement, parents insure themselves against child losses by bearing more children than they originally intend, as a safeguard. Contraception is only practiced when parents are 'reasonably' sure that their target number of children is achieved (Preston, 1978: 10).

Between these two strategies it is simpler to study the replacement rather than the insurance strategy because the first is based on experiences within the family while the second includes family considerations which take into account societal forces. The extent of family awareness from societal experience is far more complicated to measure. While giving due credit for the attempt to study the interrelation between individual and aggregate data to measure the impact of an insurance strategy on fertility by Heer and Wu (1978: 135-59), Preston acknowledges the difficulties of such a study. Other studies have focussed on fertility responses to a replacement strategy. Preston notes that the principal finding from the studies is that complete replacement can never be fulfilled and suggests several reasons (11-14). An important conclusion drawn by

Preston is that the obstacles at the aggregate level are sufficiently large that only a small fraction of mortality variation at the family level appears to be translated into variations in fertility behavior. Therefore, "the picture is not attractive for those who look to mortality reduction as a means of reducing fertility through familial effects" (1978: 15).

Having reviewed the literature on the relation between infant mortality and fertility following the two frameworks of replacement and insurance effects, Ware too arrives at a similar conclusion:

> Overall there is no evidence that change in a single factor, even so important a factor as the level of child mortality, is sufficient to set fertility decline in motion. Nor, conversely, are very high levels of child mortality an absolute barrier to fertility decline, except insofar as such levels in the modern world are almost invariably an integral part of the total social situation inimical to fertility decline. Efforts to ameliorate the health and welfare of children in the developing countries should be valued for their own sake: babies should not die, nor should children suffer. To argue for health programmes because they help to reduce fertility, posits the unthinkable alternative that, should this causal relationship be proved invalid, then health programmes should be abandoned (1977: 222).

While on the basis of macro-level studies it has been argued that fertility behavior will respond to declining levels of child mortality, studies at the micro-level have not produced similar convincing evidence. Whether the data from the current study will provide supportive evidence on the relation between child mortality and fertility is the subject for analysis in the following section.

7.2. CHILD MORTALITY IN JAVA

Like any other index, child mortality can only be meaningfully understood within the context of the wider population. Hence, in order to gain a better understanding of child mortality experienced by transmigrant women it is necessary to know the experience of other women in the past and in other parts of the country. It has been claimed that from the 1950s onwards mortality levels in Indonesia have tended to decline (Heligman, no date; McNicoll and Mamas, 1973: 10-15; McDonald, Yasin and Jones, 1976: 64-70; Hull and Sunaryo, 1978; and Quick, 1979, Table A-12: 41). It has been argued that child mortality has not only tended to decline since the fifties, but also that the decline has continued during the seventies (McDonald, Yasin and Jones, 1976: 64-70; and Hull and Sunaryo, 1978a). The extent of the continuous decline during the seventies has been estimated from several data sources collected during the early seventies (the 1971 Census; the 1973 F-M Survey; and the 1976 SUPAS II and SUPAS III). A summary of available estimates for Java is presented in Table 7.1. For all provinces and therefore for all of Java, child mortality, as indicated by the probability of dying between birth and age three, is substantially higher on the basis of 1971 data than on the basis of data for 1973 and 1976, which are both rather similar. The estimates for 1973 are derived from the F-M Survey. These data have been analyzed by McDonald, Yasin and Jones, who hold some reservations about the extent of the decline as indicated by a comparison of the estimates resulting from the 1971 census and the 1973 F-M Survey (which was conducted only 18 months after the census). They argue that the level of mortality for 1973 is underestimated by about ten percent as a result of using pregnancy

Table 7.1 -3qo and 5qo Estimates for Java 1971-76.

Area and Year	3qo	5qo	Data Source	
West Java				
1971 U + R	.219	.234	Census	(1)
1971 R	.229	.249	Census	(2)
1973 R	.182	.195	F-M	(2)
1976 U + R	.190	.206	SUPAS II	(3)
Central Java and Yogya				
	CJ Y	CJ Y		
1971 U + R	.179 .131	.217 .159	Census	(1)
1971 R	.189	.213	Census	(2)
1973 R	.151	.158	F-M	(2)
1976 U + R	.146 .096	.153 .116	SUPAS II	(3)
East Java				
1971 U + R	.163	.184	Census	(1)
1971 R	.160	.178	Census	(2)
1973 R	.128	.127	F-M	(2)
1976 U + R	.135	.147	SUPAS II	(3)
Java				
1971 U + R	.183	.208	Census	(1)
1971 R	.191	.214	Census	(2)
1976 U + R	.150	.166	SUPAS II	(3)
1976 U + R + Bali	.150	.198	SUPAS III	(4)

Sources:		Method
	(1)McNicoll and Mamas, 1973, Table 3: 13.	Brass
	(2)McDonald, Yasin and Jones,1976, Table 5.5: 65.	Sullivan
	(3)Hull and Sunaryo, 1978, Table 11: 32 for 3qo and Committee on Population and Demography for 5qo, Table M1.	Trussell
	(4)CBS and WFS, 1978, Vol. I, Table 6.14: 63	Brass

Notes : U = Urban
R = Rural
CJ = Central Java
Y = Yogyakarta

histories to collect this information. Hence they suggest the usefulness of preceding pregnancy histories by simple questions concerning the numbers of children ever born and still living (1976: 66).

Similarly, doubt is also raised by Hull and Sunaryo from their comparative analysis using the 1971 Census and the 1976 SUPAS II data. They too are of the opinion that the implied decline is exaggerated, which they also attribute to a difference in the design of the questionnaire. In neither case was a pregnancy history used. In the 1971 census the first question concerned the number of living children which was followed by the number of dead children and then the number of children born alive. In SUPAS II the first question was on the number of children born alive followed by the numbers of living children residing with and away from the respondent; and the last question was about the number of dead children (1978a: 14-17 and 33-38).

Interestingly, the results from SUPAS III, which was also conducted in 1976 and also used a pregnancy history, but was preceded by questions about the numbers of children still living, dead children, and children ever born, produced a similar child mortality estimate to that derived from SUPAS II if the estimate is based on 3qo. The estimated level derived from SUPAS II for Java is exactly the same as that from SUPAS III for Java and Bali. (Because, on the basis of the weighted estimates, the Bali sample constitutes only two percent, thus the results from SUPAS III reflect mostly the estimates for Java.)

In a way it is pleasing to find that the two 1976 Surveys have produced consistent estimates of child mortality for Java. As mentioned in the previous chapter the respondents for SUPAS III constitute a subsample of SUPAS II. The difference between SUPAS II and SUPAS III is in the ordering of the questions concerning numbers of children born alive and surviving. Hull and Sunaryo imply that such a difference could have accounted for the possibility of a greater bias resulting from SUPAS II when compared to the 1971 Census (1978: 14-17). Yet the ordering of the specific questions in SUPAS III is similar to the 1971 Census. Hence, it remains unknown whether biases are necessarily introduced by differences in questionnaire designs.

When the trend in child mortality is measured in terms of the probability of dying between birth and age five however, the pattern is less consistent. Based on a comparison of data from 1971 and 1973 it can be concluded that for all provinces of Java child mortality declined. However, when data from the 1976 Surveys are included in the comparison then the pattern is less distinct. For West Java the 5qo estimates from the 1973 F-M Survey and the 1976 SUPAS II show rather similar levels. Similar levels can be observed when comparing the combined results for rural Central Java and Yogyakarta from the 1973 F-M Survey and the separate results for the overall provinces from the 1976 SUPAS II (the combined estimate for the two provinces is weighted by the results for Central Java). However, the estimates for East Java appear to show an increase in the level of 5qo. What then can be said of the trend for all of Java. Regretably the results from the 1973 F-M Survey were never computed for the whole island combined. However, it appears that on the basis of a comparison of estimates

from 1971 and SUPAS II of 1976, the overall picture is indicative of a decline of 5qo from around 210 to 170 per thousand. The far higher level derived from SUPAS III is considered erroneous. There are two reasons for this position. First, it is believed that levels of child mortality have declined during the period of the late sixties and early seventies due to improvements in health and sanitary conditions, while a comparison of the 5qo estimates from 1973 and SUPAS III of 1976 would lead to a conclusion that there was no decline in child mortality. Second, a comparison of the 3qo and 5qo estimates derived from SUPAS III indicate a deviation which is far too great compared to the relationship between these two child mortality indices derived from any other data source.

The availability of several data sources has cast more doubt than clarification on child mortality trends for Java during the latter years of the sixties and early seventies. Considering the inputs and expansions in public health and sanitary services during this period it is expected that child mortality should have declined. Yet, what remains unknown is the degree of the decline and the levels for the early seventies.

7.3. CHILD MORTALITY EXPERIENCED BY TRANSMIGRANT WOMEN

Notwithstanding the above mentioned weaknesses in child mortality estimates from available data sources, in order to gain a better perspective of child mortality experienced by transmigrant women, the estimates will be compared to estimates for other populations derived from existing sources. In this case estimates will be derived from the 1971 Census and the 1976 SUPAS II. (Although available, SUPAS III

estimates are not considered here because of the observation made above that 5qo is far too high relative to 3qo.) Included in the comparison are estimates for migrant women born on Java and residing in North and Central Lampung in 1971 (the two KABUPATEN from which the sample of transmigrant women was drawn), and for women in rural Java in 1971 and 1976. Even though SUPAS II also covered areas outside Java, as Speare (1979) has pointed out, because of the highly clustered sampling procedure it is likely that the sample in Sumatra contained no official transmigration village. Therefore no estimates are computed for migrants born on Java and residing in North and Central Lampung in 1976. As has been done in the previous chapters, in order to seek comparability between the data for transmigrant women and women in the areas of origin of the transmigrant women the estimates for rural Java are weighted by the proportional distribution of transmigrant women by province of birth on Java.

In this case child mortality will be examined in terms of the probability of dying between birth and ages three and five because the transmigrant women included in the study were 25-44 years old at the time of the survey. The Sullivan indices are presented in Table 7.2. Several observations can be made from these data. First, in this case the levels of child mortality as measured in terms of 3qo and 5qo were rather similar for migrants born on Java and residing in rural North and Central Lampung in 1971 and rural Java in 1971. Second, the levels of child mortality in rural Java were lower when derived from 1976 data compared to when derived from 1971 data. Third, the levels of child mortality experienced by transmigrant women, for whom data were collected in 1976, were far lower compared to those derived for migrant women in North and Central Lampung, for whom data were

Table 7.2 -Sullivan's Estimates of 3qo and 5qo for Selected Populations of Indonesia in 1971 and 1976.

Year and Population	3qo	5qo
1971 Migrants born on Java and residing in rural North and Central Lampung*	.169	.192
1976 Transmigrants**	.084	.103
1971 Rural Java+	.180	.199
1976 Rural Java++	.146	.165

Sources: *BPS, 1971 POPULATION CENSUS, based on unpublished special tabulations.

**1976 Survey.

+BPS, 1971 POPULATION CENSUS, based on Series E, Nos. 10, 11, 12, and 13.

++BPS, SUPAS II, based on unpublished special tabulations.

Notes: **The multipliers are derived from the results for migrants born on Java and residing in rural North and Central Lampung in 1971.

The data for rural Java is weighted by the proportional distribution of transmigrant women by province of birth.

collected in 1971. Since the purpose of the inclusion of several estimates of child mortality is for appraising the estimates for the transmigrant women a closer examination is required. As has been mentioned before, it is believed that child mortality on Java has declined during the early seventies. The implied decline in the levels of child mortality for rural Java derived from data collected in 1971 and in 1976 amounts to approximately 15 percent. Assuming

that during the same reference period the levels of child mortality in areas outside Java declined by a similar degree, then the levels of child mortality among transmigrant women by 1976 in relation to migrant women born on Java and living in rural North and Central Lampung in 1971 should have been far higher; a 3qo of around .140 and a 5qo of around .160. Instead, the 3qo and 5qo levels for transmigrant women were only approximately half of the values for the reference population. Such an extreme deviation in the levels of child mortality experienced by transmigrant women as compared to other populations in the areas of transmigration settlements and areas of origin of the transmigrants may be a function of the small sample size if the sample was biased towards transmigrant women who had experienced relatively low child mortality and/or possible under-recording of child deaths among transmigrant women.

A further possible explanation for the low levels of child mortality for transmigrants is that the models underlying the Brass-type methods may not be applicable to the sample of transmigrant women. The mortality indices presented above are derived using Sullivan's procedures (1972), which are refinements on concepts originally introduced by Brass (Brass and Coale, 1968: 104-109 and Brass, 1975: 50-59). Brass holds that there is a relation between D(i) and q(i).* The proportion dead among children ever born to women in a particular age group is a function of the age distribution of those children ever born in the absence of mortality, and a mortality schedule (Brass and Coale, 1968: 109). Feeney, who has further

---

*Where D(i) is the proportion dead among children born to women in the i-th five-year age interval, the first interval being 15-20; and q(i) is the proportion dying before age i or iq0 in the life table notation (Brass, 1975: 105)

elaborated on the Brass concept indicates that the proportion of deceased children among all children ever born to women of a given age group at a given census or survey can be expressed as:

$$Di = \sum_{t} Ci(t).q(t)$$

where i is an index identifying an age group, Ci(t) denotes the proportion of children ever born to women of this age group born during the t-th year preceding the census or survey, and q(t) refers to the proportion of those children who died prior to the date of data collection (1980: 109-110). Thus, the major variables which determine q(t) are Di or the recorded proportion of children ever born to women in age group i who died prior to data collection, and Ci(t).

Because in many censuses data are only collected on the numbers of children ever born and still living, no actual distribution of Ci(t) can be calculated. In order to overcome this problem Brass developed a procedure to estimate the distribution from the mean number of children ever born to women in successive age groups based on the following fertility polynomial:

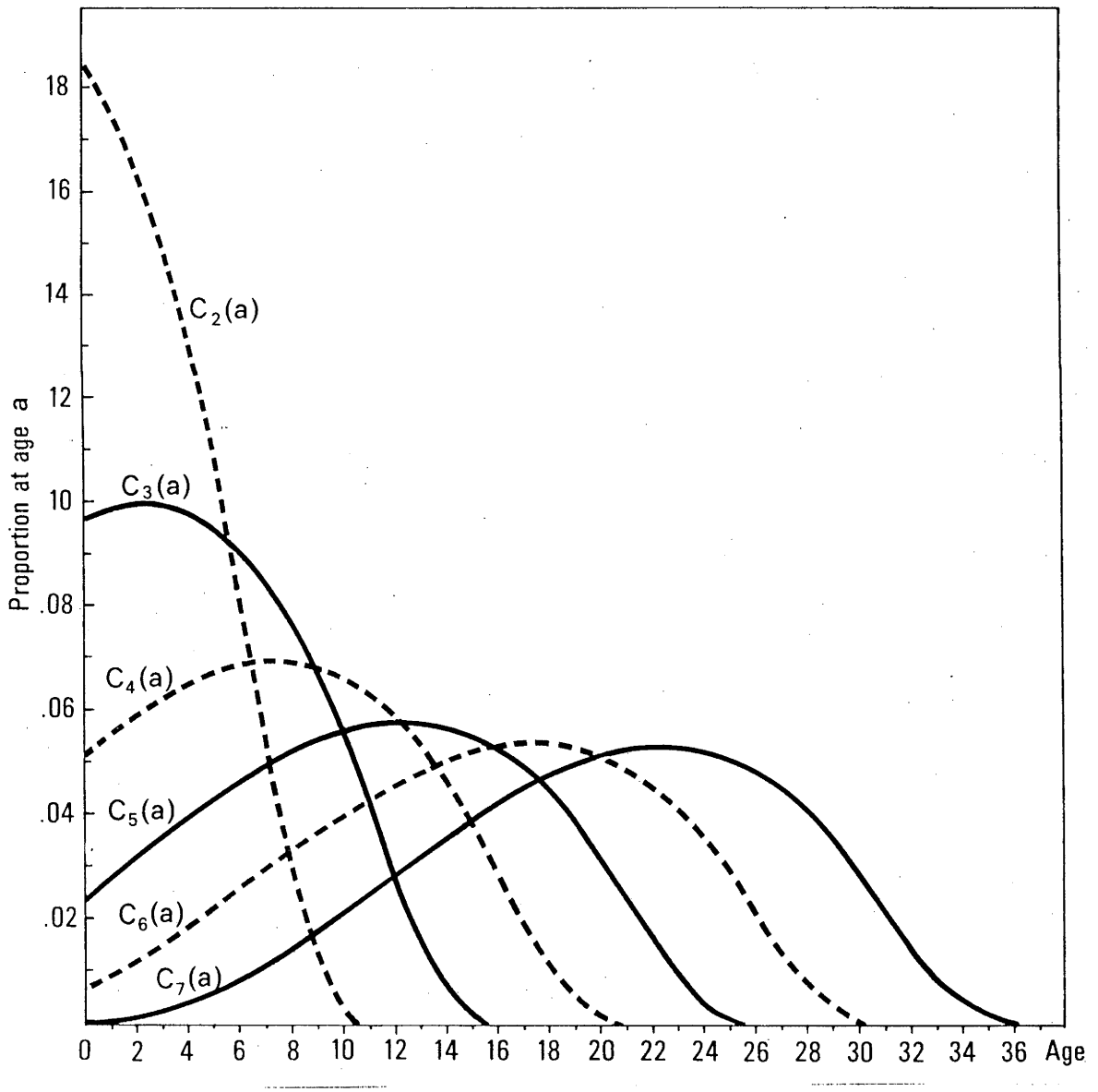
$$f(a) = k\,(x-s)(s+33-x)^{2} \quad \text{for } s<x<33$$

where s is the age at commencement of childbearing and k is a weight related to the total number of children ever born by the end of child bearing or at age s+33 (Brass and Coale, 1968: 109). In the absence of mortality, the proportion of children ever born to women in a given age group born during year t prior to the data collection is:

$$Ci(t) = \frac{fi(t)}{\sum_{t=1}^{T} fi(t)} \qquad T=x-s$$

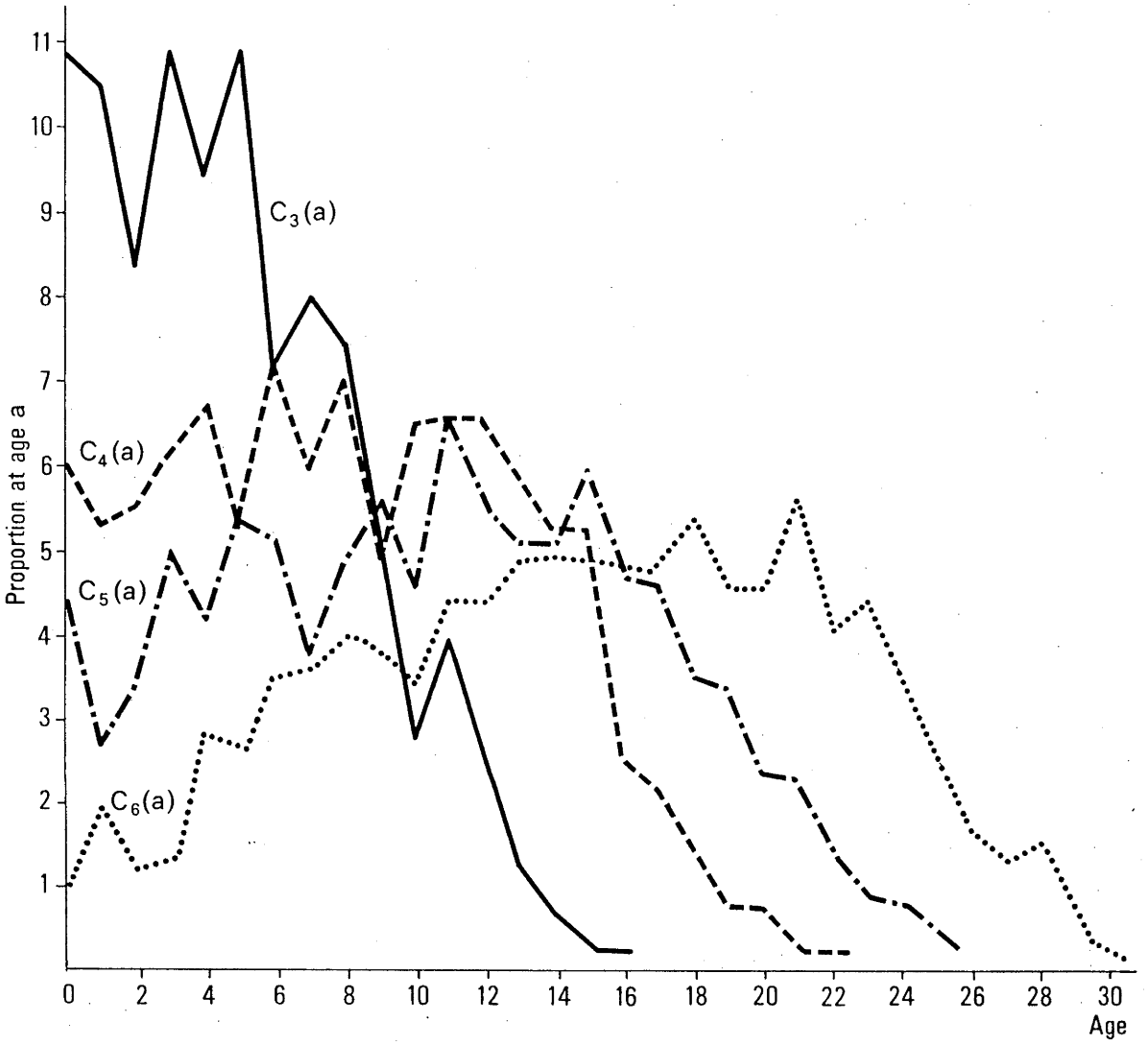
Instead of referring to numbers of years preceding data collection, Brass uses age, for which the distribution is reflected in Fig. 7.1.

Fig. 7.1 -Age Distribution of Children Ever Born to women, for Mothers Aged 20-25 [C2(a)] to Aged 45-50 [C7(a)].



Source: Brass and Coale, 1968, Fig. 3.2: 110.

Fig. 7.2 -Age Distribution of Children Ever Born to Transmigrant Women Aged 25-29 [C3(a)] to Aged 40-44 [C6(a)].



Source: 1976 Survey.

Since the mortality indices for transmigrant women presented in Table 7.2 are derived as functions of Ci(t) and q(t), let us first examine the patterns of the distribution of Ci(t) for transmigrant women. Instead of depending on Brass' model, the actual distribution can be calculated. The necessary information was collected in

pregnancy histories where dates of pregnancy outcomes were recorded. In the absence of mortality, the age distribution of children ever born to transmigrant women in each of the five-year age groups is presented in Fig. 7.2.

Of course no actual distribution can be expected to show smooth curves. However, compared to the patterns of the curves produced by Brass in Figure 7.1, the shapes of the curves show great similarities. Since this is the case, the distribution of Ci(t), which is basically the fertility schedule of women of a given age, does not account for the extreme deviation of 3qo and 5qo for transmigrant women compared to expected values on the basis of experiences of women in the general areas of origin and destination of the transmigrant women. Instead, the resulting mortality estimates for transmigrant women are primarily determined by the Di values, which refer to the recorded proportions of children who died prior to the survey among all the children ever born to transmigrant women aged 25-29 and 30-34 years.

7.4. CONCLUDING REMARKS

On the basis of the above analysis the following conclusions can be drawn. First, currently available data which allow for the estimation of child mortality produce many inconsistencies, thus indicating the need for more studies emphasizing mortality. While especially during the decade of the seventies we have observed a great thrust in demographic studies of fertility, the study of mortality has not received similar attention. Second, despite the limitations of the data, there is little evidence to suggest that child mortality among transmigrant women was so much higher than among women in rural

Java that it would have influenced their fertility to an extent greater than the impact of child mortality on fertility in Java. Instead, the transmigrant women apparently suffered from fewer losses of children than the women in rural Java.

CHAPTER 8

FAMILY PLANNING

Use of birth control methods affects fertility by reducing exposure to conception. While traditional methods of birth control have long been used and practiced in Indonesia, legal and widespread availability of modern methods of contraception is only recent. In this section a concise description will be presented of the National Family Planning Program (NFPP). Thereafter, data will be presented on the experiences of the transmigrant women.

8.1. THE NATIONAL FAMILY PLANNING PROGRAM

The present government in Indonesia has been in power since the second half of the sixties. This New Order Government is strongly committed to economic development and the development planners in the Government consider Indonesia's large and rapidly growing population as a major impediment to the achievement of economic development. Hence, from the early stages of designing development plans, family planning has been included as an integral part of the overall development strategy. Development strategies are broadly described in the REPELITA (Five Year Development Plans). These plans commenced in fiscal year 1969/70 and the third plan (REPELITA III) is at present in operation. It was during REPELITA I, specifically in 1970, that the Government indicated its strong commitment to family planning by

transforming the LKBN (the National Family Planning Institute), which was established in 1968 under the auspices of the Department of Health, into an autonomous body called the BKKBN or National Family Planning Coordinating Board, which is directly responsible to the President.

Since Indonesia's population problem has for long been considered Java's problem, it is no coincidence that the activities of the program were initially limited to Java and Bali, where the program commenced seriously in 1971. The Program was expanded to ten provinces outside Java and Bali during REPELITA II of 1974/75-1978/79. Lampung is one of the provinces covered by the Family Planning Program activities during REPELITA II.* During the current REPELITA III of 1979/80-1983/84 family planning services are to be made available throughout all 27 provinces of Indonesia.

Notwithstanding its relatively short history, the Indonesian Family Planning Program has been widely praised for its successful achievements. As mentioned earlier, within the context of trying to develop Indonesia's economy, it is considered necessary to curb rapid population growth, which is in turn regarded as primarily caused by high fertility. Thus, the National Family Planning Program, which is directed at reducing fertility should be evaluated with reference to fertility. This has been done in detail by T. H. Hull, V. Hull and M. Singarimbun in their INDONESIA'S FAMILY PLANNING STORY: SUCCESS AND CHALLENGE (1977). In this analysis the authors claim that on the

---

*Since REPELITA II, family planning services have been considered as part of the social infrastructure to be made available in all new transmigration settlements (REPELITA II, Vol. II: 454; and REPELITA III, Vol. II: 14-30.

basis of a comparison of the 1971 Census and the 1976 Indonesia Fertility Survey, the results "point to a success story probably unrivaled in family planning history" (1977: 3). This claim is based in part on estimates which show that in comparison to the average for the period 1967-71, the total fertility rate for 1976 is slightly more than a third lower in Bali where it declined from 5.8 to 3.8 children. All provinces of Java also indicated decreases in total fertility rates, though not as dramatic as Bali, over the same period. In Jakarta and Central Java the total fertility rate declined by 17 percent, in East Java by 15 percent, in West Java by 12 percent, and in Yogyakarta by 6 percent (1977: 3 and Figure 5: 26-27).

The authors further claim that there are two major factors which account for such steep declines in the levels of fertility in Java and Bali. A substantial proportion of the decline has been attributed to changing marriage patterns. Even though for all of the six provinces the increase in the singulate mean age at marriage was not more than one year between 1971 and 1976, the proportions of the declines in the total fertility rates that have been attributed to changing marriage patterns are as follows: 100 percent in Yogyakarta; one third in Jakarta and Central Java; more than a quarter in West and East Java; but only five percent in Bali.* It has been argued that the very

---

*The Hull et al. analysis which shows that such substantial proportions of the decline in fertility can be explained by changing marriage patterns is contrary to a conclusion drawn in the previous chapter. Changing age at first marriage, because the change is rather small and at very young ages, does not affect fertility. From their analysis of the WFS data for nine countries in Asia and the Pacific, Caldwell, McDonald and Ruzicka found a very weak relation between age at first marriage and completed fertility (for women aged 45-49 years): completed fertility is highest in Thailand even though age at first marriage is also among the highest, while the lowest completed fertility is found for Java and Bali where mean age at first marriage is among the lowest.

small percentage of the change in fertility in Bali that can be explained by changing marriage patterns is due to the already high age at first marriage experienced by Balinese women in 1971. However, if it can be considered that the other provinces are indicative of a 'normal' pattern, then Yogyakarta and Bali are extreme cases. While the data for Yogyakarta indicate a very low percentage decline in the total fertility rate, for Bali the decline is highest. Of the declines in total fertility rates, the proportions that are attributed to changing marriage patterns are also extreme opposites for these two provinces. Yet, the differences in the singulate mean ages at marriage are not as extreme. In 1971 the levels were rather similar; 21.7 years for Yogyakarta and 21.8 years for Bali; while in 1976 they were 22.0 and 22.4 years respectively, the rise being higher for Bali.

The second major contributor to the fertility decline occurring in Java and Bali during this period is the activities of the Family Planning Program. Within a relatively short period of time the Program has managed to reach a substantial proportion of eligible women in the reproductive ages. By 1976 the proportions of women aged 15-44 years who were current users of modern methods were 38 percent in Bali, 29 percent in East Java, 26 percent in Central Java, 20 percent in Jakarta and Yogyakarta, and 15 percent in West Java. In terms of all methods the percentages were 43 in Yogyakarta, 39 in Bali, 34 in East Java, 30 in Central Java, 29 in Jakarta, and 17 in

---

Continued

The authors further indicate that the low correlation found between completed fertility and age at first marriage for country data does not mean that the same is true for individuals. Thus it is shown that the mean numbers of children ever born to women aged 45+ declines with increasing age at first marriage (1980).

West Java (Figure 5: 26-27). Besides rapid expansion of the number of clinics, from 116 in 1967 to just over 2,700 by the end of 1976, Hull et al. attribute most of the achievements of the Program to the dedication of the fieldworkers, a corps which expanded from 150 in 1970 to 7,000 in early 1977 (1977: 8).

They point out that it is the fieldworkers "who have not only brought contraception to the doorstep but also played a major role in setting up and maintaining the community-based distribution scheme" (1977: 38). Notwithstanding the authors' strongly positive evaluation of the fieldworkers' contribution in the successes achieved in Java and Bali, when the BKKBN embarked on an expansion of its program to ten additional provinces outside Java and Bali during REPELITA II, fieldworkers were not included as a component of the program in the field. Instead, the emphasis of the activities is a greater reliance on the Village Contraceptive Distribution Centers or VCDC (Pudjo Rahardjo, 1979). Though progress has been substantial, Hull et al. imply that the program has been relatively slow in reaching new acceptors in the ten provinces included since REPELITA II, compared to the Java-Bali program, because of the change in strategy (1977: 37-38).

Following this background summary of the National Family Planning Program, the next section is devoted to a presentation of the data on the impact of the Program on the women included in the current study.

8.2. KNOWLEDGE OF CONTRACEPTION

Even though the direct achievements of the NFPP are measured in terms of the numbers of contraceptive users, in a basically voluntary program, knowledge of birth control methods can be regarded as a precondition for its use. This information was collected as replies to two questions: (1) Have you ever heard of (method) to regulate pregnancies; and (2) Do you have some knowledge of (method) to regulate pregnancies. Data were collected for seven methods, namely: pill, IUD, condom, rhythm or withdrawal, abstinence, male or female sterilization, and folk methods, which consist of herbs, massage and others. The proportions of affirmative responses to these questions according to the specified methods are shown in the next two tables.

For comparative purposes similar data from SUPAS III are included for Java and Bali.* From the available published data it is not possible either to separate the data for rural Java or to weight the data by the proportional distribution of the transmigrant women's province of birth. It was not regarded as essential to prepare special tabulations from SUPAS III because the results are considered to be a function of regional differences in Program implementation and supporting infrastructure for the dissemination of the Program information and devices.

---

*Even though similar data were also collected during the 1973 F-M Survey, the data are not presented here because they are not considered comparable. As mentioned above, the NFPP has made very rapid progress in a relatively short span of time. The three year difference in the history of the Program, which in actuality had been underway for only five years by 1976, should explain a greater part of the difference from the results of the current study while there is no intention here to consider trends.

Table 8.1 -Percentage of Women Who Had Ever Heard of Specified Contraceptive Methods, by Residence.

Method	Lampung*	Java and Bali**
Pill	61	73
I U D	35	53
Condom	24	42
Rhythm/Withdrawal	11	13+
Abstinence	29	14
Sterilization	6	13+
Folk Methods	17	21+
Number	791	5,555

Sources: *1976 Survey.

**Based on CBS and WFS, 1978, Vol. II, Table 2.1.1A: 75.

Notes : **For ever married women aged 25-44 years only.

+These are the highest percentages among several birth control methods.

The relative novelty of the Program's activities in the "Outer Islands' compared to the Program on Java and Bali is reflected by the lower percentages among the transmigrant women who had ever heard of the specified methods compared to women on Java and Bali. While such is the general observation, there is however one exception. Proportionately twice as many transmigrant women compared to women in Java and Bali had ever heard of abstinence as a birth control method. This discrepancy is attributed to differences in administering the

questionnaires. More probing on this method was done during the Survey for the current study than during SUPAS III.

While relatively fewer transmigrant women than women on Java and Bali had ever heard of the specified birth control methods, nevertheless, considering that the expansion of the Program to include the province in which the studied transmigrant settlements are located had been going on for two years only by 1976, the percentages of transmigrant women who had ever heard of the listed methods are relatively high. These findings may be a reflection of not only the direct actitivites of the NFPP but also the overall developments in communications as a whole. This is the reason why the data are not presented for the different age groups. Although differences by age have been recorded for Java and Bali in SUPAS III, hardly any differences are found for the transmigrant women.

The question as to whether the respondent had ever heard of selected contraceptive methods did not imply specific knowledge of the method, such as its purpose or how it was used. The proportions of the women who gave positive responses to the question of having some knowledge of specified methods are shown in Table 8.2. No data are presented for Java and Bali because such data were not collected during SUPAS III.

These data are meaningful not in themselves but rather in relation to the data presented in the preceding table. Whatever the respondents assumed was meant by having some knowledge of a particular contraceptive method, the comparison of the data in the first two tables clearly indicates that having heard of a particular method does not mean the same as having some knowledge of that particular method

Table 8.2 -Percentage of Transmigrant Women Who Had Some Knowledge of Specified Contraceptive Methods, 1976.

Method	%
Pill	28
I U D	15
Condom	11
Rhythm/Withdrawal	8
Abstinence	24
Sterilization	3
Folk Methods	12
Number	791

Source: 1976 Survey.

of birth control. The proportions who claimed to have some knowledge of a particular contraceptive method are substantially lower than the proportions who had ever heard of that particular method. Furthermore, a point worth noting is that the differences are greater for the Program methods, namely the pill, IUD, and condom, than for other methods. Thus, the percentage differences between those who had ever heard of a particular method and those who had some knowledge of that method are 33, 20, and 13 percent for the pill, IUD and condom respectively, while the percentage differences of affirmative responses to the two questions on the other methods are 3 percent for rhythm/withdrawal; 5 percent for abstinence; 3 percent for sterilization; and 5 percent for other folk methods.

The far greater discrepancies in the percentages of transmigrant women who had ever heard and who had some knowledge of the Program methods (pill, IUD, and condom) substantiate a point raised earlier, that rapid improvements and developments in communications are reaching people in even remote areas, such as the transmigration settlements, faster than the Program's activities. Mass communications have expanded rapidly during the early seventies. Even though television had not yet become accessible during the survey period in these particular transmigration settlements, transistor radios were no longer a novelty though still a luxury. With the rather low levels of literacy prevailing in the country, it is especially the electronic means of communication which bring recreation and also news and information, like government programs, to the villagers throughout the archipelago.

8.3. USE OF CONTRACEPTION

The questions on knowledge of contraceptive methods were followed by questions on their use. Respondents were first asked if they had ever used a method and then whether they were current users of a specified method. The proportions of users by method are presented in the next two tables.

Because of availability of similar data from SUPAS III, for comparability, data are also presented from Java and Bali. The data in Table 8.3 indicate basically similar patterns to those noted in the description of the data on knowledge of the specified birth control methods. The difference in the levels of ever users are due to differences in duration of the Program's activities between Java and

Table 8.3 -Percentage of Women Who Had Ever Used Specified Contraceptive Methods, by Residence.

Method	Lampung*	Java and Bali**
Pill	9	27
I U D	2	9
Condom	.4	6
Rhythm/Withdrawal	5	3
Abstinence	18	4
Sterilization	.3	.3
Folk Methods	3	4
Number	791	5,555

Sources: *1976 Survey.

**Based on CBS and WFS, 1978, Vol. II, Table 2.4.1A: 97.

Notes : Same as Table 8.1.

Bali, and Lampung, where the transmigrant women reside. Thus, lower percentages of transmigrant women had ever used Program methods than women on Java and Bali. Concerning the 'traditional methods', specifically abstinence, as has been pointed out before, the far higher percentage recorded for transmigrant women compared to women on Java and Bali is a result of differences in administering the questionnaire.

Furthermore, from a comparison of these data with data reflecting 'knowledge' of the specified birth control method, it can be noted that, as expected, the percentages of women who responded affirmatively have continued to decline. Further declines can be observed from a comparison with data on current users, which are presented in Table 8.4.

Table 8.4 -Percentage of Women Who Were Current Users of Specified Contraceptive Methods, by Residence.

Method	Lampung*	Java and Bali**
Pill	7	14
I U D	1	6
Condom	.4	2
Rhythm/Withdrawal	4	1
Abstinence	16	1
Sterilization	.3	.3
Folk Methods	1	1
Number	791	5,555

Sources: *1976 Survey.

**Based on CBS and WFS, 1978, Vol. II, Table 2.3.1.: 83.

Notes : Same as Table 8.1.

The same explanations mentioned before also apply when a comparison is made between the percentages of current users of the specified methods

among transmigrant women and women on Java and Bali. An additional observation worth noting is that with regard to the Program methods (pill, IUD, and condom), the pattern of usage among transmigrant women is the same as among women in rural Java and Bali. While the Program is said to have promoted IUD's in favor of the pill until 1976, even in such remote areas as the transmigration settlements the pill appears to be used more than either the IUD or the condom. Whether this is a function of the Program's activities or the preference for the pill among Javanese women was not an objective of the current study. Again an extreme difference in the proportions of current users of abstinence as a birth control method between transmigrant women and women in Java and Bali can be noted. The same explanation mentioned before applies here too.

These differences raise an important issue. If differences in administering questions on abstinence, as a means of birth control, produce such wide discrepancies in the proportions of women who had ever heard, had some knowledge of, had ever used, and were current users of the particular method, then perhaps abstinence is far more widely practiced than suggested by the data derived from SUPAS III for the average for all provinces on Java and Bali. This assertion is suggested as a result of a closer examination of SUPAS III data and other available information. There was great interprovincial variation in knowledge and practice of family planning information collected during the survey, however, the only published province-specific tabulations on this information are for current users. Furthermore, the data are not presented in detail. Instead, abstinence is combined with rhythm, withdrawal, and douche, and labeled 'world-wide traditional' methods. In this case, the data on

current users is only presented for 'exposed' women, the subgroup which excludes women who are currently not married, pregnant, or believe themselves to be infecund, unless sterilized for contraceptive purposes (CBS and WFS, 1978, Vol. I: 42). The proportion of women in the same age categories as the transmigrant women, between 25 and 44 years, who were current users of traditional methods according to SUPAS III are as follows: 9.9 percent for Jakarta; 1.9 percent for West Java; 2.8 percent for Central Java; 27.3 percent for Yogyakarta; 2.0 percent for East Java; and 1.0 percent for Bali* (Based on CBS and WFS, 1978, Vol II, Table 2.3.3A: 85-87).

The above figures raise the question as to why the proportion of 'exposed' women in Yogyakarta who have been recorded as current users of abstinence as a contraceptive method is so much higher than in any of the other provinces where data was collected during SUPAS III in 1976. Can it be that women in Yogyakarta are so different from women in other provinces of Java? This is considered rather unlikely because people in Central and East Java belong to the same ethnic category as people in Yogyakarta, who are all referred to as Javanese. West Java is the province of the Sundanese while Jakarta can be expected to differ from the rest of Java as a consequence of its metropolitan character.

---

*Based on these figures the proportion of women who are current users of abstinence as a birth control method should be higher than indicated in Table 8.4. The reason for the discrepancy is that the figures shown in Table 8.4 are computed on the basis of all women while the above figures are calculated for 'exposed' women only.

Studies in the Yogyakarta area indicate that prolonged postpartum abstinence after childbirth is widely practiced. From their study in Mojolama, a hamlet in the village of Srihardjo, Singarimbun and Manning* report that, especially where the child survives the first two years of life, prolonged abstinence is commonly practiced. On average mothers reported having abstained for 23.4 months following childbirth in cases when their children survived the first two years of life (1974a, Table 31: 73). V. Hull studied another village in Yogyakarta where she found that women in Maguwohardjo also commonly practice abstinence after childbirth. However, she found that the period of abstinence among her studied women was somewhat shorter, the average being 12.4 months (V. Hull, 1975, Table 6.23: 270). The same village where Singarimbun and Manning conducted their study was resurveyed in 1973. In addition to the previous hamlet of Mojolama another hamlet in the same village, Kedung Miri, was included in the survey. The data which were analyzed by Kasto show that on average women abstained for 20.2 months (the median was 20.8 months). There is however no clarification about the births at risk that were considered (1978, Table 5.8: 61). These findings are rather similar to those reported by Singarimbun and Manning, which is not surprising considering that the same village of Mojolama, besides the additional hamlet of Kedung Miri, was restudied.

Singarimbun and Manning further collected information on reasons offered by the women for such extended periods of abstinence. They report the existence of a general belief that resumption of intercourse prior to weaning has a detrimental effect on both the

---

*The data for this study were collected over a twelve month period from April 1969 to March 1970.

quantity as well as the quality of the mothers' milk, as a result of entry of semen into the womb. Their findings indicate that over sixty percent of the women believed that abstinence should continue to weaning. Among them 40 percent believed that intercourse was harmful to the child's health; 20 percent because intercourse spoilt the mothers' milk, and 17 percent held that abstinence was necessary to achieve satisfactory birth intervals (1974a: 72).

Extended postpartum abstinence is not only practiced by women in Yogyakarta but also by women in East Java. Gille and Pardoko report that in their studied villages in the subdistrict of Tjerme, located 20-25 miles from Surabaya, the capital of East Java, among the women aged less than 40 years, more than one-fourth of the married women abstained for 6-11 months after childbirth; nearly half for 12-23 months and around 4 percent for 24 months or more (1966: 520). Even though these periods of abstinence are not as long as those reported by women in Srihardjo (Singarimbun and Manning, 1974a: 73) and Kasto (1978: 61), these findings resemble those recorded by V. Hull (1975: 270).

There are no studies which have paid sufficient attention to this subject for other areas of Java. Thus, except for the rule according to Islamic teachings, which demands that couples refrain from intercourse for 35-40 days after childbirth (Koentjaraningrat, 1967: 253 and Geertz, 1961: 85), it is not known how extensively postpartum abstinence is practiced throughout the island. However, as shown by the Yogyakarta studies, prolonged postpartum abstinence is closely related to extended periods of postpartum amenorrhea and breastfeed-

ing* (Singarimbun and Manning, 1974: 68-81; V. Hull, 1975: 259-276; Kasto, 1978: 59-66). If this is so then it can be assumed that in communities where the normative pattern is to breastfeed for extensive periods, prolonged abstinence is also practiced. Koentjaraningrat notes that in Tjelapar, a village in South Central Java, the normal practice is to breastfeed an infant for 14-18 months and sometimes longer (1967: 253). V. Hull's findings are rather similar. For all age categories and each of the first two birth orders, the largest percentage of women stated their duration of lactation as 12-17 months and well over a quarter for a longer period (1975, Table 6.22: 268). Since the Srihardjo studies recorded far longer periods of abstinence, durations of breastfeeding too were far longer. Thus Singarimbun and Manning found that the mean duration was 22.1 months (1974, Appendix III2: 85) and Kasto reports a period of 22.8 months (1978, Table 5.8: 61). Thus, accepting the interrelation between extended periods of postpartum abstinence and prolonged breastfeeding, if women in Central Java breastfeed their children for a long period, then it can be accepted that they would also tend to practice prolonged postpartum abstinence. Therefore, the data from SUPAS III which indicate that relatively small numbers of 'exposed' women in Central and East Java are current users of abstinence as a contraceptive method (2.8 and 2 percent respectively) compared to women in Yogyakarta (27 percent) are likely to be somewhat underrecorded.**

---

*The interrelation between the three factors in controlling fertility noted in other societies has been cited by Singarimbun and Manning (1974a: 65-67).

**The reason for this assertion is that data collection for SUPAS III in the Yogyakarta area was supervised by a staff member of the Population Institute of Gadjah Mada University, who was well aware of the wide-spread practice of postpartum abstinence. Hence, it is believed that more attention was paid to the collection of the particular information in Yogyakarta than in other provinces of Java.

This section has been devoted to a concise description of the Indonesian Family Planning Program; its activities and its achievements. When the survey for the current study was conducted in 1976, the transmigrant women had only recently been exposed to the Program. The very active campaigns of the Program are reflected in the achievement that substantial proportions of the transmigrant women had ever heard and had some knowledge about several contraceptive methods. However, because of rather low levels of ever and current usage as a consequence of the novelty of the Program at the time of the Survey, it cannot be claimed that the Program's achievements among the studied transmigrant women would have had any impact on their fertility by the time of the field survey.

8.4. BREASTFEEDING PRACTICES

Prolonged breastfeeding delays ovulation and the return of menstruation following child bearing (R. G. Potter et al., 1965; Berman et al., 1972; Karkal, 1969; and van Ginneken, 1974: 19-21 and Table 6, cited by Singarimbun and Manning, 1974a: 66), and, as observed above, in Java, there is a close relation between abstinence and breastfeeding. As prolonged breastfeeding has therefore been associated with long birth intervals, explaining the relatively low fertility among Javanese women (Singarimbun and Manning, 1974a; V. Hull, 1975; Kasto, 1978), the data on breastfeeding practices among transmigrant women will be examined here after.

Information on breastfeeding practices was collected as responses to two questions. Women were first asked whether they breastfed their last child and if so for how long. The same question was then asked

in regard to the child before the last. Because women generally breastfed their children and usually for extended periods of time, more than half of the studied women were still breastfeeding their last child at the time of the survey. Thus among the 25-29 years old age group 67 percent were currently breastfeeding while 3 percent were childless. Among the women aged 30-34 years, 64 percent were still breastfeeding and 8 percent were either childless or their last child died soon after birth. The percentage of women aged 35-39 years currently breastfeeding was 47 and and an additional 5 percent were either childless or their last child had died a few days after its birth. The proportion of women currently breastfeeding among the oldest age category, 40-44 years, is of course far lower, only 26 percent, while 7 percent had either never given birth or their last child did not survive the first month of life. Consequently, data on completed duration of breastfeeding of the last child is only available for 30 percent of the women aged 25-29 years; for 28 percent of those aged 30-34 years; for 48 percent of those aged 35-39 years; and for 67 percent of those aged 40-44 years.

Therefore, the examination of breastfeeding practices among transmigrant women concentrates on data for the child before the last. Breastfeeding is almost universally practiced among the transmigrant women. Of the total sample only six, or less than one percent, said that they did not breastfeed their last but one child. The tabulated responses regarding duration of breastfeeding during the last closed birth interval are shown in Table 8.5. These results show that transmigrant women practiced rather long durations of breastfeeding, on average almost two years. These results do not deviate very much from findings from other studies on Java. Tan et al. found that most

Table 8.5 -Percentage Distribution of Transmigrant Women by Duration of Breastfeeding During the Last Closed Birth Interval, by Current Age of Mother.

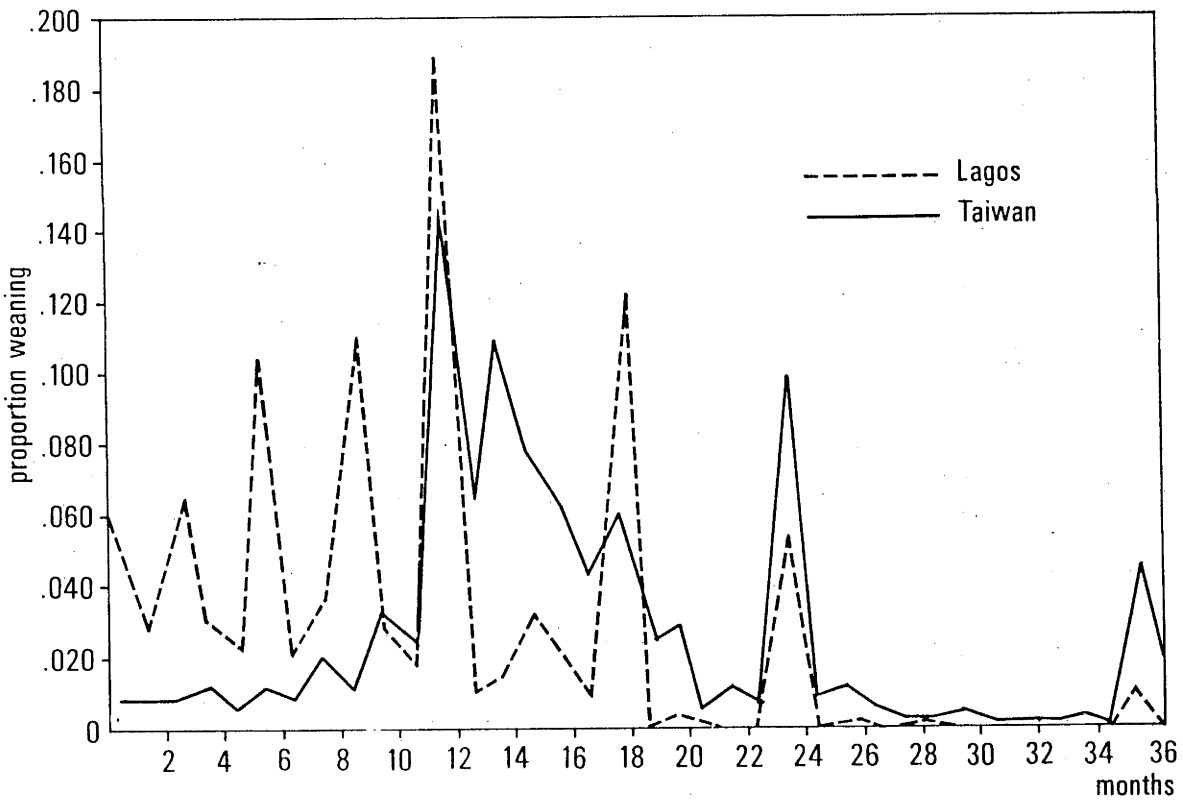
Duration of Breastfeeding (months)	Curent Age				
	25-29	30-34	35-39	40-44	Total
0-11	5	5	5	11	7
12-17	16	18	11	16	15
18-23	28	19	24	17	22
24-29	36	36	38	28	35
30-35	5	8	7	6	6
36+	10	13	15	19	15
Number	179	175	180	161	695
Mean	21.8	22.5	23.9	22.3	22.6

Source: 1976 Survey

women on Java nursed their babies until they were 1-2 years old or even older. In West Java 67 and 11, in Central Java 48 and 46, and in East Java 69 and 20 percent of the babies were weaned when they were 1-2 and more than 2 years old (1970: 64). Singarimbun and Manning (1974a) found that women in Mojolama breastfed their children for an average duration of 24.8 months (calculated on the basis of Table 34: 78) if those children survived the first two years of life. V. Hull recorded a mean of 16.3 months in Maguwohardjo (1975, Table 6.19: 263) and Kasto reported a mean of 22.8 months among women in Mojolama and Kedungmiri (1978, Table 5.8: 61). Among women aged 15-39

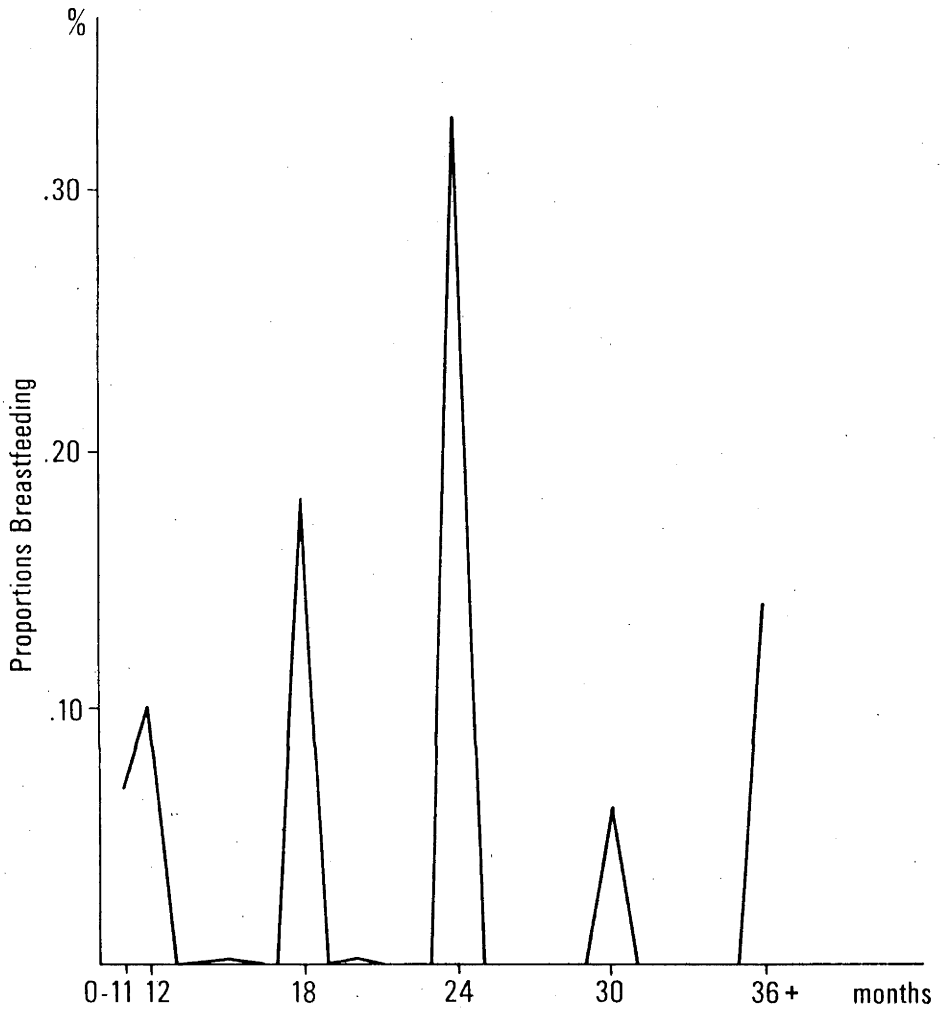
years in an East Javanese village studied by Gille and Pardoko, over 30 percent reported lactation periods of 12-23 months. The majority however, 64 percent, reported breastfeeding their children for more than 24 months (1966: 514). The results from SUPAS III for Java and Bali record a mean of 19.5 months for women aged 25-44 years who had at least two live births, including any current pregnancy (based on CBS and WFS, 1978, Vol. II, Table 3.7.3: 207).

Fig. 8.1 -Heaping in Retrospectively Reported Schedules of Proportions Weaning.



Source: Lesthaeghe and Page, 1980, Figure 1.a: 144.

Fig. 8.2 -Proportions of Transmigrant Women by Duration of Breastfeeding During the Last Closed Birth Intervals, Reported in Retrospective Schedules.



Source: 1976 Survey.

Care should be taken in interpreting these differences as extreme heaping at 6, 12, 18, 24, 30 and 36 months has been recorded. Singarimbun and Manning (1974a: 67), and V. Hull (1975: 253) pointed out this problem. The same pattern can also be noted from SUPAS III data (CBS and WFS, 1978, Vol. II, Table 3.7.3: 207). This is not

only a problem in Indonesia where literacy is rather low, but also in a far more literate society such as Taiwan. The patterns of duration of lactation in Lagos and Taiwan found by Lesthaeghe and Page (1980) are shown in Fig. 8.1. The results from the current study appear to suffer from even more heaping at the above mentioned durations (Fig. 8.2).

Similar to Javan women, transmigrant women tended to nurse their babies for extended periods of time. While prolonged breastfeeding affects fertility by delaying ovulation, the exact extent to which breastfeeding delays conception in Java is not clear (CBS and WFS, 1978, Vol. I: 47). Moreover, the quality of the retrospective data on this practice renders its use in an explanation of fertility differences between transmigrants and stayers unjustifiable.

8.5. CONCLUDING REMARKS

Because of Program implementation, the greatest impact of the National Family Planning Program has been limited to the islands of Java and Bali. The Program could have contributed to the VERY RECENT declines in fertility of the stayers on Java. Because of the novelty of the Program, by 1976, the Program had hardly reached the women in the studied transmigration areas. Consequently, if there were changes in recent fertility of the transmigrant women, these cannot be attributed to the Family Planning Program. Therefore, in general, the Program is unlikely to have had much bearing on the fertility differences between transmigrants and stayers which were observed in chapter 5 because most of this fertility occurred before the Program's effects were significant.

Similarly, breastbeeding practices could not have contributed to the explanation of fertility differences between transmigrants and stayers. If breastfeeding practices were to affect fertility, then the higher fertility experienced by the transmigrant women relative to the stayers should be associated with shorter durations of breastfeeding. Instead, on average, transmigrant women appear to breastfeed their babies for about three months longer than women in rural Java.

CHAPTER 9

EDUCATION

9.1. INTRODUCTION

A large number of studies have shown that education is related to fertility. Graff (1979) and Cochrane (1979), who reviewed the literature on the subject, point to the inconsistent findings. Most studies have reported inverse relations. However, there are some studies which found direct, mixed, or curvilinear relations. Moreover, there is also great variation in the strength of the relations. The inconsistent and irregular findings have been ascribed to the fact that education is not directly related to fertility. While Graff claims that the inconsistencies are due to an inadequate conceptualization of the role of education in affecting fertility (1979: 133), Cochrane develops a model of intervening variables through which education affects fertility (1979: 53-151).

Among a wide variety of intervening variables identified by Cochrane (Table 6.1: 146), in this study three have been examined in detail. In chapter 3 it has been suggested that fertility differences between transmigrants and stayers may be affected indirectly by educational achievements through marriage patterns, child mortality and family planning. From the analyses in the three preceding chapters it has been learned that none of the three studied intervening variables contributed to the explanation of fertility differences between transmigrants and stayers. However, in chapter 6 it has been found that compared to women who entered matrimony on

Java, those transmigrant women who were first married in Lampung tended to delay their first marriage somewhat. Furthermore, later age at first marriage has been found to be associated with shorter first birth intervals and higher cumulative fertility up to specific ages. It has been suggested that these patterns may have arisen as a consequence of differences in educational achievements.

On the basis of the above findings, in this chapter we will examine the influence of education on fertility through age at first marriage. The similarity in marriage patterns between transmigrants and stayers suggests that marriage patterns did not contribute to the explanation of fertility differences between transmigrants and stayers. Therefore, even if transmigrant women were 'better' educated than the women in rural Java, it is suggested that education was not an important contributor to the explanation of fertility differences between the two groups of women being considered. On the other hand, it is anticipated that place of first marriage is as relevant as marriage patterns as a discriminator of educational achievements. Between the two groups of transmigrant women distinguished by place of first marriage, the effects of differences in educational attainment through age at first marriage on fertility can, however, not be examined in this study. The very small numbers remaining after the introduction of age, education, age at first marriage, and place of first marriage, prevent such an analysis. Therefore, the impact of education through age at first marriage on fertility will only be examined to explain fertility differences between transmigrants and stayers. Prior to examining the details of the suggested relations, however, let us first examine the findings on the relation between education and fertility in Indonesia in general.

9.2. THE RELATION BETWEEN EDUCATION AND FERTILITY IN INDONESIA

This section is devoted to identifying an Indonesian pattern of the relation between education and fertility. It has been argued that for the majority of Indonesian women education is positively related to fertility (T.H. Hull and V. Hull, 1977). The authors show that on the basis of the 1971 Census, there is a curvilinear relation between education and the age-specific mean numbers of children ever born, in both urban and rural areas of the country (Table 2: 46). However, because the majority of the Indonesian women aged between 20 and 54 years at the time of the Census were concentrated at the lower end of the educational groupings, the authors hold that the relation for most women is positive. They find further substantiation for this position from the 1973 F-M Survey. For most regions, total marital fertility rates were higher for women with higher levels of achieved schooling (Table 5: 49). Cho et al. support the Hulls' position (1980: 50-51). Using the 1971 Census and the own children method, Cho et al. calculated age-specific total fertility rates for three periods during the preceding decade, for five regions of Indonesia, and for the whole country (1976, Table 3: 29-32). For most age, period, and regional categories, the resulting patterns of fertility by education indicate curvilinear relations. However, in support of the Hulls' argument, Cho et al. agree that most of the women were conglomerated at the positive section of the curve (1980: 51). Further support of the positive relation is also provided by the results from SUPAS III. Small numbers were included in the sample of women who had completed primary school or more. Women with some primary school education had higher completed fertility (6.0) than women who had never attended formal school (5.0, CBS and WFS, 1978, Vol. I, Table 6.8: 56). With

this background on the relation between education and fertility in Indonesia, we will examine whether fertility differences between transmigrant women and women in rural Java can be indirectly attributed to differences in educational achievements.

9.3. EDUCATIONAL ACHIEVEMENTS OF TRANSMIGRANTS AND STAYERS

Not only were all transmigrant household members aged 10 years and over 'better' educated than the stayers, but so were the women as the focus of this study. Ever married transmigrant women aged 25-44 years were similarly 'better' educated than the women in rural Java with the same characteristics. The data in Table 9.1 show a 15 percent difference in the proportions with no schooling between the transmigrant women in Lampung and women in rural Java.

The difference in educational composition between transmigrant women and women in rural Java is primarily a result of the composition of transmigrant women by residence. From chapters 3 and 4 it has been learned that residents of Punggur had greater access to educational opportunities than those in Way Abung or rural Java. Half of the studied transmigrant women were selected from Punggur. Since, as shown in Tables 5.1 and 5.2 a substantial proportion of the sample of women selected from Punggur arrived in Lampung as youngsters, that is prior to reaching age 15 years (39 percent), it is possible that many of them would have attended school in Punggur.

The importance of residence on educational composition is further reflected by the data which separate transmigrant women according to place of first marriage (see Table 9.2). Almost twice as many

Table 9.1 -Percentage Distribution of Ever Married Women Aged 25-44 Years, by Level of Achieved Education and Residence.

Education	Residence	
	Lampung*	Rural Java**
No School	57.0	71.6
Grades 1-3	19.1	13.3
Grades 4-6	21.9	12.7
High School +	2.0	2.4
Number	791	3297

Sources: *1976 Survey.

**Based on Biro Pusat Statistik unpublished special tabulations from SUPAS III.

Note : **Standaridized by the distribution of transmigrant women by province of birth and current age.

transmigrant women who entered matrimony in Lampung had attended formal educational institutions compared to those transmigrant women who were first married on Java (70 and 38 percent respectively). Among the women who were first married in Lampung 179 or 83 percent were residents of Punggur.

There are further observations to be made regarding these data. Noticably, only very few of the studied women went beyond elementary school. Therefore, in the later analysis it is regarded as sufficient to consider education as a dichotomous variable. Furthermore, in chapter 6 it has been suggested that differences in age at first

Table 9.2 -Percentage Distribution of Transmigrant Women by Level of Achieved Education and Place of First Marriage.*

	Place of First Marriage	
Education	Java	Lampung
No School	62.5	30.4
Grades 1-3	15.9	26.6
Grades 4-6	19.3	39.6
High School	2.3	3.4
Number	389	207

Source: 1976 Survey.

Note : Due to the lack of cases among transmigrant women who were first married in Lampung, were currently aged 40-44 years, and had some education, these data have been standardized for all transmigrant women by omitting the last age category.

marriage between transmigrant women who were first married on Java and in Lampung may have been a function of differences in educational composition. The data in Table 9.2 appear to support such a proposition. Compared to women who were first married on Java, those transmigrant women who entered matrimony in Lampung did so at a somewhat later age and a much larger proportion of them had attended a few years of formal schooling. However, as mentioned earlier, the difficulties arising from small numbers prevent us from examining the impact of educational achievements through age at first marriage on fertility between transmigrants differentiated by place of first marriage. Therefore, the examination of the impact of education

through age at first marriage on fertility will have to be done for all transmigrants as a group.

9.4. THE IMPACT OF EDUCATION AND AGE AT FIRST MARRIAGE ON FERTILITY

As suggested above, in Indonesia, education is positively related to fertility. Women who attended formal educational institutions had higher fertility than women who had never gone to school. In Table 9.1 it was shown that proportionately more transmigrant women had gone to school than women in rural Java. Hence, the findings in chapter 5 are consistent with the Indonesian pattern of the relation since transmigrant women had given birth to a larger number of children than women in rural Java. The question, however, arises as to whether the difference can be attributed to education. By controlling for age, the mean numbers of children ever born by levels of achieved education are shown in Table 9.3. These results indicate that, while transmigrant women who had gone to school had given birth to more children than women who had never attended school, when education is held constant, the mean numbers of children ever born to transmigrant women were persistently higher at each level of education than to women in rural Java. These results indicate that education may not have been an important contributor to the explanation of fertility differences between transmigrants and stayers.

The contribution of education to the explanation of fertility differences between transmigrants and stayers can be measured with the widely used method of decomposition. Jaffe (1951) and Kitagawa (1955) recommended the analysis of the differences in overall rates in terms of the compositional components and the specific rates. This

Table 9.3 -Mean Numbers of Children Ever Born to Ever Married Women Aged 25-44 Years, by Levels of Achieved Education and Residence.

Level of Achieved Education	Residence	
	Lampung*	Rural Java**
No School	4.8 (451)	4.1 (2321)
Grades 1-3	5.3 (151)	4.2 (427)
Grades 4-6	5.0 (173)	4.5 (448)
High School	5.7 (16)	3.2 (101)
Total	4.9 (791)	4.1 (3297)

Sources: Same as Table 9.1.

Notes : *Standardized by the age distribution of all transmigrant women.

**Standardized by the distribution of transmigrant women by age and province of birth.

The numbers in parentheses indicate sample size.

technique suggests that the differences in overall crude rates are partly the result of the differences in the composition between the populations being compared. It has been suggested earlier that education affects fertility through age at first marriage. The impact of these two variables can be examined simultaneously by analyzing the education and age at first marriage composition, and the specific rates of the two groups of women. Due to small numbers, however, both

education and age at first marriage will have to be considered as dichotomous variables. It has been mentioned earlier that very few of the studied women had gone beyond elementary school. Thus, those who had never attended formal educational institutions are distinguished from those with some schooling. From chapter 6 it has been observed that 16 years is a relevant cut-off age to separate women according to age at first marriage. Rather than standardizing for age, as has been done in the preceding analyses, we will also measure the impact of the difference in age composition on the difference in fertility.

By modifying the methods described by Kitagawa (1955) for decomposing changes in crude rates, and by Retherford and Ogawa (1978) and Retherford and Cho (1981), who measured changes in total fertility rates in terms of the components, we arrive at the following method to measure fertility differences between transmigrants and stayers, where fertility is measured in terms of the mean numbers of children ever born.

If $$C = \sum_{x} C(x).p(x)$$

where C = mean number of children ever born to ever married women aged 25-44 years;

C(x) = mean number of children ever born to ever married women aged x;

p(x) = proportion of ever married women aged x;

then $$C = \sum_{xem} C(xem).p(xem).p(xe).p(x)$$

where C(xem) = age-education-age at first marriage-specific mean number of children ever born;

p(xem) = proportion of age at first marriage category within age-education groups; and

p(xe) = proportion of educational category within age groups.

It can be shown that:

$$C = \sum_{xem} C(xem).p(xe).p(xem).\delta p(x) + \sum_{xem} C(xem).p(x).p(xem).\delta p(xe) + \sum_{xem} C(xem).p(x).p(xe).\delta p(xem) + \sum_{xem} p(x).p(xe).p(xem).\delta C(xem)$$

where δ denotes the difference between corresponding values in two groups and a bar over a symbol (-) the average values, which are derived as the sum of the corresponding values for the separate groups divided by two. As suggested by Durand and Miller, by averaging the two values interaction is eliminated (1968: 43-46);

and the first term denotes the contribution from differences in the age composition; the second terms denotes the contribution from differences in educational composition within age groups; the third term denotes the contribution from differences in age at first marriage composition within age-education groups; and the fourth term denotes the contribution from differences in the age-education-age at first marriage-specific mean numbers of children ever born.

Retherford and Ogawa (1978) and Retherford and Cho (1981) claim that the order in which the variables are introduced affects the results. In this analysis we have introduced the variables in the most logical order. Since age is the most important determinant of fertility, age is the first variable to be introduced. Considering the low levels of education, school attendance usually precedes marriage. Therefore, education is introduced prior to age at first marriage. The age-education-age at first marriage-specific mean numbers of children ever born for transmigrant women and women in rural Java are presented in Table 9.4, and the various proportions are presented in Table 9.5, while the results of the decomposition are shown in Table 9.6.

Notwithstanding the purposively selected sample of transmigrant women determined to fulfill a specific quota, the difference in the age distribution between the transmigrants and stayers contributed very little to the overall difference in the mean numbers of children ever born. This finding is hardly surprising considering that the age distribution of ever married women aged 25-44 years in rural Java was very similar to the sample of transmigrant women (Table 9.5). The positive contribution of the term is in the right direction since a slightly lower proportion of the stayers belonged to the oldest age category, who had the highest number of children ever born.

Consistent with an earlier drawn conclusion on the basis of the data in Table 9.3, education was not an important contributor to the explanation of fertility differences between transmigrants and stayers. Only about 4 percent of the difference in the overall mean number of children ever born was explained in terms of differences in

Table 9.4 -Mean Numbers of Children Ever Born to Ever Married Women Aged 25-44 Years, by Current Age, Education, Age at First Marriage, and Residence.

Current Age	Education, Age at First Marriage and Residence									
	No School				Some School				Total	
	< 16		16 +		< 16		16 +			
	L	RJ	L	RJ	L	RJ	L	RJ	L	RJ
25-29	3.86	3.29	2.56	2.03	3.91	3.22	3.14	2.37	3.42	2.76
	(36)	(249)	(36)	(191)	(65)	(210)	(63)	(224)	(200)	(874)
30-34	5.26	4.41	4.26	3.30	5.13	4.55	4.77	3.73	4.93	4.00
	(61)	(322)	(38)	(241)	(54)	(131)	(43)	(136)	(196)	(830)
35-39	6.07	4.99	4.80	4.47	6.32	5.03	5.52	4.50	5.65	4.77
	(76)	(382)	(59)	(284)	(34)	(80)	(31)	(79)	(200)	(825)
40-44	5.71	5.05	5.68	5.03	6.39*	5.60	5.71*	5.35	5.80	5.11
	(86)	(373)	(60)	(279)	(28)	(61)	(21)	(55)	(195)	(768)
Total	5.45	4.55	4.55	3.87	5.11	4.18	4.39	3.42	4.94	4.13
	(259)	(1326)	(193)	(995)	(181)	(482)	(158)	(494)	(791)	(3297)

Sources: Same as Table 9.1.

Notes : < 16 = married before reaching age 16 years.
16 + = married at age 16 or over.
L = Transmigrants in Lampung.
RJ = Stayers in rural Java.
-The data for rural Java have been standardized by the distribution of transmigrant women by province of birth.
-The numbers in parentheses indicate sample size.
*Based on fewer than 30 cases.

Table 9.5 -p-values by Current Age, Education, Age at First Marriage and Residence.

p Category		Current Age 25-29	30-34	35-39	40-44
p(x)					
Lampung		.25	.25	.25	.25
Rural Java		.26	.25	.25	.24
p(xe)					
Lampung					
No School		.36	.51	.68	.75
Some School		.64	.49	.32	.25
Rural Java					
No School		.50	.68	.81	.70
Some School		.50	.32	.19	.30
p(xem)					
Lampung					
No School	<16	.50	.62	.56	.59
	16+	.50	.38	.44	.41
Some School	<16	.51	.56	.52	.57
	16+	.49	.44	.48	.43
Rural Java					
No School	<16	.57	.57	.57	.57
	16+	.43	.43	.43	.43
Some School	<16	.48	.49	.50	.53
	16+	.52	.51	.50	.47
No School	<16	.18	.31	.38	.44

Sources: Same as Table 9.1.

Notes : <16 = married before reaching age 16 years.
16+ = married at age 16 or over.

The data for rural Java have been standardized by the distribution of transmigrant women by province of birth.

Table 9.6 -Analysis of Components of Difference in Mean Numbers of Children Ever Born between Transmigrants and Stayers.

The contribution from differences in the age distribution.	.03
The contribution from differences in the educational composition within age groups.	.03
The contribution from the age at first marriage composition within age-education groups.	.01
The contribution from the age-education-age at first marriage-specific mean numbers of children ever born.	.73
Total	.80*

Source: Based on Tables 9.4 and 9.5.

Note : *Differs slightly from Table 9.4 due to rounding.

educational composition. Since education is positively related to fertility, and more transmigrant women had attended school than women in rural Java, the positive contribution of education to fertility differences is in the right direction.

As a consequence of the similarity in the levels and patterns of age at first marriage between transmigrants and stayers, the difference in the composition of age at first marriage categories within age-education-specific groups contributed only one percent to the difference in fertility between the two groups of women. The positive sign is consistent with the results in Table 6.2, which indicate slightly older age at entrance into matrimony among the transmigrant women (the means were 15.6 and 15.3 years respectively

for transmigrant women and women in rural Java), and the higher fertility associated with women who entered matrimony in Lampung and were married at a somewhat older age than their sisters who were married on Java.

As anticipated on the basis of the preceding analyses, most of the difference in fertility between transmigrants and stayers is due to the difference within specific categories. The data in Table 5.5 show that at each age category transmigrant women had higher fertility than women in rural Java. The same pattern of difference remains after introducing education as another control variable (see Table 9.3), and continues to persist after holding age at first marriage constant (see Table 9.4). As a result, 91 percent of the difference between the two groups is due to differences in age-education-age at first marriage-specific mean numbers of children ever born.

9.5. CONCLUDING REMARKS

The preceding analyses have shown that individual characteristics of women have contributed only minimally to the explanation of fertility differences between transmigrants and stayers. The contribution of the three variables of age, education and age at first marriage amounted to less than 10 percent. Most of the difference was attributed to age-education-age at first marriage-specific fertility. This implies that, as a group, transmigrant women had higher fertility than women who remained in rural Java, not because they had different individual attributes. Even if they had had similar individual characteristics, the transmigrants would still have given birth to more children than the stayers. Instead, by a process of elimination,

it seems that factors affecting the entire group of migrants must have contributed to the rise in fertility as a consequence of transmigration. In this study it has been suggested that environmental factors greatly influence people's behavior, including the fertility behavior of transmigrant women. While a host of environmental conditions can be studied, as mentioned in chapter 3, in this study the focus will be on economic forces. In the next and last chapter we will address the question as to how the specific economic forces prevailing in the transmigration settlements were conducive to support higher fertility.

CHAPTER 10

ECONOMIC FORCES

10.1. INTRODUCTION

In the four preceding chapters it has been shown that demographic and social characteristics of individual women have failed to explain fertility differences between transmigrants and stayers. From the fertility analysis presented in chapter 5 it has been found that the higher fertility experienced by transmigrant women was primarily due to adaptation processes. In other words, transmigrant women raised their fertility relative to the stayers on Java because they were adapting to changing environmental conditions. Even though numerous aspects constitute the environment, in this chapter the focus will be on economic forces. In discussing the framework for analysis in chapter 3 it was suggested that due to resettlement, transmigrants are faced with different opportunities and needs. New opportunities and needs arise especially as a consequence of transmigrants undergoing a change in status. Generally transmigrants are selected from among the landless or owners of miniscule pieces of land. After transmigration they become beneficiaries of two hectares of land. Such a change creates new opportunities and also new demands on the transmigrants. In addition, in their origins they were, like many others, often unemployed or underemployed and redundant labor. After resettlement, especially in relatively new settlements, they are faced with a situation where there is a need for a vast amount of work to be done, and the family members are the only source of labor. Under such

conditions the relevant question is, given the new opportunities, how do transmigrant families fulfill their new needs and demands?

This chapter basically takes an economic deterministic approach to the understanding of fertility increase after transmigration. Through land appropriation it is anticipated that transmigrants will become better off. It is the relation between experiences in fertility and economic improvements which is the subject for examination in this chapter. Before examining this relation for transmigrants, however, consideration is given to theoretical developments on the relation between population growth and development.

10.2. THEORIES LINKING DEVELOPMENT AND POPULATION GROWTH

Three types of theory linking development and population growth will be discussed in this section. After introducing a few macro theories the discussion is followed by the new household economics and the value of children.

10.2.1. SELECTED MACRO THEORIES

Although separated by a century and a half, the mood during the second half of this century was little different from the concerns expressed by Malthus towards the end of the 18th century. Pessimistic views similar to those expressed by Malthus regarding rapid population growth and limitations of available resources dominated the concerns of the developmentalists, including the planners. India, having the second largest population in the world, was the first country to adopt

a national family planning program in 1952 (Simmons, 1971: 78), as a response to a realization that rapid population growth was a barrier to economic development. Hence Coale and Hoover (1958) chose India for their classic econometric model which measures the benefits of fertility reduction on economic development. Modifications and improvements to this model have been discussed by Robinson and Horlacher (1971) and need not be repeated. However, given the mood of the period it is not surprising to a non-economist that these macro-economic models (Coale and Hoover, 1958; Demeny, 1965; and Enke, 1968, 1969, 1970a, 1970b, 1970c and with Zind, 1970; discussed by Robinson and Horlacher, 1971) would produce results which suggest that economic development can better be achieved if population growth is slowed down. It appears inherent to the basic models that were utilized that future population size and structure is negatively related to investment which is required for economic development. The Malthusian message is clearly implied. Therefore, for economic development to occur, population growth should be restricted. How else can it be achieved but through widespread family planning programs?

In the models referred to above, population, usually substituted by labor, is included in the equation as one of the independent variables determining levels of economic development. Hence variations in future population size produce variations in the levels of economic development. However, these models implicitly address the question of how economic development can be achieved through manipulating population growth, and this requires the treatment of population growth as a dependent variable.

In contrast to those macro model builders, Boserup regards population growth as the independent variable determining developments in agricultural technology (1965: 11). In response to population pressures people make adjustments in their technological structure of agricultural production. As a consequence, according to Boserup, "... a period of sustained population growth would first have the effect of lowering output per man-hour in agriculture ..." (1965: 118).

While not exact, it is along similar arguments that C. Geertz developed his concepts of 'agricultural involution' and 'shared poverty'. In examining the implications of the Dutch imposed 'culture system' (introduced by the Governor General van den Bosch in 1830), on the Javanese peasants, Geertz claimed that given population growth, the Javanese made adjustments in their wet-rice agricultural technology. Somewhat contrary to Boserup, Geertz argues that per capita production and food consumption remained rather constant during the latter 19th and early 20th centuries. By borrowing from Boeke (1953), Geertz terms this to be a situation of 'static expansion' (1968: 79), which is achieved through what he refers to as 'agricultural involution.' About this concept Geertz says:

> Wet-rice cultivation, with its extraordinary ability to maintain levels of marginal labor productivity by always managing to work one more man in without a serious fall in per-capita income, soaked up almost the whole of the additional population that Western intrusion created, at least indirectly. It is this ultimately self-defeating process that I have proposed to call "agricultural involution" (1968: 80).

A simultaneous consequence of 'agricultural involution' was 'shared poverty', which is the process of continuous division into a steadily

increasing number of minute pieces of land thereby maintaining a comparatively high degree of social and economic homogeneity (1956 and 1968: 97).

Geertz's disregard for the reasons for Javanese population growth and his focus on the technological changes in agricultural production as a consequence of Dutch colonial administration, motivated White (1973) to criticize Geertz. White argues that the Javanese peasants responded to the Dutch imposed taxes on land or labor by raising their fertility. By treating the household as the unit of both production and reproduction, White argues that the household productive power was reduced by the Dutch imposed tax system, which demanded from the Javanese peasants one-fifth of their land, labor or produce. Since the household labor available for the production of their own subsistence requirements became reduced, there was a greater demand for labor in the peasant households. This need was fulfilled by increasing fertility (White, 1973).

The debate that evolved from White's critique (Geertz, 1973; van de Walle, 1973; and White, 1974), did not resolve the issue. To Geertz, population growth was independently given while White considers population growth, or more specifically fertility, the dependent variable. Van de Walle, in agreement with Geertz that the Javanese response to various pressures was through technological solutions, attributes Javanese population growth in the nineteenth century to declining mortality. A macro consideration renders White's arguments less credible, as van de Walle concludes:

> Despite independence and the stop of colonial exploitation, the population of Java seems to be growing faster than ever, and widespread unemployment does not argue in favor of a demand-for-labor interpretation for the present (van de

Walle, 1973).

Could it have been that van de Walle missed the emphasis that White puts on the household as THE unit of analysis rather than the whole population? White re-emphasizes in his reply (1974) to Geertz (1973) and van de Walle (1973) the importance of his unit of analysis and recognizes the problems created for the society as a whole, when he says:

> ... The paradox is that while the economy as a whole suffers from the underproductivity of its labor, individual parents may still profit from the accumulation of as much of this underproductive labor as possible, as long as each laborer produces even slightly more than his own subsistence requirement, a condition more likely to be fulfilled by young family members, whose biologically determined subsistence needs, and socially determined consumption level are probably less than those of adults (1974).

Recognizing this paradox, which White equated with Hardin's (1968) 'tragedy of the commons', but consistent with his stand in the above critique, which will be discussed in a later section, White (1976) emphasized that the household is both a production and reproduction unit. Within such a framework White shows how children continue to be net assets to present day Javanese parents.

By introducing White, I have already touched upon a different unit of analysis, namely the micro-level. It is at this stage, therefore, that the discussion should divert to micro-level theories of population growth.

10.2.2. THE NEW HOUSEHOLD ECONOMICS - HIGHLIGHTS AND REASONS FOR ITS INAPPLICABILITY TO POOR SOCIETIES

The proliferation of economic literature on the demand theory of fertility, also known as the new household economics, renders a detailed restatement of the underlying theories, models and issues unjustifiable, especially in the light of the numerous reviews and critiques that have been published.* A few highlights are, however, regarded as appropriate. Leibenstein (1957) pioneered the economic study of fertility at the micro level. One of his important contributions is that there are costs and benefits, which he refers to as utilities, of children to parents. There are three types of utility of children to parents, namely: as consumer goods, as productive agents, and as sources of old-age security (1957: 161). A new school of thought was, however, initiated by Becker (1960), with whom the concept of the new household economics is associated. Becker follows Leibenstein in that he also focusses on the utility of children. It is at this point, however, that Becker departs from Leibenstein by considering only the first type of utility of children to parents, that children are consumer durables. His provocative assumptions can be stated simply as follows: Parents, like managers of a firm, are assumed to make 'rational' i.e. economic decisions regarding the acquisition of goods, including decisions regarding children; parents weigh the costs and utilities of children vis-a-vis other goods within the constraints of their income and the price or costs of child rearing. Based on this assumption it follows that

---

*See for instance Robinson and Horlacher (1971), T. P. Schultz (1979), Demeny (1972), Leibenstein (1974 and 1977), Turchi (1975), Sanderson (1976), Fulop (1977), and Jones (1977 and forthcoming).

higher income parents desire more children than poor parents. The fact that the evidence indicates a negative relation between income and fertility is explained by Becker by arguing that wealthier parents desire higher 'quality' children who therefore cost more. The implication of the evidence is that children are inferior goods (Jones, 1977: 12-13).

Becker's thought provoking and controversial theoretical precepts led the way for others to deliver their criticisms,* or to modify the model. Mincer (1963), for instance included the concept of the mother's opportunity cost, which means that mothers forego the opportunity to work and earn money by staying home and raising their children. According to Sanderson (1976), Easterlin (1966 and 1969) originally established an opposing camp by incorporating sociological dimensions of differences in taste according to levels of income. The theories of Leibenstein (1974 and 1975) also brought elements of a broader sociological perspective to bear on the subject. It was in a later published paper "An Economic Framework for Fertility Analysis" (1975) that Easterlin made another important contribution by integrating the so far neglected supply side into the model, thereby taking into account the demographic-biological realities of the demographic transition and the contributions made by sociologists regarding the determinants of fertility (Jones, forthcoming).

Jones' critique that the new household economic models are too much influenced by a Western and more so, by an American, view of the world (1977: 30), and that consequently they are not 'at home' in poor

---

*See for instance Blake (1968) and Leibenstein (1974 and 1975).

societies (1977: 18), is most appropriate to the current study. Jones offers the following reasons. First, the existence of servants and other household members deems an economic model which incorporates the mother's opportunity cost largely irrelevant. Moreover, for the majority of women in such societies, the income earning opportunities, if available, are often compatible with child care. Second, while it is generally not true of Javanese women, in many other poor Moslem and Hindu societies cultural norms prohibit women from working outside the home, thereby eliminating the alternative. Third, the Western concept of the household, which is usually equivalent to the nuclear family, is not the only form found in such societies, so that decision making, including decisions about children, is not limited within the realm of the nuclear family or more specifically the married couple. Fourth, especially to the poor, who usually constitute the majority, children are more important to parents as future productive agents than as consumer durables. Even though Mueller (1976) argues that in peasant agriculture children have a negative economic value, my understanding of the value of children to Javanese parents* leads me to agree with Kasarda (1971), Mamdani (1972 and 1974), Nag (1975), and Caldwell (1976 and 1977), that in the long run children are economic assets rather than liabilities. Mamdani's (1972) interviews with Indian peasants certainly support Caldwell's (1976) observations from African societies that the patriarch keeps his sons, even after marriage, so that an upward generational flow of wealth is maintained. Under such circumstances of the extended family, even where future land subdivisions are unavoidable, the well-being of the household, as

---

*These studies will be discussed in a later section.

considered by the patriarch, is dependent upon the number of especially male offspring he produces. Fifth, among many poor households, biological and cultural factors often inhibit the supply side, so that parents end up with fewer children than desirable as a consequence of primary or secondary sterility and child mortality (Romaniuk, 1968; Ware, 1975; T.H. Hull, 1976: 210-213, and 1977; T.H. Hull and V.J. Hull, 1977). However, another argument frequently leveled against the demand theory of fertility --that it is not applicable to people in poor countries because fertility cannot be controlled by efficient means of modern contraceptive technology-- is contrary to the evidence resulting from the adoption of national family planning programs which made birth control devices widely available and easily accessible even to the poor (Jones, 1977: 18-22). Basically, demand theories of fertility lack many of the elements of analysis which would be required to explain the fertility differentials being examined in this study.

10.2.3. THE VALUE OF CHILDREN - NON-ECONOMIC INTERPRETATIONS

The application of micro-economic theory to the explanation of fertility behavior is concerned with how parents make their child bearing decisions. The interest in this subject matter is not limited to the discipline of economics. There is a growing interest in the application of social-psychological theories to interpret how parents make their fertility decisions.* A frequently referred to model was

---

*See for instance several papers presented in a workshop on THE SATISFACTIONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS (edited by Fawcett, 1972), such as those written by Hoffman, Terhune, Pope, Chung, Fawcett et al., and Bulatao.

proposed by Hoffman (1972) and Hoffman and Hoffman (1973), which became the analytical framework for a number of Value of Children (VOC) studies conducted in several countries including Indonesia.* This model emphasizes those factors which motivate parents to arrive at certain choices or decisions. There are five core concepts in the model. VALUES, in reference to children, pertain to those functions children fulfill for their parents. ALTERNATIVES refer to those avenues, other than children, through which values can be fulfilled. COSTS are the losses or sacrifices to be made to achieve a value. BARRIERS are factors which prevent or inhibit (such as poverty, housing and mother's ill-health), while FACILITATORS refer to those conditions which simplify the attainment of values (i.e. wealth, adequate housing and help) (Hoffman, 1972: 27-29). This model is said to be versatile. It can be applied to analyze individuals as well as group behavior. Historical and cross-cultural variations can also be accommodated by the model (1972: 27-32). In this model the economic

---

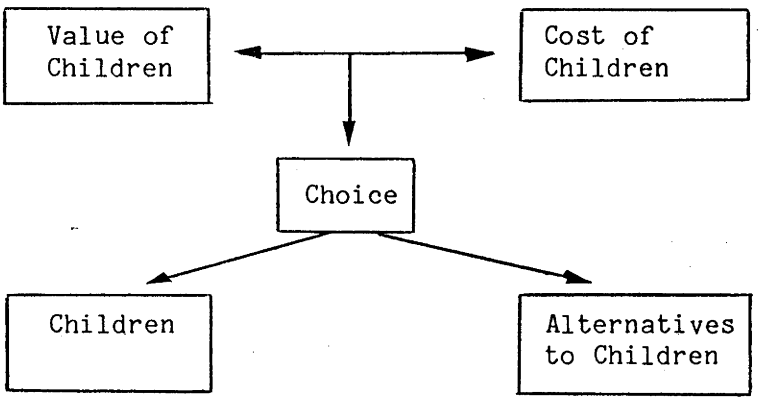
Continued

Berelson identifies the psychological approach to the study of the 'value of children' as one of the five 'new' lines of inquiry on population (1976: 231). The Hoffman (1972) and Hoffman and Hoffman (1973) framework appears to have become a classic as it is being widely quoted. Fawcett (1974) and Arnold (1975) present the cross cultural study results sponsored by the East-West Population Institute. Fawcett (1977) discussed the convergence between micro-economic and social psychological theories on the subject. Bulatao (1979) evaluated five demand factors of children --mortality reduction, rising aspirations, vanishing economic roles for children, the emergence of the conjugal family, the weakening of cultural props for high fertility-- by comparing values and disvalues in countries at different stages of the fertility transition. A recently completed study by Meyer includes a review of studies based on social-psychological interpretations (1981: 21-27).

*The study which was limited to a sample drawn from among Javanese and Sundanese parents will be discussed in the next section.

values, though of lower order of importance, are also incorporated.

Notwithstanding other disciplinary biases, the micro-economic and social-psychology approaches share some common features, one of them being the emphasis on the micro-unit of decision making. According to Fawcett, economists and social- psychologists assert that decisions, or choices, made by parents regarding their children are a result of parents weighing the values or satisfactions derived from having children as opposed to the costs incurred in raising those children, which are then compared to alternatives to children (1977: 92-93). Diagramatically, choices are arrived at as follows:



Source: Fawcett, 1977: 93.

Of course the above scheme is a much simplified version, an inclusive model would be far more elaborate. There are several assumptions underlying the micro-level framework which focusses on how individuals or parents are motivated and choose to have children:

(1) People act in anticipation of future rewards and costs.

(2) Children provide important satisfaction in life, but not without costs.

(3) People differ with respect to types of satisfactions and costs that are important to them.

(4) These differences are related to both internal psychological factors and external social and economic factors, which affect the desirability and availability of alternatives to children.

(5) The balance of satisfactions and costs are made by most people at some point in the life cycle, although not necessarily for every birth.

(6) These choices can be better understood, if not fully predicted through research that focuses on the value and cost of children (Fawcett, 1977: 93).

While not exactly in response to Fawcett's sixth point, numerous studies on the value of children have been conducted. Both micro-economics and social-psychology tell us how, in theory, parents make decisions regarding child bearing. While disregarding the process through which parents in the past made decisions concerning their fertility experiences, empirical studies which use anthropological approaches focus on current and actual values and costs of children to parents. A few studies conducted in Javan settings will be discussed in the following section.

10.3. EMPIRICAL FINDINGS ON THE VALUE OF CHILDREN AMONG JAVAN PARENTS

In the light of the empirical findings on the value of children to Javan parents, Kasarda's statement is considered relevant:

> One of the most potent structural factors affecting desired family size is the type of economy within which the population functions. If the economy is of the household unit type where the family itself is the exclusive unit of production, the compulsion to have a large number of children is strong. Large numbers of children are desired not only because they may satisfy some inherent psychological need of the parent or "normative pressures" of the society, but also because they are economic necessities (Kasarda, 1971: 307-308).

As mentioned above, similar to Kasarda, White (1976) emphasizes the importance of regarding the household as the unit of production, to which he adds that it is also the unit of consumption and reproduction. Within the household, White examines the economic values and costs of children to parents. His detailed study addresses a rather general question: "... WHAT MATERIAL DIFFERENCE DOES IT MAKE to households (or to parents) how many children they have, and in what ways?" (1976: 101). By assuming that peasant households are organized to fulfill the three economic 'functions' of maintenance, security, and expansion, White examines the consequences of different levels of fertility along the following criteria:

> (1) the "average" level of living (i.e. consumption) of household members at different stages of the household developmental cycle;
>
> (2) the household's ability to survive seasons or years of crisis or hardship, and
>
> (3) the household's ability to expand or improve its economic activities (i.e. to effect a progressive improvement in its normal levels of living) (1976: 103).

The general area of Central Java was considered the most suitable for "testing the hypothesis of economic advantages to high fertility even under conditions of acute 'population pressure'". As an anthropologist, White had to confine his study site to a far more limited area such as a village. The choice of the village was guided by the following factors: (1) the population density had to be close to the average for the province; (2) the ratio of irrigated to unirrigated land also had to be close to the average; and (3) it had to be accessible but not too close to a major urban center (104). These criteria were fulfilled by a village called Kali Loro, which is

situated some 35 kilometers northwest from the city of Yogyakarta (105). Residents of Kali Loro were indeed poor. As mentioned in chapter 4 social stratification in Javanese society is determined by land ownership. In the studied hamlets of Kali Loro 21, 10 and 82 percent respectively had no access to SAWAH, PEKARANGAN OR TEGALAN,* and only 7, 9 and 1 percent had access to more than .5 hectare of the three types of agricultural land (Table 4.11: 132-133).

White stayed in the village for a period of 15 months between August 1972 and December 1973, during which he collected a vast amount of data. In addition to secondary data from village statistics, two surveys were conducted in six of the 20 hamlets which constituted the village. All households, numbering 478, in these six hamlets, were included in this survey. In addition to demographic, social and economic data, information was also recorded on ages at which household members under age 15 began to perform regular productive and/or useful work. A sample of 92 households was then selected for intensive study. These households were visited every sixth day (to avoid the regularities of the Javanese 5-day week and the Roman 7-day week) for one full year. During these visits detailed information was recorded on how all household members over the age of 6 utilized their time** during the 24-hour period preceding the interview. The beginning and end of each activity was noted. As a result, approximately 17,000 person-day records of time-allocation were

---

*PEKARANGAN refers to unirrigated house-compound and garden land, and TEGALAN refers to unirrigated non-residential farm land.

**This approach to the study of the value of children is strongly supported by Nag (1972), who recommended the use of time-budget data, supplemented by other anthropological information, for the analysis of economic value of children in agricultural societies.

collected. Since processing was to be done manually it was not possible to utilize all the data. White had to resort to a further reduction in the sample. A sub-sample of 20 households (104 individuals) became the basis of his analysis (421-439).

In his analysis White identifies 3 or even 4 stages of the household developmental cycle, namely expansion, which is further divided into early and late expansion, dispersion, and replacement. Early expansion refers to the period between marriage and when all the children are still young. Late expansion pertains to the stage when some of the children have become young adults but most are still living with the parents. From his analysis of the data on income, time utilization, expenditures, and investments, White concludes that households in the late expansion stage, which are therefore generally also larger, are economically more successful than households at the early expansion stage. Unless they have initial large land holdings, early expansion households barely balance their consumption needs with their production output. All their productive labor time is required to fulfill their immediate consumption needs, thereby fulfilling only the first of the household functions, i.e. maintenance. The second and third functions of economic security and expansion can only be achieved during the late expansion stage of a household, when a larger amount of productive labor supply is available and a greater efficiency of that labor can be achieved through economies of scale. It is at this stage that households produce more than their immediate consumption requirements thereby releasing some output for savings and investments to achieve economic security and expansion (227-244).

Kasarda's statement that children are an economic necessity to households, where households are the production unit, is certainly confirmed by White. A wide variety of activities are carried out by children, from water fetching and other housework, including care of younger siblings, to animal care, to producing goods or doing agricultural work and also as wage laborers. White distinguishes between household maintenance activities and directly productive work. Generally, as youngsters, children of both sexes are mainly involved in 'adult- freeing' tasks of household maintenance and animal care. It is only when they become young adults that children contribute more to productive work. Division of labor by age and sex is noticeable. While roles at times overlap, girls are assigned household maintenance tasks at an earlier age and they do different activities from boys. It is only by the time they approach the efficiency of adults that children participate in adult activities (271-310).

The importance of children as a source of security cannot be underestimated, even if the needs of the elderly are minimal. Elderly people prefer to live with their offspring rather than other relatives or even their own siblings. About 80 percent of the elderly in Kali Loro lived with their children and grand-children (311-327).

In weighing the benefits and costs of having children White identifies first the following advantages of having children:

(1) Additions to the child labour-force in the household are the major determinant of the household's total work-input, and still more so of its total "directly productive" work-input.

(2) Although more of the household's work is done by children, the effect is not to lower, but to raise the overall efficiency of the household's work (as measured by the proportion of all work devoted to "directly productive" work).

(3) Children's total work inputs are strongly related to total household income and also to total household food consumption, and to the apparent balance of income over food consumption.

(4) The relation between children's total work inputs and the proportional balance of income over food consumption is even stronger than the relationship between absolute levels.

(5) The relationships between children's total work-input and household's total income and the proportional balance of household income over food consumption are relatively independent of the influence of access to SAWAH.

(6) Insofar as the household's involvement in inter-household exchange and its stored wealth in livestock indicate levels of household economic security and savings, additions in the child labour-force are strongly related to the fulfilment of these two functions of household economy (363-367).

Such benefits of children are of course not achieved without costs. White's findings indicate that by far the greatest proportion of the costs of raising children consists of feeding them, and this cost is rather inflexible. Since the gestation period is fairly long, parents have to wait about 10 years before their children become involved in directly productive labor, it is during the early expansion stage of the household developmental cycle that the costs of children outweigh the benefits. Therefore parents in the early expansion stage of the household do not have many children. White argues that the lengthy birth intervals, on average three years (407-408), are extremely suggestive of parents making conscious reproductive strategies. Like Mamdani (1972), White identifies these strategies as appropriate responses to conditions of poverty. White's findings led him to understand the contradictory valuations expressed by the villagers with regard to people with many children: parents with many young children are pitied but those with many old children

are envied (102). White further notes the efficiency by which parents in Kali Loro managed to hold down mortality levels, thereby ensuring rather high survivorship ratios. The combination of the long birth intervals and low levels of mortality, argues White, has kept fertility rather low among the Javanese.* Furthermore, the reason that, in spite of the favorable balance between benefits and costs of raising children, fertility in rural Java is not higher than it is can be attributed to the fact that the food burden of a high consumer/producer ratio resulting from a rapid succession of closely spaced births is intolerable (370-371).

A similar study which also examines the material benefits and costs of children to parents, although with different strategies of investigation and analysis, was conducted by T.H. Hull** (1975). This study shares various similarities with the Kali Loro study conducted by White. The anthropological approach, or more specifically, the community study approach, was utilized which therefore required extended residence in the studied communities. Both studies were conducted in the vicinity of the city of Yogyakarta. Moreover, resemblance is also noted in the findings.

---

*Available fertility estimates indicate that compared to other ethnic groups Javanese fertility has been substantially lower (see McNicoll and Mamas, 1973, Table 5: 19; McDonald et al., 1976: 5-54; Cho et al., 1980: 57-78).

**Hull covers a broader perspective of the value of children in his study. Besides the material costs and benefits of children he also ascertains the nonmaterial aspects of childbearing and rearing. Other topics he deals with are how individuals value children as elements in attaining the goals associated with family life, and the role played by children under conditions of poverty and uncertainty (239). Other objectives include an evaluation of the relation between the family planning program and individual goals, and to ascertain the impact of incentives on the value of children (4-5).

Six kilometers east of Yogyakarta is the village of Maguwoharjo where Hull conducted his intensive study for a period of one year ending in March of 1973. Maguwohardjo was chosen because of the variation in occupations and fertility, the quality of village records and more importantly, the existence of a model family planning clinic since 1969 (100). These aspects of Maguwoharjo were considered to make it an ideal setting for examining the "processes and context of fertility decision-making" (101).

Where White focused his analysis on the value of children over the life cycle of the household, Hull identifies differences between classes. After examining 5 indicators of socioeconomic status, namely landholding, religion, traditional status, occupation and income, Hull concluded that the best scale was derived from the standard of living as measured by income and wealth (138-173). About the distinctions between the poor and the well-to-do households Hull has this to say:

> The poor people, mainly laborers, farmers with very small plots of land and menial workers in the government offices, are poor in almost every material sense. They do not have enough food to quiet hunger, much less satisfy urges for dietary variety, and their houses are often no more than rough shelters which they constantly repair because they cannot afford to replace them. In contrast the well-to-do are comfortable, and can enjoy some of the simple material pleasures of life; meals of some variety, kerosene lamps, an occasional commercially manufactured cigarette, a small BATIK print table cloth on the guest table in the front room, and a bicycle. The poor speak in the "rude" language of the lower class, the rich in the "refined" language of the traditional courts and the bureaucracy. The gap in social status which characterizes the material and cultural life of people is reflected in their demographic behavior. The poor divorce more frequently, are separated more often, and are more likely to suffer all sorts of maladies, including secondary sterility, than are the rich. In consequence, the lower income groups have fewer children, and the children they bear are more subject to the threats of mortality at every age, but especially in the first year of life (236).

In examining the material benefits of children Hull distinguishes between the productive contributions of children to the household economy, and support in old age. In general, similar fndings were reported to those by White. Girls start contributing their labor at an earlier age and do different activities from boys. Usually girls are assigned domestic responsibilities while boys are given tasks which allow them to wander around, away from the residence. In addition, as a consequence of the economic, social and demographic differences between the poor and the more well-to-do parents, out of necessity children of poorer parents are more likely to be working, and they also have to work harder. Poorer children are less likely to be attending school than the better-off children, and since school attendance is related to housework, working children among the better-off are more likely to be involved in domestic chores, while the poor children are more likely to work in the household enterprise or by labouring or trading (Table 7.3: 246 and 247). A more detailed examination of household chores indicates that children constitute a very important element in the day-to-day functioning of the household (266-272). While most people in rural Java are peasants, in this study village agriculture was of lesser importance. Most of the people aged 20 and over were engaged in non-farming activities, with only 25 percent engaged in agricultural activities (based on Table 5.6: 148). Among the household heads 25 percent were farmers (based on Table 5.7: 151). This situation, combined with the availability of an abundance of landless laborers, and the consequences of the green revolution which in many instances reduce the opportunities for women and children to gain access to agricultural rewards in exchange for their labor especially during harvesting, resulted in minimal

contributions from children's participation in agriculture. This is a consequence of social changes that are occurring not only in Maguwoharjo, but also in other parts of Java (251-260). Notwithstanding such circumstances, children continue to be an important source of old age security. Children are socially the most acceptable and also the most reliable source of support compared to other alternatives. While the poor are more dependent on their children than the well-to-do, to most people in Maguwoharjo children are their only hope (273-276). Such conditions led Hull to observe: "Whatever the risks and costs, for most people in Maguwoharjo children are still the best way of achieving the goal of security, and they offer not only the material benefits of food, possible shelter, and some cash during that period, but also emotional and social support" (276).

Even though there was greater variation in the occupational structure in Maguwoharjo than in the somewhat poorer Kali Loro (249), parents in Maguwoharjo like those in Kali Loro spent the greatest proportion of the costs involved in child bearing and raising on feeding them. Hull estimated the total costs of raising a child from birth to age 20 years. The results show that since the better off can afford greater variety in life, food expenditures constitute a smaller proportion than is the case among the poor. Both among the poor and the better-off, food expenditures for children aged 15-20 years were estimated to constitute about one-third of the total food costs up to age 20.* While education was desirable, poverty often denied children

---

*It should be remembered however, that by these ages many children already make material contributions to the household economy.

the opportunity to remain in school for an extended length of time. Hence, Hull estimates that educational expenses constitute only a minimal fraction among the poor and maybe approaching one-tenth of the total costs of raising a son to age 20 among the well-to-do. Interestingly, rites of passage and reciprocal costs are more important and therefore comprise a greater proportion of the total expenditures required for raising children. Moreover, these costs constitute a greater proportion for the better-off than the poor. In both absolute and relative terms, parents make little distinction between the expenditures for their sons and daughters (291-307).

Even if the costs of raising children are fairly substantial, to the poor, children, if they survive to adulthood, are a source of material benefit because of their earlier, and therefore longer, contributions to the household economy. The balance between the material benefits and costs among the better-off parents may be less favorable (307-316). Thus, to the poor the material benefits to be gained from the children are more important than to the better-off parents. In addition, the non-material benefits of having children are equally important. Newly weds, for instance, gain status in the community only after the birth of the first child. Community norms dictate that parents should have children and childlessness is frowned upon. Through children parents contribute to the family continuation (317-345). Regardless of the importance of the non-material benefits derived from having children, parents in Maguwoharjo value their children especially as a source of old age security (347).

A special type of community was chosen in the study by Asep Djadja Saefullah (1979), namely a tea estate. The village Cibodas-Cikajang is situated about 95 kilometers southeast from Bandung, the capital of West Java. Similar general benefits and costs of children were expressed by these Sundanese parents to those noted for Javanese parents in Kali Loro and Maguwoharjo. Children are sources of help in housework* and the household economy (Tables 4.1: 65 and 4.3: 75). It was overwhelmingly acknowledged that children are sources of old age security (well over 90 percent). Notwithstanding the fairly high costs involved in child bearing and child rearing, the future benefits anticipated from having children outweigh any negative aspects (97-98).

The questionnaire used by Asep Djadja Saefullah was modeled after the questionnaire developed by the Java Value of Children (VOC) project. Although several other reports have been written on this project (Singarimbun, Darroch and Meyer, 1977; Meyer and Singarimbun, 1978; and Darroch, Meyer and Singarimbun, 1981), this discussion is limited to the recently completed analysis by Meyer (1981). Unlike the above discussed studies, the Java VOC study conducted in early 1975 relied solely on survey interviews. A sample of Javanese (from Surakarta and Salatiga in Central Java) and Sundanese (from Bandung and Tasikmalaya in West Java) was selected on the basis of the following criteria: ethnicity, marital status (currently married and living with spouse), and age of wife (less than 40 years old) (116-118). The sample was drawn from urban and rural areas and respondents included both husbands and wives. With a ratio of 1 to 4

---

*As tea estate workers these respondents and their children were not involved in food growing activities.

between urban and rural areas and 1 to 2 between husbands and wives, and an equal distribution between Javanese and Sundanese, the total sample numbered about 3000 respondents (Table 4.6: 139). These respondents cannot be considered representative of the Javanese and less so of the Sundanese, where education and therefore occupation and economic class is concerned. The Sundanese husbands particularly were far better educated than the general population of the same areas. According to the census, among currently married men aged 20-44 years only 16 percent had 9 or more years of schooling, whereas among the Sundanese VOC respondents 35 percent had achieved such levels of education. Consequently, 32 percent of them were working in the service sector (which included professional, technical, administrative, managerial, and service occupations), while only 9 percent of the total male population in the area had similar occupations (Tables A3.1 and A3.2: 284 and 285). The underlying theoretical model of decision making used in Meyer's analysis was that developed by Hoffman and Hoffman (1973: 61-71). Further support for the material benefits derived from children, especially among the poor, is recorded by this study. On the other hand, higher status parents attach greater psychological benefits to children as sources of personal enjoyment and pleasure, rather than as means to improve the parents' status in the community, of providing continuation of the family line, or of strengthening the bond between the parents (152-203).

The findings of the above described empirical studies indicate that Javan parents place greater emphasis on the second and third types of utility identified by Leibenstein (1957) namely, as productive agents and as sources of old age security. Only when parents are fairly well off, such as found among the Java VOC

respondents analyzed by Meyer (1981), then the psychological benefits of children gain greater importance. Since, however, as shown in chapter 4, the transmigrants resemble more the poor of Java, like those residing in Kali Loro, in the next section an attempt will be made to show how economic rewards anticipated from having children may have induced transmigrant parents to raise their fertility after resettlement.

10.4. LABOR REQUIREMENT AND FULFILLMENT IN TRANSMIGRANT HOUSEHOLDS

Based on the preceding discussion regarding the value of children to poor peasants, as productive agents and sources of old age security, in this section it will be argued that transmigrant women increased their fertility in response to an increase in the demand for labor within the household. Since, however, this study was not conducted for the purpose of determining the value of children to transmigrant parents, no analysis can be presented comparable to those discussed above. Instead, valuable insights may be gained from examining labor utilization in households which practice agriculture.

10.4.1. LABOR UTILIZATION IN TRANSMIGRANT PEASANT HOUSEHOLDS

Since transmigrants were resettled for the purpose of enabling them to become subsistence farmers, the focus in examining the utilization of labor in transmigrant households will be on those households which practiced agriculture during the preceding year.* As

---

*This includes most of the transmigrant households except for about 9 percent.

mentioned in chapter 4, the transmigrant peasants responded to the environment of the settlement by growing mainly cassava and rice, and if available, rice was grown on irrigated land, which was the case mainly in Punggur. These indicators are used to classify the transmigrants by type of farming they practiced. No one grew rice only, but most practiced multiple cropping and/or mixed farming, while a few were limited to growing only cassava. The transmigrant farmers fell into any of the following three categories: (1) those who grew rice on irrigated fields, growing cassava as a second crop without irrigation; (2) those who grew dry rice mixed with cassava; and (3) those who grew cassava only on dry fields. There are two consequences of this type of classification. First, the transmigrant farmers are separated by settlement since Way Abung had no irrigation system while Punggur residents had enjoyed the fulfillment of a long standing promise in 1971/72 when construction of the system was started. Second, the transmigrant farmers are also differentiated by economic class. The differences are reflected in various practices and characteristics.

Table 10.1 shows several agricultural indices by farming type. Interesting features of agricultural practices can be observed. First, if one were to consider the three categories by type of farming then it appears that those who had access to irrigation were best off, while those who grew cassava only were worst off considering an almost sole reliance on household labor (unpaid labor) and the small area they cultivated and harvested. However, this third category of farmers were more involved in non-agricultural income earning activities so that on average the proportion of the total household earnings which were derived from agriculture was the lowest (item 10),

Table 10.1 -Agricultural Indices by Type of Farming Practiced by Transmigrants.
(Mean/Years)

I t e m	Type of Farming 1	2	3	Total
1. Paid person days*	87 (306)	39 (389)	4 (28)	58 (723)
2. Unpaid person days*	150 (309)	223 (390)	138 (29)	187 (728)
3. Total persons days*	236 (309)	263 (390)	141 (29)	246 (728)
4. Cultivated area (hectares)	.764	.527	.350	.620
5. Harvested area (hectares)	1.171	.539	.350	.797
6. Percent using tractors	.09	--	--	.04
7. Total household expenditures (1,000 Rp.)	158	104	118	127
8. Per capita household expenditures (1,000 Rp.)	26	19	21	22
9. Total household income (1,000 Rp.)	140	59	82	94
10. Percent agricultural income from total income	72	82	45	76
11. Per capita household income (1,000 Rp.)	24	11	14	17

Sources: 1976 Survey

Notes :
1. Wet rice and cassava.
2. Dry mixed farming of rice and cassava.
3. Cassava only.

-The numbers in parentheses indicate sample size.
*Excluding the not stated.
-Paid person days refers mainly to the services rendered by neighbors as part of the labor exchange system. However, some monetary payments had to be made, especially in cases where tractors were hired which usually included the owner to operate.
-Unpaid person days accounts for the labor input of household members.

while their expenditures and incomes (items 7, 8, 9 and 11) were in between the groups of farmers who grew both rice and cassava on irrigated or non-irrigated fields. What is unclear from these data with regard to the third category of farmers who grew cassava on rather small plots (mainly the garden around the house), is whether they were engaged in non-agricultural activities by choice or as a consequence of their circumstances. It appears that the latter is the case. Hence the differences in household expenditures and incomes between the second and third categories are minimal.

Second, farmers who had access to irrigation were obviously better off (category 1) than those who had to practice agriculture on dry land (categories 2 and 3). The differences are reflected by several indicators. Farmers in category 1 used more paid labor (item 1) and cultivated and harvested more land (items 4 and 5). This was the only group among which a few could afford the use of hand tractors (item 6). Consequently, compared to the second category of farmers, the first category of farmers used less labor (item 3).

Third, these data reflect the importance of inputs for economic improvement. The government-initiated construction of the primary and secondary canals of the irrigation system in Punggur produced a better standard of living among those farmers who were able to utilize the system. Furthermore, some of the better off were also able to hire hand tractors, thereby reducing the labor requirements, as best reflected by the input of household members (item 2), some of whose labor could then be diverted to involvement in non-agricultural activities to supplement their meager incomes, so that the proportion of income derived from agriculture was lower than for category 2 (item

10), while their overall standard of living was better (items 7, 8, 9 and 11). These data appear to reflect that lacking the necessary capital inputs, to improve the household standard of living, other inputs are required, especially household labor supply, which will be examined hereafter.

10.4.2. FULFILLMENT OF LABOR REQUIREMENTS WITHIN THE HOUSEHOLD

Labor availability within the household depends on fertility as measured by the numbers of children ever born and children still living and the household size. As the value of children studies have shown, even though children may not directly contribute to productive labor, their labor contributions in house work often release adults to do productive work. Hence the inclusion of children aged 10 and over is indicative of labor availability within a household. By controlling for farming type, indicators of labor supply are shown in Table 10.2. While the differences in the mean numbers of children ever born by type of farming practiced are minimal, as a consequence of differences in controlling child mortality, the farmers who were best off were also the ones who, on average, had more surviving children. Consequently, including the parents, the best off farmers had the largest household size, and the largest number of household members aged 10 and over. On the other hand, the poorest farmers, category 2, had the fewest of children still living and as a result, their household size and the number of household members aged 10 and over were the smallest. Within the confines of comparing only three types of farming categories, these data appear to suggest a positive relation between household labor supply and economic status.

Table 10.2 -Indices of Household Labor Supply by Type of Farming. (Means)

Item	Type of Farming 1	2	3	Total
1. Children ever born	5.2	4.8	5.1	5.0
2. Children still living	4.7	4.0	4.4	4.3
3. Household size	6.6	5.8	6.0	6.2
4. Household members aged 10 and over	4.1	3.7	3.8	3.8
Number	310	396	29	735

Source: 1976 Survey.

Note : These data were not standardized by age of mother because there was no identifiable pattern in the type of farming the household practiced according to age of the wife or household head. Moreover, standardization hardly changed the results.

While not conclusive, these data appear to support the argument that transmigrants raised their fertility, as measured by the number of children ever born, after resettlement in response to an increase in the demand for labor in the household. In chapter 4 it was noted that transmigrants were not able to cultivate all the agricultural land to which they had access. For those households which were dependent on farming, the standard of living was higher among households which cultivated and harvested the largest amount of land.

Table 10.3 -Correlation Coefficients (r square) between Cultivated and Harvested Area with Standard of Living Indices.

Index of Standard of Living	Cultivated Area	Harvested Area
Total household expenditures	.30	.32
Total household income	.36	.38
Per capita household expenditures	.20	.22
Per capita household income	.24	.25

Source: 1976 Survey.

Note : All significant at p=.001

The data in Table 10.3 show that all indices of standard of living, i.e. total and per capita household expenditures and incomes were positively related to the area the household cultivated and harvested. Thus, a household can expect to improve its standard of living by cultivating and harvesting more land. In the absence of savings and capital investment, how else does a peasant household expand the area it can cultivate and harvest but through its own labor? Household size was therefore found to be related to cultivated and harvested area (r squares of .17 and .16, both significant at p=.001). It appears that transmigrant peasant households reacted similarly to those interviewed by Mamdani (1972). Because they were poor and agricultural land accessibility was no impediment to expansion of cultivated area, transmigrant households needed more labor to work their land. Labor from outside the household, although some of it can be acquired through the labor exchange system, is often inaccessible

to them. Hence, transmigrant families may consider their household labor supply as their only source of hope for a better future.

Are such hopes justifiable? Are larger households better off? If the standard of living of a household is measured in terms of the total household expenditures and incomes, then household size is positively related to the standard of living (r squares of .37 and .19 at p=.001). However, if the standard of living is measured at the per capita level then it appears that larger households are worse off, for household size is negatively related to per capita household expenditures and incomes (r squares of -.27 and -.18 at p=.001). There are several reasons for the resulting positive relation between household size and total household expenditures and incomes, and the negative relation with per capita indices. First, household expenditures consist mainly of expenditures for food and clothing (hence the higher r square values for expenditures than for incomes). Thus, larger households should have larger expenditures. Second, usually households are large because of the many young children who consume less than adults but who have not yet started to contribute directly to household income. This leads to the negative relation between household size and per capita household expenditures and incomes. These results indicate that transmigrant households may have inaccurate perceptions of reality. In larger households, individual members are worse off than in smaller households. However, as White (1976) argued, the demand for children is a future orientation. While members in larger households were currently worse off, when parents reach old age and become dependent on their children the more children they bear the more of them will reach adulthood. The empirical studies on the value of children to Javan parents indicate the

emphasis parents placed on children as sources of old age security. Moreover, as described in chapter 2, in some cases, when still available, children can acquire their own allotments of agricultural land in the same settlements. If such agricultural land is no longer available then some of the children may have the opportunity to become 'local transmigrants' in another settlement and receive similar benefits as the new arrivals from designated transmigrant sending areas.

Similar to the case of Javan parents, children are assets in the near future, when they start to become productive agents, and also as adults as sources of security for their parents. There are however, circumstantial differences between transmigrants and stayers. Besides the difference in the conditions of demand and supply of labor in transmigration settlements and on Java, a better future also awaits transmigrant children than peasant children in rural Java. Children of transmigrants can still expect to gain access to agricultural land, whereas increasingly fewer children of peasants on Java will have similar opportunities. The environmental circumstances under which the transmigrants live may well have induced them to raise their fertility.

What are the consequences of fertility increase experienced by transmigrant women? The higher fertility and lower child mortality experienced by transmigrant women relative to the stayers on Java (chapters 5 and 7), resulted in a difference of about one surviving child (see Table 10.4). Together with the parents, and in some households additional members who are not part of the nuclear family, the household size also differs on average by one person.

Table 10.4 -Mean Numbers of Children Still Living and Mean Household Size of Ever Married Women Aged 25-44 Years, by Current Age and Residence.

Current Age	Transmigrants in Lampung*		Stayers in Rural Java**	
	CSL	HHS	CSL	HHS
25-29	3.1 (200)	5.4	2.2	5.0
30-34	4.2 (196)	6.5	3.2	5.4
35-39	4.9 (200)	6.7	3.8	5.6
40-44	4.8 (195)	5.9	3.9	5.4
Total	4.3 (791)	6.2	3.3+	5.3+

Sources: *1976 Survey
**Biro Pusat Statistik, unpublished special tabulations from the 1976 SUPAS II.

Notes : **Standardized by the distribution of transmigrant women by province of birth.
+Also standardized by the age distribution of transmigrant women.
-No numbers are given for rural Java because these are weighted indices for all women of the relevant ages.

Based on the foregoing discussion, the question arises as to why transmigrant parents would limit the increase in fertility to produce only one more child than those remaining on Java. The answer can be found in White's (1976) analysis and also the data from the current study. White argued that the financial burden of child rearing, which consists mainly of feeding and clothing them, is too heavy for such

poor parents to bear if there are too many young children who have not yet started to be involved in directly productive activities. Moreover, as mentioned above, among the transmigrant peasant households, household size is negatively related to per capita household expenditures and incomes. Hence, too many children may be an unbearable imposition to transmigrant parents who may therefore be inhibited from further increasing their fertility.

10.5. SUMMARY AND CONCLUSION

In this study I have sought to explain the consequences of transmigration on fertility. From the literature review (chapter 1) it was learned that most studies on the relation between migration and fertility have focused on migrants to urban areas. Various aspects of the relation have been examined such as the consequences of migration on the patterns and levels of fertility in both areas of origin and destination. The other side of the relation has also been of interest to some researchers who examined the effects of fertility on migration. However, most studies were concerned with fertility differences between migrants and nonmigrants. The findings have rarely been consistent. Zarate and Zarate (1975) claimed that the resulting patterns are very much data and methodology specific, and are thus not always comparable. While differential fertility has often been attributed to the selective nature of the migration process, adaptation as a process of social change has also been acknowledged to affect fertility of migrants.

A framework developed by Hendershot (1970 and 1976), which took into account both consequences of selection and adaptation process on fertility of migrants, was the basis to study these effects among a special type of migrant, namely transmigrants from Java to Lampung in Indonesia, who are mainly rural to rural migrants (the underlying framework is discussed in chapter 3). Because the transmigrants are a special type of migrant, chapter 2 was devoted to a description of the Program. In chapter 5 the levels and patterns of fertility and fertility change experienced by transmigrant women were examined relative to the stayers in rural Java. Notably no comparsions with findings from other studies were discussed. This omission was in response to Zarate and Zarate's caution (1975). Since the type of migrants considered in this study differs from other studies on the relation between migration and fertility, they are not comparable.

The findings indicate that transmigrant women experienced higher fertility than the stayers because they increased their fertility after resettlement. None of the demographic and social indicators of fertility, such as patterns of marriage (chapter 6), child mortality (chapter 7), family planning (chapter 8), and education (chapter 9), contributed to the explanation of fertility differences between transmigrants and stayers. Changing economic forces, especially the allotment of agricultural land resulted in an increase in the demand for labor, as reflected by the smaller area cultivated than that to which households had access (chapter 4). Lacking the resources which could balance the increased labor requirements, transmigrants had to turn inwards to their households for creating the supply of labor. Suggestive rather than conclusive evidence of a Malthusian response adopted by the transmigrants to their changing environmental

conditions was discussed in this chapter.

The failure of demographic and social indicators to explain the reasons why transmigrant women should have increased their fertility after resettlement relative to their sisters left behind in the areas of origin is primarily attributed to the similarity or homogeneity of the people being studied. The transmigrants were all born on Java. In many ways the transmigrants retained their Javan cultural heritage. The main difference between the transmigrants and the Javans was the economic environment in which they lived. Since this study was designed to seek explanations for fertility patterns of transmigrant women in terms of their demographic and social characteristics, insufficient attention was devoted to the collection of economic information which would allow for more definite economic explanations as to why more children are beneficial to transmigrants after resettlement. The review of the literature which tries to explain fertility experiences within the context of economic benavior in the household suggest a preferable strategy which emphasises the economic value and cost of child bearing and child rearing to transmigrant parents. Such a further study would be of great importance to the Transmigration Program, especially in the light of the Government's intention to vastly expand the scale of the Program.

As mentioned in chapter 2, since the goal of achieving a more even population distribution throughout the archipelago has gained less credibility, regional development is said to be an equally important objective of the Transmigration Program. However, rather than being separate and mutually exclusive goals, the second objective basically reinforces the first, for regional development is partially

to be achieved through making labor available to areas which are identified as suffering from a scarcity of labor. By focussing on the Javan population problem, in the past, too little attention has been paid to population growth in the receiving areas. An attempt has been made to rectify this omission. Having been initiated on Java and Bali, during REPELITA I of 1969/70 - 1973/74, the National Family Planning Program was expanded to 10 additional provinces during REPELITA II of 1974/75 - 1978/79. Lampung was one of the provinces to be included in the expansion stage of the Family Planning Program. When the survey for the current study was conducted the Family Planning Program had only recently been introduced in the province. Hence, the Program's effects on fertility of transmigrant women could not be assessed. Since the Family Planning Program is basically a voluntary Program, it could be expected that women in transmigration settlements would participate in it if fertility control were regarded as desirable. If, as is instead argued in this chapter, the transmigrants raised their fertility in response to an increase in the household demand for labor under conditions of shortage of non-human power, then transmigrants may not feel the need to control their fertility. Under such conditions the Family Planning Program in areas outside Java and Bali, thus including transmigration settlements, may not achieve such success as it did on Java and Bali. If the reasons were then to be sought in the effectiveness of the Family Planning Program implementation, then the significance of the value of children to parents outside the densely settled areas of Java and Bali may well be misundersoood, and fertility in transmigration settlements may continue to be high. Together with net in-migration and reductions in mortality, rapidly increasing densities and the repetition of the

Javan problem of population pressures may be unavoidable consequences in the not so distant future. Thus, if the aim is to avoid or at least delay reaching such conditions, then measures 'beyond family planning' may be beneficially introduced. An example is proposed. If, as indicated by the data in Table 10.1 the use of hand tractors reduces the utilization of household labor, then the introduction of similar equipment may be realized by parents to be substitutable for their dependence on household labor, thereby creating a felt need for fertility control. The limits set on this study do not allow me to go beyond making such suggestions. It would be a worthy contribution of another study.

REFERENCES

Al Hadar, Yasmine S.
1977 PERKAWINAN DAN PERCERAIAN DI INDONESIA, SEBUAH STUDI ANTAR KEBUDAYAAN. Jakarta: Lembaga Demografi, Fakultas Ekonomi, Universitas Indonesia. Seri Monografi No. 4.

Amin Aziz, M.
1971 PERKEMBANGAN USAHATANI PASANG SURUT DI KALIMANTAN SELATAN DAN KALIMANTAN TENGAH. Bogor: Departemen Pertanian dan Survey Agro Ekonomi.

Amral Sjamsu, M.
1960 DARI KOLONISASI KE TRANSMIGRASI. Djakarta: Djambatan.

Arndt, H.W. and R.M. Sundrum
1977 "Transmigration: Land Settlement or Regional Development?" BULLETIN OF INDONESIAN ECONOMIC STUDIES 13(3), Nov.: 72-90.

Arnold, Fred et al.
1975 INTRODUCTION AND COMPARATIVE ANALYSIS. THE VALUE OF CHILDREN: A CROSS-NATIONAL STUDY. Vol. I. Honolulu, Hawaii: East-West Population Institute.

Asep Djadja Saefullah
1979 THE VALUE OF CHILDREN AMONG TEA ESTATE WORKERS' FAMILIES: A CASE STUDY IN A VILLAGE OF WEST JAVA, INDONESIA. Canberra: The Australian National University, Development Studies Centre, M.A. in Demography Research Series No. 2.

Auda Murad
1978 MERANTAU: OUTMIGRATION IN A MATRILINEAL SOCIETY OF WEST SUMATRA. M.A. thesis, Australian National University. Also published by the Department of Demography, Australian National University, Indonesian Population Monograph Series No. 3, 1980.

Badan Penelitian dan Pengembangan Pendidikan dan Kebudayaan (BP3K)
Departemen Pendidikan dan Kebudayaan
1977 RANGKUMAN STATISTIK PERSEKOLAHAN DEPARTEMEN PENDIDIKAN DAN KEBUDAYAAN 1976. Jakarta.

Bambang Hartono and Pardamean Silitonga
1975 "The Punggur Project, Central Lampung." PUNGGUR-WAY ABUNG. TWO CASE STUDIES IN IRRIGATED AND NON-IRRIGATED TRANSMIGRATION SETTLEMENT AREAS OF LAMPUNG. Jakarta: Transmigration Training and Research Centre: Department of Manpower, Transmigration and Cooperatives: 38-75.

Becker, Gary S.
1960 "An Economic Analysis of Fertility," in DEMOGRAPHIC AND ECONOMIC CHANGE IN DEVELOPED COUNTRIES. Universities National Bureau Conference Series 11. Princeton: Princeton University Press.

Berelson, Bernard
1973 "The Value of Children: A Taxonomical Essay" in THE POPULATION COUNCIL ANNUAL REPORT 1972. New York: Population Council: 19-27.

Berman, M.L., K. Hanson and I.L. Hellman
1972 "Effect of Breast-feeding on Postpartum Menstruation, Ovulation and Pregnancy in Alaskan Eskimos." AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY 114(2), Oct.: 524-534.

Bintoro Tjokroamidjojo
1977 WAY ABUNG TRANSMIGRATION PROJECT. Honolulu: East-West Technology and Development Institute, East-West Center.

Biro Pusat Statistik
1973-74 SENSUS PENDUDUK 1971, Seri E. Nos. 1-26. Jakarta.

no date SENSUS PENDUDUK 1971, PEDOMAN UNTUK PENTJATJAH SENSUS SAMPEL. Djakarta.

1975a SENSUS PENDUDUK 1971, PENDUDUK INDONESIA. Seri D. Jakarta.

1975b STATISTICAL POCKETBOOK, INDONESIA 1974/75. Jakarta.

1976a 1976 INTERCENSAL POPULATION SURVEY, ORGANIZATION AND METHODS. Jakarta.

1976b STATISTICAL POCKETBOOK OF INDONESIA 1976. Jakarta.

1976c SURVEY PENDUDUK ANTAR SENSUS 1976, PEDOMAN UNTUK PENCACAH SUPAS I. Jakarta.

1976d SURVEY PENDUDUK ANTAR SENSUS 1976, PEDOMAN UNTUK PENCACAH SUPAS II. Jakarta.

1977a KETERANGAN FERTILITAS PENDUDUK INDONESIA. Seri Tabulasi Nomor 1, Survey Penduduk Antar Sensus 1976, VP78-02. Jakarta.

1977b STATISTICAL POCKETBOOK OF INDONESIA 1977. Jakarta.

1978 STATISTICAL POCKETBOOK OF INDONESIA 1977/1978. Jakarta.

1979a INDIKATOR SOSIAL 1978. Jakarta.

1979b INDONESIA, SURVEY SOSIAL EKONOMI NASIONAL, VUS 79-29. Jakarta.

1979c STATISTICAL POCKETBOOK OF INDONESIA 1978/1979. Jakarta.

Blake, Judith
1968 "Are Babies Consumer Durables? A Critique of the Economic Theory of Reproductive Motivation." POPULATION STUDIES 22(1), March: 5-25.

Boeke, J.H.
1953 ECONOMICS AND ECONOMIC POLICY OF DUAL SOCIETIES AS EXEMPLIFIED BY INDONESIA. New York: International Secretariat, Institute of Pacific Relations.

Boomgaard, P.
1979 "Bevolkingsgroei en Welvaart op Java 1800-1942." INTERMEDIAIR (Amsterdam) 15(32): 25-35. Also published in INDONESIE TOEN EN NU, edited by R.N.J. Kamerling, 1980. Amsterdam.

1980 "Female Labour and Population Growth on Nineteenth Century Java." Mimeographed paper. Amsterdam: Vrye Universiteit, Department of History.

Booth, Anne and R.M. Sundrum
1976 "The 1973 Agricultural Census." BULLETIN OF INDONESIAN ECONOMIC STUDIES 12(2), July: 90-105.

1979 "Trends and Determinants of Income Distribution in Indonesia." Paper prepared for THE INDONESIA CONNECTION seminar series held at the Australian National University, Research School of Pacific Studies. November.

Boserup, Ester
1965 THE CONDITIONS OF AGRICULTURAL GROWTH - THE ECONOMICS OF AGRARIAN CHANGE UNDER POPULATION PRESSURE. Chicago: Aldine Publishing Company.

Bouvier, Leon F., John J. Macisco Jr. and Alvan Zarate
1974 "Towards a Framework for the Analysis of Differential Migration: The Case of Education." Paper given at the VIIIth World Congress of Sociology, August 20, Toronto: 24-36.

Brass, William
1975 METHODS FOR ESTIMATING FERTILITY AND MORTALITY FROM LIMITED AND DEFECTIVE DATA. Chapel Hill, N.C.: The Carolina Population Center, The University of North Carolina at Chapel Hill.

Brass, William and Ansley J. Coale
1968 "Methods of Analysis and Estimation," in THE DEMOGRAPHY OF TROPICAL AFRICA, edited by W. Brass et al. Princeton, New Jersey: Princeton University Press: 88-139.

Breman, J.C.
1971 DJAWA: PERTUMBUHAN PENDUDUK DAN STRUKTUR DEMOGRAFIS. Translated by Sugarda Purbakawatja. Djakarta: Bhratara.

Browning, Harley L. and Waltraut Feindt
1969 "Selectivity of Migrants to a Metropolis in a Developing Country: A Mexican Case Study." DEMOGRAPHY 6(4), Nov.: 347-357.

Bulatao, Rudolfo A.
1972 "Level of Ego-Development and Sensitivity to Different Cultural Values of Children" in THE SATISFACTIONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS, edited by James T. Fawcett: 300-307.

1979 ON THE NATURE OF THE TRANSITION OF THE VALUE OF CHILDREN. Paper of the East-West Population Institute, No. 60-A.

Caldwell, John C.
1976 "Toward a Restatement of the Demographic Transition Theory." POPULATION AND DEVELOPMENT REVIEW 2(3 and 4), Sep. and Dec.: 321-366.

1977 "The Economic Rationality of High Fertility: An Investigation Illustrated with Nigerian Survey Data." POPULATION STUDIES 31(1), March: 5-27.

Caldwell, John C., Peter F. McDonald and Lado T. Ruzicka
1980 "Interrelations between Nuptiality and Fertility: The Evidence from the World Fertility Survey." Paper presented at the WORLD FERTILITY SURVEY CONFERENCE, London, 7-11 July.

Central Bureau of Statistics and World Fertility Survey
1978 INDONESIA FERTILITY SURVEY 1976, PRINCIPAL REPORT, 2 volumes. VP 78-08. Jakarta.

Chapon, Diana
1976 DIVORCE AND FERTILITY: A STUDY IN RURAL JAVA. Yogyakarta: Population Institute, Gadjah Mada University.

Chevan, Albert
1971 "Family Growth, Household Density, and Moving." DEMOGRAPHY 8(4), Nov.: 451-458.

Cho, Lee-Jay, Sam Suharto, Geoffrey McNicoll, and Si Gde Made Mamas
1976 ESTIMATES OF FERTILITY AND MORTALITY IN INDONESIA: BASED ON THE 1971 POPULATION CENSUS. Jakarta: Biro Pusat Statistik.

1980 POPULATION GROWTH OF INDONESIA AN ANALYSIS OF FERTILITY AND MORTALITY BASED ON THE 1971 POPULATION CENSUS. Honolulu, The University Press of Hawaii Monographs of the Center for Southeast Asian Studies, Kyoto University.

Chung, Betty Jamie
1972 "Costs and Benefits of Children in Hongkong: Measurement in a Pilot Study" in THE SATISFACTIONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS, edited by James T. Fawcett: 210-230.

Coale, Ansley J.
1967 "Factors Associated with the Development of Low Fertility: An Historic Summary." WORLD POPULATION CONFERENCE 1965, Vol. II, New York: United Nations: 205-209.

1973 "The Demographic Transition." IUSSP, INTERNATIONAL POPULATION CONFERENCE, Liege, 1973, Vol. I: 53-72.

Coale, Ansley J. and Edgar M. Hoover
1958 POPULATION GROWTH AND ECONOMIC DEVELOPMENT IN LOW INCOME COUNTRIES. Princeton: Princeton University Press.

Cochrane, Susan Hill
1979 FERTILITY AND EDUCATION: WHAT DO WE REALLY KNOW? World Bank Occasional Papers, number twenty-six. Baltimore and London: The Johns Hopkins University Press.

Collier, William L.
1978 "Masalah Pangan, Pengangguran dan Gerakan Penghijauan di Pedesaan Jawa." PRISMA 7(1): 20-36.

Collier, William L.; Gunawan Wiradi and Soentoro
1973 "Recent Changes in Rice Harvesting Methods." BULLETIN OF INDONESIAN ECONOMIC STUDIES 9(2), July: 36-45.

Darroch, Russel K., Paul A. Meyer and Masri Singarimbun
1981 TWO ARE NOT ENOUGH: THE VALUE OF CHILDREN TO JAVANESE AND SUNDANESE PARENTS. Papers of the East-West Population Institute, No. 60-C.

Davis, Gloria
1976 PARIGI A SOCIAL HISTORY OF THE BALINESE MOVEMENT TO CENTRAL SULAWESI, 1907-1974. Unpublished Ph.D. dissertation submitted to the Department of Anthropology of Stanford University.

Davis, Kingsley
1945 "The World Demographic Transition." ANNALS OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 237: 1-11.

1963 "The Theory of Change and Response in Modern Demographic History." POPULATION STUDIES 24(4), Oct.: 345-366.

Davis, Kingsley and Judith Blake
1956 "Social Structure and Fertility: An Analytical Framework." ECONOMIC DEVELOPMENT AND CULTURAL CHANGE 4, April: 211-235.

Demeny, Paul
1965 "Investment Allocation and Population Growth." DEMOGRAPHY 2: 203-233.

1972 "Economic Approaches to the Value of Children: An Overview" in THE SATISFACTIONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS, edited by James T. Fawcett: 17-23.

Departemen Ilmu-Ilmu Sosial-Ekonomi, Fakultas Pertanian, Institut Pertanian Bogor
1971 SURVEY SOSIAL EKONOMI DAERAH PENGAIRAN WAY SEPUTIH, LAMPUNG TENGAH. Bogor.

Djoko Santoso and Ali Wardhana
1957 "Some Aspects of Spontaneous Transmigration in Indonesia." EKONOMI DAN KEUANGAN INDONESIA 10(6), June: 415-430.

Duncan, Otis Dudley
1965 "Farm Background and Differential Fertility." DEMOGRAPHY 2: 240-249.

Durand, John D. and Ann R. Miller
1968 METHODS OF ANALYSING CENSUS DATA ON ECONOMIC ACTIVITIES OF THE POPULATION. New York: United Nations, Department of Economic and Social Affairs. Population Studies No. 43.

Easterlin, Richard A.
1966 "On the Relation of Economic Factors to Recent and Projected Fertility Changes." DEMOGRAPHY 3(1): 131-151.

1969 "Towards a Socio-economic Theory of Fertility: A Survey of Recent Research on Economic Factors in American Fertility" in FERTILITY AND FAMILY PLANNING, A WORLD VIEW, edited by S.J. Behrman et al. Ann Arbor, Michigan: University of Michigan Press: 127-156.

1975 "An Economic Framework of Fertility Analysis." STUDIES IN FAMILY PLANNING 6(3), March: 54-63.

Edmonston, Barry and Susan McGinnis
1976 "Migrant-Nonmigrant Fertility Differential in Metropolitan Areas of Latin America." DYNAMICS OF MIGRATION: INTERNAL MIGRATION AND MIGRATION AND FERTILITY. Interdisciplinary Communications Program, Smithsonian Institution, Occasional Monograph Series, Number Five, Volume One: 277-285.

El-Badry, M.A.
1967 "A Study of Differential Fertility in Bombay." DEMOGRAPHY 4(2): 626-640.

Elizaga, Juan C.
1972 "International Migration An Overview." INTERNATIONAL MIGRATION REVIEW 6(2), Summer: 121-146.

Enke, Stephen
1968 POPULATION GROWTH AND ECONOMIC DEVELOPMENT: BACKGROUND AND GUIDE. Prepared for U.S. Agency for International Development by TEMPO, General Electric's Center for Advanced Studies, Santa Barbara.

1969 "Birth Control for Economic Development." SCIENCE 164, May: 798-802.

1970a "Economic Benefits of Slowing Population Growth." WAR ON HUNGER 4(3), March: 12-17.

1970b "The economics of Having Children." POLICY SCIENCES 1(1), Spring: 15-30.

1970c "The Economics of Population Growth and Control: Correcting More Confusions." REVIEW OF SOCIAL ECONOMY 28(1): 96-100.

Enke, Stephen and R.G. Zind
1970 "Effect of Fewer Births on Average Income." JOURNAL OF BIOSOCIAL SCIENCE 1(1), Spring: 41-55.

Fawcett, James T. (ed.)
1972 THE SATISFACTIONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS. A Summary Report and Proceedings of the Workshop on ASSESSMENT OF THE SATISFACTIONS AND COSTS OF CHILDREN held at the East-West Center. Honolulu, Hawaii: April 27-29, 1972.

Fawcett, James T.
1977 "The Value and Cost of Children: Converging Theory and Research" in THE ECONOMIC AND SOCIAL SUPPORTS FOR HIGH FERTILITY, edited by Lado T. Ruzicka. Canberra: Australian National University: 91-114.

Fawcett, James T. Sonia Abores and Fred Arnold
1972 "The Value of Children Among Ethnic Groups in Hawaii: Exploratory Measurements" in THE SATISFACTIONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS, edited by James T. Fawcett: 234-259.

Fawcett, James T. et al.
1974 "THE VALUE OF CHILDREN IN ASIA AND THE UNITED STATES: COMPARATIVE PERSPECTIVES. Papers of the East-West Population Institute, No. 32.

Feeney, Griffith
1980 "Estimating Infant Mortality Trends from Child Survivorship Data." POPULATION STUDIES 34(1), March: 109-128.

Franke, Richard William
1972 THE GREEN REVOLUTION IN A JAVANESE VILLAGE. Unpublished Ph.D. dissertation presented to the Department of Anthropology, Harvard University.

Freedman, Ronald
1961-62 "The Sociology of Human Fertility." CURRENT SOCIOLOGY 10/11(2): 35-68.

1965 "The Transition from High to Low Fertility: Challenge to Demographers." POPULATION INDEX 31(4), Oct.: 417-430.

Freedman, Ronald and Doris P. Slesinger
1961 "Fertility Differentials for the Indigenous Non-Farm Population of the United States." POPULATION STUDIES 15(2), Nov.: 161-173.

Friedlander, Dov
1969 "Demographic Responses and Population Change." DEMOGRAPHY 4(4), Nov.: 359-381.

Friedlander, Stanley and Morris Silver
1967 "A Quantitative Study of the Determinants of Fertility Behavior." DEMOGRAPHY 4(1): 30-70.

Fulop, Marcel
1977 "A Survey of the Literature on the Economic Theory of Fertility Behavior." AMERICAN ECONOMIST 21(1), Spring: 5-13.

Gandhi-Lapian, Louisa M.
1979 "The Status of Women in Indonesian Marriage Law," in WOMEN AND DEVELOPMENT PERSPECTIVES FROM SOUTH AND SOUTHEAST ASIA, edited by Rounaq Jahan and Hanna Papanek. Dacca: Bangladesh Institute of Law and International Affairs: 71-94.

Geertz, Clifford
1956 "Religious Belief and Economic Behavior in a Central Javanese Town: Some Preliminary Considerations." ECONOMIC DEVELOPMENT AND CULTURAL CHANGE 4(2), JAN.: 134-158.

1960 THE RELIGION OF JAVA. Glencoe, Illinois: Free Press.

1968 AGRICULTURAL INVOLUTION, THE PROCESSES OF ECOLOGICAL CHANGE IN INDONESIA. Berkeley: University of California Press.

1973 "Comments on Benjamin White's "Demand for Labor and Population Growth in Colonial Java." HUMAN ECOLOGY 1(3): 237-239.

Geertz, Hildred
1961 THE JAVANESE FAMILY: A STUDY OF KINSHIP AND SOCIALIZATION. New York: The Free Press of Glencoe, Inc.

Germani, Gino
1961 "Inquiry into the Social Effects of Urbanization in a Working Class Sector of Greater Buenos Aires," URBANIZATION IN LATIN AMERICA, edited by Philip M. Hauser. New York: Colombia University Press: 206-233.

Gille, Halvor and R.H. Pardoko
1966 "A Family Life Study in East Java: Preliminary Findings," FAMILY PLANNING AND POPULATION PROGRAMS, edited by Bernard Berelson, et al. Chicago: The University of Chicago Press.

Goldberg, David
1959 "The Fertility of Two-Generation Urbanites." POPULATION STUDIES 12(3), Mar.: 214-222.

1960 "Another Look at the Indianapolis Fertility Data." MILBANK MEMORIAL FUND QUARTERLY 38(1), Jan.: 23-36.

Goldscheider, Calvin
1971 "An Outline of the Migration System." PROCEEDINGS OF THE INTERNATIONAL POPULATION CONFERENCE, LONDON, 1969. Liege, International Union for the Scientific Study of Population, Vol. IV: 2746-2754.

Goldstein, Sidney
1971 "Urbanization in Thailand, 1947-1967." DEMOGRAPHY 8(2), MAY: 205-223.

1973 "Interrelations between Migration and Fertility in Thailand." DEMOGRAPHY 10(2), May: 225-241.

Graff, Harvey J.
1979 "Literacy, Education and Fertility, Past and Present: A Critical Review." POPULATION AND DEVELOPMENT REVIEW 5(1), March: 105-140.

Hajnal, J.
1953 "Age at Marriage and Proportion Marrying." POPULATION STUDIES 7(2): 111-136.

Hameed, Abdul N.D.
1975 TRANSMIGRATION ECONOMY OF WAY ABUNG. Jakarta: Directorate General of Transmigration, Ministry of Manpower, Transmigration and Cooperatives.

1976 PELITA I SETTLEMENTS IN SULAWESI TENGGARA. Jakarta: Directorate General of Transmigration, Ministry of Manpower, Transmigration and Cooperatives.

Hardin, Garrett
1968 "The Tragedy of the Commons." SCIENCE 162, Dec.: 1243-1248.

Hardjono, J.M.
1977 TRANSMIGRATION IN INDONESIA. Kuala Lumpur: Oxford University Press.

Harsojo
1979 "Kebudayaan Sunda," in MANUSIA DAN KEBUDAYAAN DI INDONESIA, edited by Koentjaraningrat. Djakarta: Djambatan: 300-326.

Hasan Mangunrai
1977 EVALUASI PENGEMBANGAN TRANSMIGRASI DI SULAWESI, SUATU STUDI TENTANG INTEGRASI TRANSMIGRAN DENGAN PENDUDUK ASLI DI DAERAH TRANSMIGRASI LUWU, SULAWESI SELATAN. Ujung Pandang: Fakultas Sosial Politik Universitas Hasanuddin.

Hatta, Mohammad
1954 BEBERAPA FASAL EKONOMI. Djakarta: Perpustakaan Perguruan Kementerian Pendidikan dan Kebudayaan.

Hauser, Philip. M.
1965 "Urbanization: An Overview," in THE STUDY OF URBANIZATION, edited by Philip M. Hauser and Leo F. Schnore. New York: John Wiley and Sons, Inc.

1974 "The Measurement of Labour Utilization." MALAYAN ECONOMIC REVIEW 19(1), April: 1-15.

Heer, David M.
1966 "Economic Development and Fertility." DEMOGRAPHY 3(2): 423-444.

Heer, David M. and Dean O. Smith
1968 "Mortality Level, Desired Family Size, and Population Increase." DEMOGRAPHY 5(1): 104-121.

Heer, David M. and Hsin-ying Wu
1978 "Effects in Rural Taiwan and Urban Marocco: Combining Individual and Aggregate Data," in THE EFFECTS OF INFANT AND CHILD MORTALITY ON FERTILITY, edited by Samuel H. Preston. New York: Academic Press: 135-159.

Heeren, H.J.
1967 HET LAND AAN DE OVERKANT, TRANSMIGRATIE VAN JAVA NAAR SUMATRA. Meppel: J. A. Boom en Zoon.

Heligman, Larry
no date "Levels and Trends of Mortality in Indonesia, 1961-1971." Mimeographed paper.

Hendershot, Gerry E.
1970 CITYWARD MIGRATION AND URBAN FERTILITY IN THE PHILIPPINES. Unpublished dissertation, Department of Sociology, The University of Chicago.

1973 "Fertility, Social Class and Out-migration: Some Philippine Data." RURAL SOCIOLOGY 38(3), Fall: 312-324.

1976 "Social Class, Migration, and Fertility in the Philippines," in DYNAMICS OF MIGRATION: INTERNAL MIGRATION AND MIGRATION AND FERTILITY: 197-258.

Hendra Esmara
1975 "Pendekatan Pembangunan Melalui Konsep Garis Kemelaratan." Paper prepared for the Social Science Development Indonesian Association. Bukittinggi, Indonesia. (September).

Hiday, Virginia A.
1978 "Migration, Urbanization, and Fertility in the Philippines." INTERNATIONAL MIGRATION REVIEW 12(3): 370-385.

Hoffman, Lois Wladis
1972 "A Psychological Perspective on the Value of Children to Parents: Concepts and Measures" in THE SATISFACTONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS, edited by James T. Fawcett: 27-56.

Hoffman, Lois Wladis and Martin L. Hoffman
1973 "The Value of Children to Parents" in PSYCHOLOGICAL PERSPECTIVES ON POPULATION, edited by James T. Fawcett. New York: Basic Books: 19-76.

Hugo, Graeme John
1975 POPULATION MOBILITY IN WEST JAVA, INDONESIA. Ph.D. dissertation, Research School of Social Sciences, Australian National University. Also partly published by Gadjah Mada University Press, 1978.

Hull, Terence H.
1975 EACH CHILD BRINGS ITS OWN FORTUNE: AN INQUIRY INTO THE VALUE OF CHILDREN IN A JAVANESE VILLAGE. Unpublished Ph.D. dissertation, Research School of Social Sciences, Australian National University.

Hull, Terence H.
1977 "The Influence of Social Class on the Need and Effective Demand for Children in a Javanese Village" in THE ECONOMIC AND SOCIAL SUPPORTS FOR HIGH FERTILITY, edited by Lado T. Ruzicka. Canberra: Australian National University: 287-306.

Hull, Terence H., and Valerie J. Hull
1977 "The Relation of Economic Class and Fertility: an Analysis of some Indonesian Data." POPULATION STUDIES, 31(1), March: 43-57.

Hull, Terence H., Valerie J. Hull and Masri Singarimbun
1977 INDONESIA'S FAMILY PLANNING STORY: SUCCESS AND CHALLENGE. A publication of the Population Reference Bureau, Inc., Vol. 32, No. 6, Nov.

Hull, Terence H. and Riningsih Saladi
1977 "The Application of Hutterite Fertility-Weighted Indices to Studies of Changing Marriage Patterns." Yogyakarta: Lembaga Kependudukan, Universitas Gadjah Mada. Working paper series No. 13.

Hull, Terence H. and Sunaryo
1978a LEVELS AND TRENDS OF INFANT AND CHILD MORTALITY IN INDONESIA. Yogyakarta: Lembaga Kependudukan, Universitas Gadjah Mada.

1978b "Was the Education Question on the 1971 Census Wrong or has Indonesia Been Deschooling Society." Mimeographed paper.

Hull, Valerie J.
1975 FERTILITY, SOCIOECONOMIC STATUS AND THE POSITION OF WOMEN IN A JAVANESE VILLAGE. Unpublished Ph.D. dissertation presented at the Australian National University.

1977 "Social and Economic Supports for High Fertility in Peasant Communities: General Issues Emerging from Specific Research" in THE ECONOMIC AND SOCIAL SUPPORTS FOR HIGH FERTILITY, edited by Lado T. Ruzicka. Canberra: Australian National University: 241-250.

Hunting Technical Services Limited and Huszar Brammah and Associates in association with Sir M. MacDonald and Partners
no date SOUTH EAST SULAWESI TRANSMIGRATION AREA DEVELOPMENT PROJECT.

Huszar Brammah and Associates Urban and Regional Planning Consultants
1974 PEMATANG PANGGANG TRANSMIGRATION STUDY. Project INS/72/005, Planning and Development of Transmigration Schemes. Nothingham, England.

1975 BATURAJA-MARTAPURA TRANSMIGRATION PROJECT, STRUCTURE PLAN.

Hutchinson, Bertram
1961 "Fertility, Social Mobility, and Urban Migration in Brazil." POPULATION STUDIES 14(3), March: 182-189.

I Gusti Made Raka and Imam Soeprijono
1975 The Punggur Project, Central Lampung, PUNGGUR-WAY ABUNG. TWO CASE STUDIES OF IRRIGATED AND NON-IRRIGATED TRANSMIGRATION SETTLEMENT AREAS OF LAMPUNG: 2-37.

Indonesia, Departemen Penerangan
1968 RENTJANA PEMBANGUNAN LIMA TANUN 1969/70-1973/74.

1974 RENCANA PEMBANGUNAN LIMA TAHUN KE DUA 1974/75-1978/79.

1979 RENCANA PEMBANGUNAN LIMA TAHUN KE TIGA 1979/80-1983/84.

1970 LAMPIRAN PIDATO KENEGARAAN PRESIDEN REPUBLIK INDONESIA DI DEPAN SIDANG DPR-GR 16 AUGUSTUS 1970. PELAKSANAAN TAHUN PERTAMA REPELITA (1 APRIL 1969 S/D 31 MARET 1970).

1971 ADDRESS OF STATE BY THE PRESIDENT OF THE REPUBLIC OF INDONESIA BEFORE THE HOUSE OF PEOPLE'S REPRESENTATIVES ON THE EVE OF THE 26TH INDEPENDENCE DAY. Djakarta, August 16, 1971.

1972 LAMPIRAN PIDATO KENEGARAAN PRESIDEN REPUBLIK INDONESIA DIDEPAN SIDANG DEWAN PERWAKILAN RAKYAT, 16 AGUSTUS 1972. PELAKSANAAN TAHUN KETIGA REPELITA (1 APRIL 1971 S/D 31 MARET 1972).

1973 PIDATO KENEGARAAN PRESIDEN REPUBLIK INDONESIA JENDERAL SUHARTO DIDEPAN SIDANG DEWAN PERWAKILAN RAKYAT 16 AUGUSTUS 1973.

1974 LAMPIRAN PIDATO KENEGARAAN PRESIDEN REPUBLIK INDONESIA DI DEPAN SIDANG DEWAN PERWAKILAN RAKYAT, 15 AGUSTUS 1974. PELAKSANAAN REPELITA I (1969/70-1973/74).

1975 PIDATO KENEGARAAN PRESIDEN REPUBLIK INDONESIA JENDERAL SUHARTO DI DEPAN SIDANG DEWAN PERWAKILAN RAKYAT, 16 AGUSTUS 1975.

1976 LAMPIRAN PIDATO KENEGARAAN PRESIDEN REPUBLIK INDONESIA DI DEPAN SIDANG DEWAN PERWAKILAN RAKYAT 16 AUGUSTUS 1976. PELAKSANAAN TAHUN KE DUA REPELITA II (1 APRIL 1975 S/D 31 MARET 1976).

1977 LAMPIRAN PIDATO KENEGARAAN PRESIDEN REPUBLIK INDONESIA DI DEPAN SIDANG DEWAN PERWAKILAN RAKYAT 16 AUGUSTUS 1977. PELAKSANAAN TAHUN KE TIGA REPELITA II (1 APRIL 1976 S/D 31 MARET 1977).

1978 PIDATO KENEGARAAN PRESIDEN REPUBLIK INDDONESIA SOEHARTO DI DEPAN SIDANG DEWAN PERWAKILAN RAKYAT 16 AGUSTUS 1978.

1979 LAMPIRAN PIDATO KENEGARAAN PRESIDEN REPUBLIK INDONESIA DI DEPAN SIDANG DEWAN PERWAKILAN RAKYAT 16 AGUSTUS 1979: PELAKSANAAN REPELITA II (1974/75-1978/79).

Indonesia, Departemen Tenaga Kerja, Transmigrasi dan Koperasi, Direktorat Jenderal Transmigrasi, Direktorat Pembinaan Program
1977a PERANCANGAN PENGEMBANGAN WILAYAH RIMBO BUJANG, PROPINSI JAMBI.

1977b PERANCANGAN PENGEMBANGAN WILAYAH TRANSMIGRASI MASINGAI, KALIMAN TAN SELATAN.

Indonesia, Direktorat Jenderal Pengairan
1972 LAPORAN TEAM FACT FINDING MENGENAI PERKEMBANGAN TRANSMIGRASI DI BARAMBAI, SUB. P4S, KALIMANTAN SELATAN/TENGAH.

Indonesia, Djawatan Transmigrasi Pusat, Seksi Penghubung Masyarakat
1958 BUKU PIAGAM TRANSMIGRASI. Jakarta.

Indonesia, Tambahan Lembaran Negara Republik Indonesia, Nomor 3016.
1973 PERATURAN PEMERINTAH REPUBLIK INDONESIA NOMOR 42 TAHUN 1973 TENTANG PENYELENGGARAAN TRANSMIGRASI. Indonesia.

Institut Pertanian Bogor, Dewan Mahasiswa, Panitia Pelaksana Kamp Kerja Mahasiswa I
1973 LAPORAN SURVEY TEAM KERJA MAHASISWA I DI DAERAH TRANSMIGRASI WAY ABUNG, LAMPUNG. Bogor.

International Bank for Reconstruction and Development, International Development Association
1976 INDONESIA, APPRAISAL OF A TRANSMIGRATION AND RURAL DEVELOPMENT PROJECT. General Agricultural Division East Asia and Pacific Region.

International Bank for Reconstruction and Development
1978 "Employment and Income Distribution in Indonesia." Series: Studies in Employment and Rural Development, No. 51. Washington D.C.

Iskandar, N.
1970 SOME MONOGRAPHIC STUDIES ON THE POPULATION IN INDONESIA. Jakarta: Demographic Institute, Faculty of Economics, University of Indonesia.

Iutaka, S., E.W. Bock and W.G. Varnes
1971 "Factors Affecting Fertility of Natives and Migrants in Urban Brazil." POPULATION STUDIES 25(1), March: 55-62.

Jaffe, A.J.
1951 HANDBOOK OF STATISTICAL METHODS FOR DEMOGRAPHERS. Washington D.C., U.S. Bureau of the Census.

Jay, Robert R.
1969 JAVANESE VILLAGERS: SOCIAL RELATIONS IN RURAL MODJOKUTO. Cambridge, Mass: The MIT Press.

Johnson, William S., Ahmad Sanusi, and Joseph B. Tamney
1976 "Transmigration Potential in Indonesia," in DYNAMICS OF MIGRATION: INTERNAL MIGRATION AND MIGRATION AND FERTILITY: 41-76.

Jones, Gavin
1977 "Economic and Social Support for High Fertility: Conceptual Framework" in THE ECONOMIC AND SOCIAL SUPPORTS FOR HIGH FERTILITY, edited by Lado T. Ruzicka. Canberra: Australian National University: 3-47.

Jones, Gavin
1979 "Indonesia: The Transmigration Programme and Development Planning," in MIGRATION AND DEVELOPMENT IN SOUTHEAST ASIA: A DEMOGRAPHIC PERSPECTIVE, edited by Robin Pryor. Selangor, Malaysia: Oxford University Press: 212-221.

"Fertility Determinants: Sociological and Economic Perspectives" in INTERNATIONAL ENCYCLOPAEDIA OF POPULATION. Forthcoming.

Junghans, K.H.
1974 "Transmigration and Agricultural Production in Lampung," in TRANSMIGRATION IN THE CONTEXT OF AREA DEVELOPMENT. Transmigration Training and Research Center, Directorate General of Transmigration, Department of Manpower, Transmigration and Cooperatives. Jakarta.

Kampto Utomo
1964 "Desa-Desa Transmigran Spontan Diketjamatan Kaliredjo, Lampung Tengah," in MASYARAKAT DESA DI INDONESIA MASA INI, edited by Koentjaraningrat. Jakarta: Universitas Indonesia, Jajasan Badan Penerbit Fakultas Ekonomi: 77-93. Also published as "Villages of Unplanned Resettlers in the Subdistrict Kaliredjo, Central Lampung," in VILLAGES IN INDONESIA, edited by Koentjaraningrat. Ithaca: Cornell University Press: 281-298.

1975 MASYARAKAT TRANSMIGRAN SPONTAN DI DAERAH WAI SEKAMPUNG (LAMPUNG). Yogyakarta: Gadjah Mada University Press.

Kantner, J.L. and P.K. Whelpton
1952 "Fertility Rates and Fertility Planning by Character of Migration." MILBANK MEMORIAL FUND QUARTERLY, 30(2), April: 152-187.

Karkal, Malini
1969a "Postpartum Amenorrhea in Greater Bombay." Chembur, Demographic Training and Research Centre, April (mimeographed).

1969b "Abstinence after Delivery: A Survey Report." Chembur, Demographic Training and Research Centre, May (mimeographed).

Kasarda, John D.
1971 "Economic Structure and Fertility: A Comparative Analysis." DEMOGRAPHY 8(3), Aug.: 307-317.

Kasto
1978 FERTILTY DIFFERENTIALS IN TWO HAMLETS OF SRIHARDJO, YOGYAKARTA. M. A. thesis in Demography, Australian National University.

Kelompok Abung Jaya
1976 PERENCANAAN TRANSMIGRASI KASUS WAY ABUNG II DAN III. Penataran Perencanaan Proyek Departemen Tenaga Kerja, Transmigrasi dan Koperasi, Angkatan ke II.

Ketut Sudhana Astika
1978 "Pengaruh Sosial Ekonomi Program Intensifikasi Padi di Desa Abiansemal." PRISMA 7(1): 77-90.

Keyfitz, Nathan
1964 "Recommendations for Population Study and Demographic Research in Indonesia." WARTA LEKNAS 2(3).

Kiser, Clyde V.
1938 "Birth Rates among Rural Migrants in Cities." MILBANK MEMORIAL FUND QUARTERLY 16, Oct.: 369-381.

1963 "Residence and Migration," in THE THIRD CHILD: A STUDY IN THE PREDICTION OF FERTILITY, edited by Charles E. Westoff, Robert G. Potter Jr., and Philip C. Sagi. Princeton: Princeton University Press: 157-182.

Kitagawa, Evelyn M.
1955 "Components of Difference between the Two Rates." JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION 50(271), Sept.: 1168-1194.

Kodiran
1979 "Kebudayaan Jawa," in MANUSIA DAN KEBUDAYAAN DI INDONESIA, edited by Koentjaraningrat. Jakarta: Djambatan: 327-345.

Koentjaraningrat, R.M.
1957 A PRELIMINARY DESCRIPTION OF THE JAVANESE KINSHIP SYSTEM. Yale University, Southeast Asia Studies Cultural Report Series.

1960 "The Javanese of South Central Java," in SOCIAL STRUCTURE IN SOUTHEAST ASIA, edited by George Peter Murdock. Viking Fund Publications in Anthropology No. 29. New York: Wenner-Gren Foundation for Anthropological Research Inc.: 88-115.

1964 MASYARAKAT DESA DI INDONESIA MASA INI. Djakarta: Universitas Indonesia, Jajasan Badan Penerbit Fakultas Ekonomi.

1964 "Tjelapar: Sebuah Desa di Djawa Tengah Bagian Selatan," in MASYARAKAT DESA DI INDONESIA MASA INI, edited by Koentjaraningrat: 139-168. Also published as "Tjelapar: A Village in South Central Java," in VILLAGES IN INDONESIA, edited by Koentjaraningrat: 244-280.

1967 VILLAGES IN INONESIA. Ithaca, New York: Cornell University Press.

1979 MANUSIA DAN KEBUDAYAAN DI INDONESIA. Jakarta: Djambatan.

Kunstadter, P.P.
1971 "Natality, Mortality and Migration in Upland and Lowland Populations in Northwestern Thailand," in CULTURE AND POPULATION, edited by Steven Polgar. Cambridge, Mass.: Schenkman Publishing Company: 46-60.

Lee, Everett S.
1966 "A Theory of Migration." DEMOGRAPHY 3(1), Feb.: 47-57.

Leibenstein, Harvey
1957 ECONOMIC BACKWARDNESS AND ECONOMIC GROWTH. New York: Wiley.

1974 "An Interpretation of the Economic Theory of Fertility: Promising Path or Blind Alley?" JOURNAL OF ECONOMIC LITERATURE 12(2): 457-479.

1975 "The Economic Theory of Fertility Decline." QUARTERLY JOURNAL OF ECONOMICS 89(1), Feb.: 1-31.

1977 "The Economic Theory of Fertility --Survey Issues and Consider- ations." IUSSP, Mexico 1977, II: 49-64.

Lembaga Demografi
1974a PRELIMINARY REPORT, INDONESIAN FERTILITY-MORTALITY SURVEY 1973, WEST JAVA. Jakarta: Lembaga Demografi, Fakultas Ekonomi, Universitas Indonesia.

1974b CENTRAL JAVA.

1974c EAST JAVA.

Lesthaeghe, R.J. and H. Page
1980 "The Post-Partum Non-susceptible Period: Development and Application of Model Schedules." POPULATION STUDIES 34(1), Mar.: 143-170.

Letta, C.
1974 THE MOVEMENT OF TRANSMIGRANTS IN INDONESIA. Metra Consulting Group Limited.

Long, Larry H.
1972 "The Influence of Number and Ages of Children on Residential Mobility." DEMOGRAPHY 9(3), Aug.: 371-382.

Macisco, John J. Jr., Leon F. Bouvier and Martha Jane Renzi
1969 "Migration Status, Education and Fertility in Puerto Rico 1960." MILBANK MEMORIAL FUND QUARTERLY 47, April: 167-187.

Macisco, John J. Jr., Leon F. Bouvier and Robert H. Weller
1970 "The Effect of Labor Force Participation on the Relation between Migration Status and Fertility in San Juan, Puerto Rico." MILBANK MEMORIAL FUND QUARTERLY 48, Jan.: 51-70.

Mamdani, Mahmood
1972 THE MYTH OF POPULATION CONTROL: FAMILY, CASTE AND CLASS IN AN INDIAN VILLAGE. New York: Monthly Review Press.

1974 "The Ideology of Population Control." CONCERNED DEMOGRAPHY 4(2), Winter: 13-22.

Markas Besar TNI-AD, Dinas Psy. AD
1977 LAPORAN SURVEY PSIKOLOGI SOSIAL DI DAERAH TRANSMIGRASI SITIUNG DAN RIMBO BUJANG (mimeographed).

Mehrotha, G.K.
1974 CENSUS OF INDIA 1971, BIRTH PLACE MIGRATION IN INDIA. Special Monograph No. 1. New Delhi: Office of the Registrar General, India: Ministry of Home Affairs.

Meyer, Paul A.
1981 THE VALUE OF CHILDREN IN THE CONTEXT OF THE FAMILY IN JAVA. Unpublished Ph.D. dissertation, Department of Demography, Australian National University.

Meyer, Paul A. and Colin MacAndrews
1978 TRANSMIGRATION IN INDONESIA: AN ANNOTATED BIBLIOGRAPHY. Yogyakarta: Gadjah Mada University Press.

Meyer, Paul and Masri Singarimbun
1978 "Values and Costs of Children to Javanese and Sundanese Parents." PRISMA 10: 30-46.

Mincer, Jacob
1963 "Market Prices, Opportunity Cost, and Income Effects" in MEASUREMENT IN ECONOMICS STUDIES IN MATHEMATICAL ECONOMICS IN MEMORY OF YEHUDA GRUNFELD, edited by C. Christ et al. Stanford: Stanford University Press: 67-82.

Mochtar Naim
1976 "Voluntary Migration in Indonesia," in INTERNAL MIGRATION, THE NEW WORLD AND THE THIRD WORLD, edited by Anthony H. Richmond and Daniel Kubat. Sage Studies in International Sociology 4. Sponsored by the International Sociological Association: 148-183.

Moir, Hazel
1980 "Correlates of Poverty and Unemployment." BULLETIN OF INDONESIAN ECONOMIC STUDIES 16(1), March: 52-64.

Mueller, Eva
1976 "The Economic Value of Children in Peasant Agriculture" in POPULATION, AND DEVELOPMENT; THE SEARCH FOR SELECTIVE INTERVENTION edited by Ronald G. Ridker. Baltimore: John Hopkins University Press: 98-153.

Myers, George G. and John J. Macisco, Jr.
1975 "Revised Bibliography on Migration and Fertility." INTERNATIONAL MIGRATION REVIEW 9(2): 221-231.

Myers, George C. and Earl W. Morris
1966 "Migration and Fertility in Puerto Rico." POPULATION STUDIES 20(1), July: 85-96.

Myrdal, Gunnar
1968 ASIAN DRAMA. Harmondsworth, England: Penguin Books.

McDonald, Peter F.
1978 "Nuptiality Patterns in Indonesia." Paper prepared for the Indonesia Panel of the Committee on Population and Demography, National Research Coulcil, Washington, D.C.

McDonald, Peter F. and Alip Sontosudarmo
1976 RESPONSE TO POPULATION PRESSURE: THE CASE OF THE SPECIAL REGION OF YOGYAKARTA. Yogyakarta: Gadjah Mada University Press.

McDonald, Peter F., Mohammad Yasin and Gavin Jones
1976 LEVELS AND TRENDS IN FERTILITY AND CHILDHOOD MORTALITY IN INDONESIA. Jakarta: Lembaga Demografi, Fakultas Ekonomi, Universitas Indonesia, Indonesian Fertility-Mortality Survey 1973, Monograph No. 1.

McNicoll, Geoffrey and Si Gde Made Mamas
1973 THE DEMOGRAPHIC SITUATION IN INDONESIA. Honolulu: Papers of the East-West Population Institute, Number 28.

Nag, Moni
1972 "Economic Value of Children in Agricultural Societies: Evaluation of Existing Knowledge and an Anthropological Approach" in THE SATISFACTIONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS, edited by James T. Fawcett: 58-94.

Notestein, Frank W.
1945 "Population - The Long View," in FOOD FOR THE WORLD, edited by T. Schultz. Chicago: University of Chicago Press: 36-57.

Oey, Mayling
1975 "Migration and Fertility in Indonesia," in POLICY SCIENCES AND POPULATION, edited by Warren F. Ilchman, et al., Lexington, Massachusetts: Lexington Books, D.C. Heath and Company: 217-240.

Oey, Mayling and Hananto Sigit
1977 MIGRATION, ECONOMIC DEVELOPMENT AND POPULATION GROWTH: A CASE STUDY OF TRANSMIGRANTS IN LAMPUNG, INDONESIA. Jakarta: Lembaga Penyelidikan Ekonomi dan Masyarakat, Fakultas Ekonomi, Universitas Indonesia.

Oey, Mayling and Ketut Sudhana Astika
1978 SOCIAL AND ECONOMIC IMPLICATIONS OF TRANSMIGRATION IN INDONESIA: A POLICY ORIENTED REVIEW AND SYNOPSIS OF EXISTING RESEARCH. Jakarta: Lembaga Penyelidikan Ekonomi dan Masyarakat, Fakultas Ekonomi, Universitas Indonesia.

Palmer, Andrea Wilcox
1964 "Situradja: Sebuah Desa di Priangan," in MASYARAKAT DESA DI INDONESIA MASA INI, edited by Koentjaraningrat: 115-138. Also published as "Situradja: A Village in Highland Priangan," in VILLAGES IN INDONESIA, edited by Koentjaraningrat: 299-325.

Papanek, Hanna
1976 "Women's Work: Household Work, Outside Employment and Supplementary Earning," in WOMEN IN JAKARTA: FAMILY LIFE AND FAMILY PLANNING, edited by Hanna Papanek, et al. A report to the Interdisciplinary Communications Program of the Smithsonian Institution under a work agreement with the Faculty of Social Science of the University of Indonesia.

Park Jae-Young and Park Insook H.
1976 "Migration and Female Labor Force Impact on Korean Fertility," in DYNAMICS OF MIGRATION: INTERNAL MIGRATION AND MIGRATION AND FERTILITY: 267-276.

Peluso, Nancy Lee
1979 "Putting People into Boxes, or Building Boxes around the People? Approaches to Designing Occupational Categories for Java." Yogyakarta: Population Institute, Gadjah Mada University. Working Paper Series No. 19.

Pelzer, K.J.
1948 PIONEER SETTLEMENTS IN ASIATIC TROPICS. New York: Institute for Pacific Relations.

Penny, D.H. and Masri Singarimbun
1973 POPULATION AND POVERTY IN RURAL JAVA, SOME ECONOMIC ARITHMETIC FROM SRIHARDJO. Ithaca, New York: Department of Agricultural Economics, New York State College of Agricultural and Life Sciences, Cornell University.

Peper, Bram
1970 "Population Growth in Java in the 19th Century." POPULATION STUDIES 24(1), March: 71-84.

Petersen, William
1969 POPULATION. Second edition. New York: MacMillan Co.

Pope, Hallowell
1972 "Normative Choices: Problems of Conceptualization and Some Attempts at Measurement" in THE SATISFACTIONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS, edited by James T. Fawcett: 142-170.

Potter, R.G., M.L. New, J.B. Wyon and J.E. Gordon
1965 "An Application of Field Studies to Research on the Physiology of Human Reproduction: Lactation and Its Effects upon Birth Intervals in Eleven Punjab Villages, India," in PUBLIC HEALTH AND POPULATION CHANGE, edited by Midel C. Sheps and Jeanne C. Ridley. Pittsburgh: University of Pittsburgh Press: 377-399.

Preston, Samuel H. (editor)
1978 "Introduction," in THE EFFECTS OF INFANT AND CHILD MORTALITY ON FERTILITY. New York: Academic Press: 1-18.

Pudjo Rahardjo
1979 THE NATIONAL FAMILY PLANNING/POPULATION PROGRAMME OF INDONESIA. A background paper for the UNFPA Mission. Jakarta.

Quick, Sylvia D.
1979 COUNTRY DEMOGRAPHIC PROFILES, INDONESIA. U.S. Department of Commerce, Bureau of the Census, ISP-DP-18.

Ratnatunga R.T.
no date LAND TENURE, PLANNING AND DEVELOPMENT OF TRANSMIGRATION SCHEMES. Project Working Document. Jakarta: Directorate General of Transmigration, Ministry of Manpower, Transmigration and Cooperatives.

Redmana, Han R., Hazel V.J. Moir and Daliyo
1977 LABOR FORCE AND LABOR UTILIZATION IN SELECTED AREAS IN JAVA, RESULTS OF AN EXPERIMENTAL SURVEY. Jakarta: LEKNAS-LIPI, Monograph Series (2 volumes).

Retherford, Robert D. and Lee-Jay Cho
1981 "Decomposition of the Change in the Total Fertility Rate in the Republic of Korea, 1960-75." ASIAN AND PACIFIC CENSUS FORUM 7(3): 5-9.

Retherford, Robert D. and Naohiro Ogawa
1978 "Decomposition of the Change in the Total Fertility Rate in the Republic of Korea 1966-1970." SOCIAL BIOLOGY 25(2), Summer: 115-127.

Rindfuss, Ronald R.
1976 "Fertility and Migration: The Case of Puerto Rico." INTERNATIONAL MIGRATION REVIEW 10(2): 191-203.

Ritchey, Neal P. and C. Shannon Stokes
1972 "Residence Background, Migration and Fertility." DEMOGRAPHY 9(2), May: 217-230.

Ro, Kong-Kyun
1976 "Migration and Fertility in Korea," in DYNAMICS OF MIGRATION: INTERNAL MIGRATION AND MIGRATION AND FERTILITY: 259-266.

Robinson, Warren C. and David E. Horlacher
1971 "Population Growth and Economic Welfare." REPORTS ON POPULATION/FAMILY PLANNING a publication of the Population Council, No. Six, February.

Romaniuk, Anatole
1968 "The Demography of the Democratic Republic of the Congo" in THE DEMOGRAPHY OF TROPICAL AFRICA, edited by William Brass et al. Princeton, New York: Princeton University Press: 241-341.

Sajogyo
1977 "Garis Kemiskinan dan Kebutuhan Minimum Pangan." KOMPAS, 17 Nov.

Sanderson, Warren C.
1976 "On Two Schools of the Economics of Fertility." POPULATION AND DEVELOPMENT REVIEW 2(3 and 4), Sept. and Dec.: 469-477.

Schultz, T. Paul
1979 "Current Developments in the Economics of Fertility" in IUSSP 1979, III: 27-38 (ECONOMIC AND DEMOGRAPHIC CHANGE: ISSUES FOR THE 1980'S). Proceedings of the Conference, Helsinki 1978. Liege: IUSSP.

Scrimshaw, Susan C.M.
1978 "Infant Mortality and Behavior in the Regulation of Family Size." POPULATION AND DEVELOPMENT REVIEW 4(3): 383-403.

Shryock, Henry S., Jacob S. Siegel and Associates
1971 THE METHODS AND MATERIALS OF DEMOGRAPHY, Vols. I and II. U.S. Department of Commerce, Bureau of the Census. Washington D.C.: U.S. Government Printing Office.

Simmons, George B.
1971 THE INDIAN INVESTMENT IN FAMILY PLANNING. New York: The Population Council, an occasional paper.

Singarimbun, Masri, Russel K. Darroch and Paul A. Meyer
1977 VALUE OF CHILDREN: A STUDY IN JAVA. Report Series No. 13, Population Institute, Gadjah Mada University.

Singarimbun, Masri and Chris Manning
1974a FERTILITY AND FAMILY PLANNING IN MOJOLAMA. Yogyakarta: Institute of Population Studies, Gadjah Mada University.

1974b "Marriage and Divorce in Mojolama." INDONESIA 17, April: 67-82.

Soedigdo Hardjosoedarmo
1965 KEBIDJAKSANAAN TRANSMIGRASI DALAM RANGKA PEMBANGUNAN MASYARAKAT DESA DI INDONESIA. Djakarta: Bhratara.

Soegeng Soemarto Soetanto and Kasnadi J.S.
1971 LAPORAN SURVEY PENGEMBANGAN DESA TRANSMIGRASI BARAMBAI, MARABAHAN, BALANDEAN DAN TAMBAN DI PROPINSI KALIMANTAN SELATAN. Direktorat Jenderal Transmigrasi, Direktorat Penelitian dan Persiapan.

Soekardjo Sastrodihardjo
1960 BEBERAPA TJATATAN DARI DAERAH KABUPATEN WONOGIRI. Djakarta: Djawatan Pertanian Rakyat Pusat, Bagian Publikasi dan Dokumentasi.

Soeratman
1977 BEBERAPA MASALAH KESEMPATAN KERJA PARA TRANSMIGRAN; KASUS KALIMANTAN SELATAN DAN SULAWESI SELATAN. Yogyakarta: Universitas Gadjah Mada, Lembaga Kependudukan, Seminar No. 58 (March 13).

Soeratman and Patrick Guinness
1976 TRANSMIGRATION IN SOUTH KALIMANTAN AND SOUTH SULAWESI. Yogyakarta: Universitas Gadjah Mada, Lembaga Kependudukan. Working Paper No. 1.

Soeratman and Patrick Guinness
1977 "Changing Focus of the Transmigration Program." Yogyakarta, Population Institute, Gadjah Mada University, Working Paper Series No. 11. Also published in BULLETIN OF INDONESIAN ECONOMIC STUDIES 13(2): 78-101.

Soeratman, Masri Singarimbun and Patrick Guinness
1977 PRELIMINARY REPORT ON THE SOCIAL AND ECONOMIC CONDITIONS OF TRANSMIGRANTS IN SOUTH KALIMANTAN AND SOUTH SULAWESI. Yogyakarta: Universitas Gadjah Mada, Lembaga Kependudukan, Working Paper No. 9.

Soetardjo Kartohadikoesoemo
1965 DESA. Bandung: Sumur Bandung.

Speare, Alden Jr.
1979 "Migration Assumptions for Use in Regional Population Projections in Indonesia." MAJALAH DEMOGRAFI INDONESIA 6(11), June: 21-34.

Sri-Edi Swasono
1969 THE LAND BEYOND: TRANSMIGRATION AND DEVELOPMENT IN INDONESIA. Unpublished Ph.D. dissertation, University of Pittsburg.

1974 "Changing Traditional Ways of Thought: Specific and Evaluative Programs for Transmigration," in THE ROLE OF TRANSMIGRATION IN NATIONAL AND REGIONAL DEVELOPMENT. Proceedings of the 1971 Transmigration Workshop. Jakarta: Transmigration Training and Research Center, Directorate General of Transmigration, Department of Manpower, Transmigration and Cooperatives.

Stoler, Ann
1975 "Some Socio-Economic Aspects of Rice Harvesting in a Javanese Village." MASYARAKAT INDONESIA 2(1): 51-87.

Sugito, et al.
1976 STUDI TENTANG NILAI ANAK PADA SEBUAH DESA DI DAERAH KABUPATEN BANYUMAS. Purwokerto: Fakultas Ekonomi Universitas Negeri Jendral Soedirman.

Sullivan, Jeremiah M.
1972 "Models for the Estimation of the Probability of Dying between Birth and Exact Ages of Early Childhood." POPULATION STUDIES 26(1): 79-97.

Sutarsih Mulia Kusuma
1976 BERBAGAI ASPEK PERBEDAAN POLA PERKAWINAN DI INDONESIA DEWASA INI. Jakarta: Lembaga Demografi, Fakultas Ekonomi, Universitas Indonesia. Monograf Seri F-M No. 2.

Tan, Mely G. et. al.
1970 SOCIAL AND CULTURAL ASPECTS OF FOOD PATTERNS AND FOOD HABITS IN FIVE RURAL AREAS IN INDONESIA. Jakarta: National Institute of Economic and Social Research (LEKNAS),LIPI and Directorate of Nutrition, Department of Health.

Terhune, Kenneth W.
1972 "The Rewards and Costs of Family Size: Concepts and Methods for a Pilot Study in the United States" in THE SATISFACTIONS AND COSTS OF CHILDREN: THEORIES, CONCEPTS, METHODS, edited by James T. Fawcett: 99-140.

Thomas, Dorothy Swaine
1938 RESEARCH MEMORANDUM ON MIGRATION DIFFERENTIALS. New York: Social Science Research Council Bulletin 43.

Turchi, Boone A.
1975 "Microeconomic Theories of Fertility: A Critique." SOCIAL FORCES 54(1): 107-125.

Ueda, Masao
1967 "Internal Migration Affecting Age Composition and Fertility with Reference to Japan." PROCEEDINGS OF THE WORLD POPULATION CONFERENCE, 1965, Vol. IV: 538-541. New York: United Nations.

United Nations
1971 1970 DEMOGRAPHIC YEARBOOK. New York: United Nations.

1974 1973 DEMOGRAPHIC YEARBOOK. New York: United Nations.

1977 1976 DEMOGRAPHIC YEARBOOK. New York: United Nations.

United Nations, Food and Agriculture Organization
1975 INDONESIA, REPORT ON WAI TUBA TRANSMIGRATION PROJECT.

Van de Walle, Etienne
1973 "Comments on Benjamin White's "Demand for Labor and Population Growth in Colonial Java." HUMAN ECOLOGY 1(3): 241-244.

Van de Walle, Francine
1975 "Migration and Fertility in Ticino." POPULATION STUDIES 29(3), Nov.: 447-462.

Vance, Rupert B.
1952 "Is Theory for Demographers?" SOCIAL FORCES 31(1), Oct: 9-13.

Van Ginneken, J.K.
1974 "Prolonged Breast-feeding as a Birth Spacing Method." STUDIES IN FAMILY PLANNING 5(6), June: 201-206.

Wantjik Saleh, K., S.H.
1976 HUKUM PERKAWINAN INDONESIA. Jakarta: Ghalia Indonesia.

Ware, Helen
1975 "The Limits of Acceptable Family Size in Western Nigeria." JOURNAL OF BIOSOCIAL SCIENCE 7: 273-296.

1977 "The Relationship between Infant Mortality and Fertility: Replacement and Insurance Effects." PROCEEDINGS OF THE INTERNATIONAL POPULATION CONFERENCE, 1 (Liege, Belgium: IUSSP).

Wertheim, W.F.
1956 INDONESIAN SOCIETY IN TRANSITION. The Hague, Bandung: W. van Hoeve Ltd.

White, Benjamin
1973 "Demand for Labor and Population Growth in Colonial Java." HUMAN ECOLOGY 1(3): 217-236.

White, Benjamin
1974 "Reply to Geertz and Van de Walle." HUMAN ECOLOGY 2(1): 63-65.

1976 PRODUCTION AND REPRODUCTION IN A JAVANESE VILLAGE. Unpublished Ph.D. dissertation, Columbia University.

1978 "Political Aspects of Poverty, Income Distribution and Their Measurement: Some Examples from Rural Java." Revised version of paper presented at the Asia Society Seminar on NEW MEASURES FOR NEW DEVELOPMENT GOALS IN SOUTH AND SOUTHEAST ASIA. Singapore, November 21-25.

Widjojo Nitisastro
1961 MIGRATION, POPULATION GROWTH AND ECONOMIC DEVELOPMENT IN INDONESIA: A STUDY OF THE ECONOMIC CONSEQUENCES OF ALTERNATIVE PATTERNS OF INTER-ISLAND MIGRATION. Unpublished Ph.D. dissertation, University of California, Berkeley.

1970 POPULATION TRENDS IN INDONESIA. Ithaca: Cornell University Press.

Wuisman, J.J.J.M.
1977 TRANSMIGRATION IN BENGKULU (mimeographed paper).

Zarate, A.O.
1967 "Differential Fertility in Monterrey, Mexico: Prelude to Transition?" MILBANK MEMORIAL FUND QUARTERLY 45(2), APRIL: 93-108.

Zarate, Alvan and Alicia Unger de Zarate
1975 "On the Reconciliation of Research Findings on Migrant Non-Migrant Fertility Differentials in Urban Areas." INTERNATIONAL MIGRATION REVIEW 9(2): 115-156.

GLOSSARY

ABANGAN	One of the major socio-religious traditions among the Javanese. The term generally refers to the group of nominal Muslims who stress the animistic aspects of the overall Javanese mix of religions, and is usually identified with the peasant element of society
ADAT	Custom, tradition, customary law
ALANG-ALANG	Tall grass, usually considered as weed
BAKOPTRANS	Transmigration Implementation Coordinating Board
BANPRES	Presidential Aid
BANTUAN	Aid, help, assistance
BAPPENAS	National Development Planning Board
BATU	Stone, rock
BAWON	A system of mutual assistance during specific stages of the agricultural cycle for which payment is made for a portion of the harvest
BIAYA	Finance, cost
BIMAS	Indonesia's agricultural extension program
BKKBN	National Family Planning Coordinating Board
BPS	Central Bureau of Statistics
BUPATI	Head of a KABUPATEN or regency
CADAS	Rock, also refers to lime
CAMAT	Head of a subdistrict
CARIK	Village secretary
CBS	Central Bureau of Statistics
CELADE	Latin American Demographic Centre
CUKUPAN	Enough, sufficient
DENGAN	With
DEPARTEMEN PENERANGAN	Department of Information
DESA	Village

DIREKTORAT JENDERAL	Directorate General
DIREKTORAT JENDERAL PENGAIRAN	Directorate General of Irrigation
DJAWATAN	Service
DUKUH	Hamlet
DUKUN	Traditional healer
EERE SCHULD	Debt of Honor, an article written by C.Th. van Deventer, published in 1899
F-M	Fertility-Mortality
GOTONG ROYONG	Mutual self-help
HANSIP	Civil defense force
IJON	From IJO (green), which refers to the trading of PADI while it is still green in the field
INPRES	Presidential Instruction
ISCO	International Standard Classification of Occupations
JAMU	Traditional herbal medicine
KABUPATEN	Regency
KAPUR	Lime
KECAMATAN	Subdistrict
KELUARGA	Family
KITANAN	Circumcision
KOMPAS	Jakarta newspaper
KOTA MADYA	Municipality
LKBN	National Family Planning Institute
LOKAL	Local
MARGA	In Lampung it refers to a territorial unit
NFPP	National Family Planning Program
OMAH-OMAH	To set up a household but basically a Javanese word for 'to wed'
PADI	Unhulled rice

PACEKLIK	The time of scarcity before the harvest
PEKARANGAN	Home garden
PEMBANGUNAN NASIONAL SEMESTA BERENCANA DELAPAN TAHUN	Eight Year Plan for Overall National Development
PIJAT	Massage
PUSKESMAS	Community health center
RAMAI	Busy
REPELITA	Five Year Development Plan
RUKUN KAMPUNG	Hamlet
RUKUN TETANGGA	Neighborhood unit
SAWAH	Irrigated fields
SELAMATAN	Formal ceremony and ritual meal marking certain important calendrical and life cycle events
SERTIPIKAT HAK MILIK	Ownership right
SERTIPIKAT HAK PAKAI	Tillage permit
S.D.	Elementary School
SPONTAN	Spontaneous
SUPAS	Intercensal population survey
SUSENAS	National Socio-Economic Survey
TAHU	Soy bean curd
TANAH BENGKOK	Land rights given to village administrators in lieu of a salary
TANPA	Without
TEGALAN	Dry or rainfed fields
TEMPE	Soy bean cake
TENGKULAK	Middleman
TRANSMIGRAN	Transmigrant
UMUM	General
WFS	World Fertility survey

A. KETERANGAN DEMOGRAFI

0 1

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERTANGGUNG JAWAB
AJUKAN PERTANYAAN KOLOM DEMI KOLOM DAN SELESAIKAN SECARA BERURUTAN.

NO. URUT	N A M A	HUBUNGAN DENGAN KEPALA RUMAH - TANGGA	JENIS KELAMIN	STATUS PERKAWINAN	PINDAHAN KODE E1
	A1 Siapakah nama-nama dari semua anggota rumah tangga ini ? TULISKAN NAMA-NAMA ANGGOTA RUMAH TANGGA INI DIMULAI DENGAN KEPALA KELUARGA DAN DILANJUTKAN DENGAN URUTAN SESUAI DENGAN DAFTAR PADA PERTANYAAN A2 SELESAI MENULIS SEMUA NAMA YANG DIBERIKAN RESPONDEN BACALAH SEKALI LAGI NAMA-NAMA YANG TELAH TERCATAT KEMUDIAN TANYAKAN. Adakah anggota rumah tangga lainnya yang belum tercatat seperti : 1. Anak2 kecil dan bayi2 yg baru dilahirkan ? 2. Anggota rumah tangga yg sementara sedang bepergian ? 3. Anggota rumah tangga famili lain, orang2 lain yang tinggal bersama disini ?	A2 Apakah hubungan setiap anggota dengan kepala rumah tangga ? ISIKAN KODE HUBUNGAN DENGAN KEPALA RUMAH-TANGGA *Kepala rumah tangga - 1* *Isteri kepala rumah tangga - 2* *Anak kandung - 3* *Anak tiri/ angkat - 4* *Cucu - 5* *Orang tua - 6* *Mertua - 7* *Menantu - 8* *Famili lain - 9* *Anggota r.t. lainnya - 0*	A3 Apakah ? *Laki2 - 1* *Perempuan - 2* ISIKAN KODE	A4 Apakah Bapak/ Ibu/Sdr. sekarang ? *Belum kawin - 1* *Kawin - 2* *Janda/duda - 3* *Cerai - 4* *Kawin tetapi hidup berpisah - 5* ISIKAN KODE	KODE PADA E.1.
	(1)	(2)	(3)	(4)	(5)
0 1					
0 2					
0 3					
0 4					
0 5					
0 6					
0 7					
0 8					
0 9					
1 0					
1 1					
1 2					
1 3					
1 4					
1 5					

A. KETERANGAN DEMOGRAFI

0 2

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERSANGKUTAN
AJUKAN PERTANYAAN KOLOM DEMI KOLOM DAN SELESAIKAN SECARA BERURUTAN

NO. URUT	TANGGAL LAHIR				KETERANGAN KELAHIRAN		UMUR
	A5 Dalam bulan dan tahun berapakah Bapak/Ibu/Sdr. dan anggota rumah tangga ini dilahirkan ? ISIKAN BULAN DAN TAHUN KELAHIRAN DALAM KALENDER MASEHI ATAU ISLAM/ JAWA KALAU RESPONDEN TIDAK TAHU KOSONGKAN				A6a Apakah Bapak/Ibu/Sdr. mempunyai surat keterangan kelahiran ? *Ya - Y* *Tidak- T* ISIKAN KODE JIKA TIDAK LANGSUNG KE A7.	A6b Apakah saya dapat melihat surat tersebut ? ISI JENIS SURAT KETERANGAN	A7 Kalau begitu umur Bapak/Ibu/Sdr. sekarang ? TULIS UMUR DALAM TAHUN
	Bulan		Tahun				
	Masehi	Islam/ Jawa	Masehi	Islam/ Jawa			
	(6)	(7)	(8)	(9)	(10)	(11)	(12)
0 1							
0 2							
0 3							
0 4							
0 5							
0 6							
0 7							
0 8							
0 9							
1 0							
1 1							
1 2							
1 3							
1 4							
1 5							

A. KETERANGAN DEMOGRAFI

0 3

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERSANGKUTAN
AJUKAN PERTANYAAN KOLOM DEMI KOLOM DAN SELESAIKAN SECARA BERURUTAN

NO.	TEMPAT LAHIR
URUT	A8 Di Desa/Kelurahan, Kecamatan, Kabupaten/Kotamadya dan Propinsi manakah Bapak/Ibu/Sdr. dilahirkan ?

ISI NAMA DESA/KELURAHAN, KECAMATAN, KABUPATEN/ KOTAMADYA SERTA ISI NAMA PROPINSI

	Desa/ Kelurahan	Kecamatan	Kabupaten/ Kotamadya	Propinsi
	(13)	(14)	(15)	(16)
01				
02				
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				

A. KETERANGAN DEMOGRAFI

04

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERSANGKUTAN
AJUKAN PERTANYAAN KOLOM DEMI KOLOM DAN SELESAIKAN SECARA BERURUTAN

NO. URUT	P E R P I N D A H A N						
	TANYAKAN UNTUK SEMUA ORANG YANG TIDAK LAHIR DIDESA INI						
	A9a Tahun berapakah Bapak/Ibu/Sdr, meninggalkan tempat kelahiran ? ISIKAN TAHUN	A9b Tahun berapakah Bapak/Ibu/Sdr. pindah ke Lampung ? ISIKAN TAHUN	A9c Sudah berapa lamakah Bapak/Ibu/Sdr. tinggal di-Lampung ? ISIKAN JUMLAH TAHUN	JIKA JAWABAN A9a SAMA DENGAN A9b AKHIRI PERTANYAAN BAGIAN A UNTUK ORANG INI JIKA JAWABAN A9a TIDAK SAMA DENGAN A9b TANYAKAN A9d Di Propinsi, Kabupaten/Kotamadya, dan Kecamatan manakah Bapak/Ibu/Sdr. bertempat tinggal sebelum pindah ke Desa ini ?			A9e Berapa tahunkah Bapak/Ibu/Sdr. tinggal ditempat tersebut? ISIKAN JUMLAH TAHUN
				ISIKAN KODE PROPINSI YG ADA DI SEBELAH			
				PROPINSI	KABUPATEN/ KOTAMADYA	KECAMATAN	
	(17)	(18)	(19)	(20)	(21)	(22)	(23)
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							

A. KETERANGAN DEMOGRAFI

0 5

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERSANGKUTAN
AJUKAN PERTANYAAN KOLOM DEMI KOLOM DAN SELESAIKAN SECARA BERURUTAN.

NO.	PENDIDIKAN			KEPANDAIAN MEMBACA & MENULIS	
URUT	A10a Apakah masih sekolah ? *Ya - Y* *Tidak - T* ISIKAN KODE	A10b Sedang disekolah apa ? (JIKA A10a KODE Y) A10c Sekolah apakah yang terakhir ? (JIKA A10a KODE T) *Tidak/belum sekolah - 1* *Sekolah Dasar atau setingkat - 2* *S.L.P. umum/kejuruan atau setingkat - 3* *S.L.A. Umum /kejuruan atau setingkat - 4* *Akademi/Universitas atau setingkat - 5* ISIKAN KODE	JIKA PERNAH/SEDANG SEKOLAH TULISKAN KELAS/TINGKAT TERTINGGI YANG PERNAH /SEDANG DIDUDUKI. JIKA TELAH LULUS BERI KODE 8	UNTUK YANG TIDAK SEKOLAH ATAU DI S.D. (A10b/A10c KODE 1 ATAU 2). A11a Dapatkah Bapak/Ibu/ Sdr. membaca bahasa Indonesia ? *Ya - Y* *Tidak - T*	A11b Dapatkah Bapak/Ibu/ Sdr. menulis bahasa Indonesia ? *Ya - Y* *Tidak - T*
	(24)	(25)	(26)	(27)	(28)
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					

B. KETERANGAN TRANSMIGRASI

0 6

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERTANGGUNG JAWAB
LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN

B1 Apakah Bapak/Ibu/Sdr. menerima bantuan pemerintah untuk pindah kemari, berupa :

a. Pengangkutan dari tempat asal ke pelabuhan ?	*Ya* - *Y*	*Tidak* - *T*
b. Pengangkutan dengan kapal ?	*Ya* - *Y*	*Tidak* - *T*
c. Pengangkutan dari pelabuhan ketempat ini ?	*Ya* - *Y*	*Tidak* - *T*
d. Biaya hidup atau makanan utama perjalanan ?	*Ya* - *Y*	*Tidak* - *T*

B2 a. Apakah Bapak/Ibu/Sdr. menggunakan biaya pindah dari sumber-sumber berikut :

Biaya sendiri	*Ya* - *Y*	*Tidak* - *T*
Biaya saudara kampung asal	*Ya* - *Y*	*Tidak* - *T*
Biaya saudara disini	*Ya* - *Y*	*Tidak* - *T*
Biaya orang lain dikampung asal	*Ya* - *Y*	*Tidak* - *T*
Biaya orang lain disini	*Ya* - *Y*	*Tidak* - *T*

b. Apakah Bapak/Ibu/Sdr. harus membayar kembali ? *Ya* - *Y* *Tidak* - *T*

c. Berapa bulan yang Bapak/Ibu/Sdr. perlukan untuk membayar kembali.

ISI JUMLAH BULAN ☐☐

B3 Apakah Bapak/Ibu/Sdr. menerima bantuan pemerintah berupa :

JENIS BANTUAN		JIKA "YA" BERAPA
a. Biaya hidup/makanan setelah sampai disini	*Ya* - *Y* *Tidak* - *T*	☐☐ Bulan
b. Tanah untuk rumah/pekarangan	*Ya* - *Y* *Tidak* - *T*	☐☐☐ m^2
c. Biaya/bahan untuk perumahan	*Ya* - *Y* *Tidak* - *T*	
d. Tanah untuk pertanian	*Ya* - *Y* *Tidak* - *T*	☐☐.☐ Ha.
e. Alat-alat untuk pertanian	*Ya* - *Y* *Tidak* - *T*	

B. KETERANGAN TRANSMIGRASI (Lanjutan)

0 7

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERTANGGUNG JAWAB
LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN

B4 **Bagaimanakah status rumah Bapak/Ibu/Sdr. yang sekarang didiami ?**

Rumah sendiri	- *1*
Numpang dirumah saudara	- *2*
Numpang dirumah kenalan	- *3*
Rumah sewa	- *4*
Rumah kontrak	- *5*

B5 **Apakah Bapak/Ibu/Sdr. sekarang menguasai/memperoleh tanah pertanian dari :**

			JIKA "YA" Berapa Ha.
Menyewa	*Ya* - *Y*	*Tidak* - *T*	Ha.
Membeli	*Ya* - *Y*	*Tidak* - *T*	Ha.
Diberi oleh pemerintah	*Ya* - *Y*	*Tidak* - *T*	Ha.
Diberi oleh saudara	*Ya* - *Y*	*Tidak* - *T*	Ha.

B6 **Sebutkan jenis dan luas tanah yang Bapak/Ibu/Sdr. kuasai tersebut pada B5**

LINGKARI NOMOR YANG BERLAKU DAN TULIS LUASNYA

1. *Tanah sawah dengan irigasi sepanjang tahun*
2. *Tanah sawah setengah irigasi*
3. *Tanah sawah tanpa irigasi*
4. *Tanah/ladang/tegalan*

JUMLAH

C. KETERANGAN PERUMAHAN

0 8

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERTANGGUNG JAWAB
LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN

C1 Dari bahan apakah bangunan dinding yang terbanyak dipakai ?

Tembok	- 1	*Bambu*	- 3
Kayu	- 2	*Lain-lain*	- 4
		(Sebutkan)	

C2 Terdiri dari bahan bangunan apakah lantai yang terluas ?

Ubin / Teraso	- 1	*Bambu*	- 4
Semen	- 2	*Tanah*	- 5
Kayu	- 3	*Lain-lain*	- 6
		(Sebutkan).	

C3 Terdiri dari bahan apakah atap yang dipakai oleh rumah tangga ini ?

Genteng	- 1	*Sirap*	- 3
Seng	- 2	*Daun rumbia*	- 4

C4 Apakah jenis penerangan yang dipakai oleh rumah tangga ini ?

Listrik	- 1	*Lampu minyak*	- 3
Lampu pompa/ Petromax	- 2	*Lain-lain*	- 4
		(Sebutkan).	

C5 a. Dari manakah sumber utama air mandi/cuci rumah tangga ini ?

Air pompa tangan	- 1	*Mata air*	- 4
Air sumur sendiri	- 2	*Air sungai*	- 5
Air sumur bersama	- 3	*Air hujan*	- 6
		Air lainnya	- 7

b. Apakah air mandi/cuci untuk rumah tangga ini terdapat didalam atau diluar pekarangan ?

Air minum didalam pekarangan	- D
Air minum diluar pekarangan	- L

C6 a. Dari manakah sumber utama air minum rumah tangga ini ?

Air pompa tangan	- 1	*Mata air*	- 4
Air sumur sendiri	- 2	*Air sungai*	- 5
Air sumur bersama-sama	- 3	*Air hujan*	- 6
		Air lainnya	- 7

C. KETERANGAN PERUMAHAN (Lanjutan)

0 9

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERTANGGUNG JAWAB
LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN

C6 b. Apakah air minum rumah tangga ini terdapat didalam atau diluar pekarangan ?

Air minum didalam pekarangan - *D*
Air minum diluar pekarangan - *L*

C7 a. Apakah rumah tangga ini memiliki kamar mandi sendiri ?

Ya - *Y* *Tidak* - *T*

b. Apakah rumah tangga ini memiliki kakus sendiri ?

Ya - *Y* *Tidak* - *T*

C8 Apakah rumah tangga ini memiliki/mempergunakan :

1. Kursi/meja	*Ya*	-	*Y*	*Tidak*	-	*T*
2. Lemari	*Ya*	-	*Y*	*Tidak*	-	*T*
3. Lemari pajangan/Bupet	*Ya*	-	*Y*	*Tidak*	-	*T*
4. Seterika	*Ya*	-	*Y*	*Tidak*	-	*T*
5. Kompor	*Ya*	-	*Y*	*Tidak*	-	*T*
6. Sepeda	*Ya*	-	*Y*	*Tidak*	-	*T*
7. Mesin Jahit	*Ya*	-	*Y*	*Tidak*	-	*T*
8. Radio / Kaset	*Ya*	-	*Y*	*Tidak*	-	*T*
9. Jam / Arloji	*Ya*	-	*Y*	*Tidak*	-	*T*
10. T.V.	*Ya*	-	*Y*	*Tidak*	-	*T*

D. KETERANGAN PENDIDIKAN DAN EKONOMI RUMAH TANGGA/ANGGOTA RUMAH TANGGA.

1	0

TANYAKAN KEPADA KEPALA RUMAH TANGGA ATAU YANG BERTANGGUNG JAWAB
LINGKARI KODE JAWABAN YANG BETUL

I. PENDIDIKAN.

D1. a. Sekarang saya ingin menanyakan pendapat Bapak/Ibu/Sdr. tentang pendidikan anak2 Bapak/Ibu/Sdr. Menurut pendapat Bapak/Ibu/Sdr. sampai seberapa jauhkah anak laki2 Bapak/Ibu/Sdr. seharusnya mendapat pendidikan ?

Apakah setingkat :

Tidak perlu sekolah - 1
Sekolah Dasar - 2
Sekolah Lanjutan Pertama - 3
Sekolah Lanjutan Atas - 4
Akademi - 5
Universitas/Perguruan Tinggi - 6

b. Untuk anak perempuan Bapak/Ibu/Sdr. sampai seberapa jauhkah harus mendapat pendidikan ?

Apakah setingkat :

Tidak perlu sekolah - 1
Sekolah Dasar - 2
Sekolah Lanjutan Pertama - 3
Sekolah Lanjutan Atas - 4
Akademi - 5
Universitas/Perguruan Tinggi - 6

c. Banyak orang berpendapat bahwa pendidikan lebih penting untuk anak laki-laki dari pada untuk anak perempuan. Menurut pendapat Bapak/Ibu/Sdr. seorang anak laki2 apakah seharusnya mendapat pendidikan yang lebih tinggi, sama atau lebih rendah dari anak perempuan ?

Lebih tinggi - 1
S a m a - 2
Lebih rendah - 3

D2 Banyak orang berpendapat bahwa lebih penting bagi anak-anak membantu keluarga bekerja dari pada masuk sekolah. Bagaimana pendapat Bapak/Ibu/Sdr. ?

.....

.....

II. EKONOMI.

D3 Berapakah jumlah pengeluaran rumah tangga Bapak/Ibu/Sdr.?

Jenis pengeluaran	Jumlah Pengeluaran bulan yang lalu (Rupiah)	Jumlah Pengeluaran satu tahun (Rupiah)
1. Bahan Makanan :		
- beras		
- jagung		
- Singkong		
- sayur sayuran		
- daging/ikan/telor		
- lainnya		
2. Pakaian dan Peralatan :		
- pakaian		
- peralatan dapur		
- peralatan lainnya		
- sabun		
- bahan bakar		
3. Pengeluaran lainnya :		
- pajak dan pungutan		
- iuran desa		
- selamatan		
- lainnya		
JUMLAH PENGELUARAN		

1 1

D5 a. Berapa luas tanah yang dikuasai ? ☐☐☐☐ Ha (dua angka dibelakang koma).

b. Apakah rumah tangga ini mempunyai ternak sbb. ?

Ternak	Apakah mempunyai	JIKA "YA" Berapa ekor?
a). Sapi	*Ya - Y Tidak - T*	☐☐☐ Ekor
b). Kerbau	*Ya - Y Tidak - T*	☐☐☐ Ekor
c). Kambing/Domba	*Ya - Y Tidak - T*	☐☐☐ Ekor
d). Ayam/Unggas	*Ya - Y Tidak - T*	☐☐☐ Ekor

c. Alat pertanian apakah yang dipakai untuk usaha :

1. Ani-ani *Ya - Y Tidak- T*
2. Sabit *Ya - Y Tidak- T*
3. Pacul *Ya - Y Tidak- T*
4. Waluku/Bajak *Ya - Y Tidak-T*
5. Garu *Ya - Y Tidak - T*
6. Penyemprot/Spray *Ya - Y Tidak - T*
7. Traktor tangan *Ya - Y Tidak - T*
8. Pompa Air *Ya - Y Tidak - T*

d. Dalam mengusahakan sawah/ladang/kebun, apakah menggunakan :

1. Kerbau *Ya - Y Tidak - T*
2. Sapi *Ya - Y Tidak - T*
3. Pupuk *Ya - Y Tidak - T*
4. Bibit unggul *Ya - Y Tidak- T*
5. Obat anti hama *Ya - Y Tidak- T*
6. Pengairan *Ya - Y Tidak- T*

Jika D4 kode 1 | Jika D4 kode 2

1 2

D4 Apakah anggota2 rumah tangga Bapak/Ibu/Sdr. mendapat penghasilan dari usaha-usaha berikut :

LINGKARI KODE-KODE YANG BERLAKU

Usaha sendiri dibidang pertanian	*Buruh/Pegawai dibidang pertanian*	*Usaha sendiri bukan dibidang pertanian*	*Buruh/Pegawai bukan dibidang pertanian*
1	*2*	*3*	*4*

BLOK DD2 PENDAPATAN USAHA ANGGOTA RUMAH TANGGA BUKAN PERTANIAN

No. Urut Anggota r.t.	Jenis Usaha	Tenaga kerja yang bekerja	Tenaga yang dibayar	Rata2 penghasilan bersih sebulan	Berapa bl.bekerja dlm 1 tahun yl.
(1)	(2)	(3)	(4)	(5)	(6)

BLOK DD3 PENDAPATAN BURUH/PEGAWAI

No.Urut Anggota	I.Upah/gaji berupa Uang (Rp).	II.Tunjangan lain2 (Rp).	III.Upah/gaji berupa barang (Rp).	IV.Keuntungan usaha Perseoran-gan	V.Pensiun Sewa,Bunga Dividen dsb.	VI.Jumlah
JUMLAH						

BLOK DD1.A.HASIL-HASIL USAHA PERTANIAN

Sumber Pendapatan	Luas Panen 1 tahun (Ha).	Berapa kali panen/Th.	Jumlah produksi selama 1 th.yg lalu	Satuan	Perkiraan Harga per Satuan	Nilai (Rp).
(1)	(2)	(3)	(4)	(5)	(6)	(7)
a. Tanaman :						
1. Padi						
2. Ketela pohon /Rambat						
3. Jagung						
$. Lainnya						
b. Perkebunan :						
c. Sayuran :						
d. Buah-buahan :						
e. Peternakan :						
f. Perikanan :						
g. Kehutanan :						
h. Perburuan :						
J U M L A H						

BLOK DD1. B. ONGKOS-ONGKOS UNTUK USAHA PERTANIAN

Jenis Pengeluaran	Orang/ hari	Upah per orang/hari (Rp)	Uang (Rp)	Barang (Rp)	Jumlah (Rp)	Kode
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. TENAGA KERJA : a. Yang dibayar						
b. Yang tak dibayar						
2. SEWA ALAT :						
3. PUPUK/BIBIT/OBAT						
4. MAKANAN TERNAK						
5. D.L.L.						
J U M L A H						

14

TANYAKAN KEPADA ANGGOTA RUMAH TANGGA YANG BERUMUR 10 TAHUN DAN LEBIH
TANYAKAN SEORANG DEMI SEORANG

NO. URUT	PEKERJAAN TAMBAHAN			MENCARI PEKERJAAN			PEKERJAAN YANG SESUAI
	E6 Apakah Bapak/Ibu/Sdr. mempunyai pekerjaan lain sebagai tambahan (sambilan) selama seminggu yg lalu ? ISIKAN KODE *Ya* - *Y* *Tidak* - *T* JIKA KODE T LANGSUNG KE E8 KECUALI E1 KODE 3 LANGSUNG KE E9	E7 Jika mempunyai pekerjaan tambahan, berapa macam pekerjaan tambahan (sambilan) dan berapa jam yg dilakukan selama seminggu yang a lalu ? ISIKAN BANYAKNYA PEKERJAAN TAMBAHAN.	ISIKAN JUMLAH JAM JIKA E1 KODE 3 LANGSUNG KE E9	E8 Apakah Bapak/Ibu/Sdr. telah juga mencari pekerjaan ? ISIKAN KODE *Ya* - *Y* *Tidak* - *T* JIKA KODE T LANGSUNG KE E11 KECUALI DI KODE 1 ATAU 2 LANGSUNG KE E12	E9 Berapa bulan Bapak/Ibu/Sdr.telah mencari pekerjaan ? ISIKAN JUMLAH BULAN.	E10 Usaha apakah yang telah Bapak/Ibu/Sdr.lakukan dalam mencari pekerjaan ? *Menghubungi keluarga/kenalan* - *1* *Menghubungi Perusahaan / kantor* - *2* *Mendaftar pada Kantor Penempatan Tenaga* - *3* *Lainnya* - *4* LINGKARI KODE YANG BERLAKU LANGSUNG KE E12	E11 Jika ada pekerjaan yang sesuai, apakah Bapak/Ibu/Sdr. mau menerimanya ? ISIKAN KODE *Ya* - *Y* *Tidak* - *T*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							

15

TANYAKAN KEPADA ANGGOTA RUMAH TANGGA YANG BERUMUR 10 TAHUN DAN LEBIH
TANYAKAN SEORANG DEMI SEORANG

NO.	PEKERJAAN YANG BIASA DILAKUKAN SELAMA SETAHUN YANG LALU				
U R U T	E12 Apakah kegiatan Bapak/ Ibu/Sdr. yang biasa dilakukan selama setahun yang lalu ? *Bekerja* - 1 *Mencari pekerjaan* - 2 *Mengurus rumah tangga* - 3 *Sekolah* - 4 *Beranggapan tidak mendapat pekerjaan* - 5 *Lainnya* - 6 ISIKAN KODE JIKA KODE 1 KE E14	E13 Apakah pernah bekerja paling sedikit 2(dua) bulan? ISIKAN KODE *Ya* - Y *Tidak* - T JIKA KODE T BERHENTI UNTUK PERTANYAAN E	JENIS PEKERJAAN E14 Apakah jenis pekerjaan yang dilakukan selama setahun yang lalu TULISKAN SELENGKAPNYA JIKA SAMA DENGAN SEMINGGU YANG LALU TULISKAN " SAMA "	KODE DI LPEM	STATUS E15 Apakah dalam pekerjaan tersebut sebagai: *Pengusaha tanpa buruh* - 1 *Pengusaha dg buruh* - 2 *Buruh/pegawai* - 3 *Pekerja keluarga tidak dibayar* - 4 ISIKAN KODE
(1)	(2)	(3)	(4)	(5)	(7)
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					

F. RIWAYAT PERKAWINAN

16

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN.
LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN, ATAU ISI ANGKA

F1 Sekarang saya ingin mengajukan beberapa pertanyaan tentang perkawinan Ibu. Apakah status perkawinan Ibu ?

Kawin - 1 *Janda - 2* *Cerai - 3* *Pisah - 4*

F2 Apakah Ibu menikah hanya sekali atau lebih ?

Hanya sekali - 1 *Lebih - 2*

LANGSUNG KE F9

F3 Dalam bulan dan tahun berapakah Ibu dan suami Ibu menikah ?

Masehi				Islam/Jawa			
Bulan		Tahun		Bulan		Tahun	

Tidak tahu - 99

ISI BULAN DAN TAHUN DENGAN 2 ANGKA TERAKHIR KALAU TIDAK TAHU LINGKARI 99

F4 Berapa umur Ibu pada waktu itu ?

CATAT PERKIRAAN TERBAIK

F5 Apakah suami Ibu tinggal dirumah ini ?

Ya - Y *Tidak - T*

LANGSUNG KE F9

F6 Apakah pada saat ini suami Ibu sedang pergi untuk sementara ataukah Ibu dan suami Ibu tidak hidup bersama lagi ?

Pergi untuk sementara - 1 *Tidak hidup bersama lagi - 2*

LANGSUNG KE F9

F7 Selama berapa tahun dan bulankah Ibu dan suami Ibu tidak hidup bersama lagi ?

Tahun		Bulan	

F8 Mulai bulan dan tahun berapa Ibu dan suami Ibu tidak hidup bersama lagi ?

Masehi				Islam/Jawa			
Bulan		Tahun		Bulan		Tahun	

Tidak tahu - 99

ISIKAN BULAN DAN TAHUN DENGAN 2 ANGKA TERAKHIR KALAU TIDAK TAHU LINGKARI 99

F9 Sudah berapa kali Ibu menikah ? [ ]

F. RIWAYAT PERKAWINAN
(DAFTAR PERKAWINAN)

17

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN
ISI ANGKA ATAU LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN

Nomor Perkawinan	F10 Dalam bulan dan tahun berapakah Ibu menikah yang (pertama, kedua, ...) ISI BULAN DAN TAHUN DENGAN 2 ANGKA TERAKHIR. KALAU TIDAK TAHU LINGKARI 99	F11 Berapakah umur Ibu ketika menikah yang (pertama, kedua, ...) ISI UMUR DALAM TAHUN	F12 Selama berapa tahun dan berapa bulan perkawinan itu berlangsung ? ISI JUMLAH TAHUN DAN BULAN
1	Masehi: Bulan __ Tahun __ / Islam/ Jawa: Bulan __ Tahun __ — *Tidak tahu - 99*	__	Tahun __ Bulan __
2	Masehi: Bulan __ Tahun __ / Islam/Jawa: Bulan __ Tahun __ — *Tidak tahu - 99*	__	Tahun __ Bulan __
3	Masehi: Bulan __ Tahun __ / Islam/Jawa: Bulan __ Tahun __ — *Tidak tahu - 99*	__	Bulan __ Tahun __
4	Masehi: Bulan __ Tahun __ / Islam/Jawa: Bulan __ Tahun __ — *Tidak tahu - 99*	__	Bulan __ Tahun __
5	Masehi: Bulan __ Tahun __ / Islam/Jawa: Bulan __ Tahun __ — *Tidak tahu - 99*	__	Tahun __ Bulan __

F. RIWAYAT PERKAWINAN
(DAFTAR PERKAWINAN)

18

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN
ISI ANGKA ATAU LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN

F13 Bagaimanakah perkawinan itu berakhir ? LINGKARI KODE	F14 Dalam bulan dan tahun berapakah perkawinan itu berakhir ? ISI BULAN DAN TAHUN DENGAN 2 ANGKA TERAKHIR. KALAU TIDAK TAHU LINGKARI 99	F15 Setelah berakhirnya perkawinan itu, selama berapa tahun dan bulankah Ibu hidup tanpa suami ? ISI JUMLAH TAHUN DAN BULAN
Meninggal - 1 *C e r a i* - 2 *P i s a h* - 3	Masehi: Bulan __ Tahun __ ; Islam/Jawa: Bulan __ Tahun __ *Tidak tahu* - 99	Tahun __ Bulan __
Meninggal - 1 *C e r a i* - 2 *P i s a h* - 3	Masehi: Bulan __ Tahun __ ; Islam/Jawa: Bulan __ Tahun __ *Tidak tahu* - 99	Tahun __ Bulan __
Meninggal - 1 *C e r a i* - 2 *P i s a h* - 3	Masehi: Bulan __ Tahun __ ; Islam/Jawa: Bulan __ Tahun __ *Tidak tahu* - 99	Tahun __ Bulan __
Meninggal - 1 *C e r a i* - 2 *P i s a h* - 3	Masehi: Bulan __ Tahun __ ; Islam/Jawa: Bulan __ Tahun __ *Tidak tahu* - 99	Tahun __ Bulan __
Meninggal - 1 *C e r a i* - 2 *P i s a h* - 3	Masehi: Bulan __ Tahun __ ; Islam/Jawa: Bulan __ Tahun __ *Tidak tahu* - 99	Tahun __ Bulan __

G. RIWAYAT KEHAMILAN

1 9

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN
ISI ANGKA ATAU LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN

LINGKARI KODE YANG SESUAI TENTANG
KEHADIRAN ORANG LAIN SAMPAI SAAT WAWANCARA INI

Tidak ada orang lain - 1
Anak-anak dibawah 10 tahun - 2
Suami - 3
Laki-laki lainnya - 4
Perempuan lainnya - 5

G1 Kami ingin memperoleh catatan lengkap tentang semua anak kandung yang pernah Ibu lahirkan. Apakah Ibu mempunyai anak kandung laki-laki yang sekarang tinggal bersama Ibu ?

Ya - 1 *Tidak* - 2

G2 Berapa orangkah yang tinggal bersama Ibu ?

G3 Apakah Ibu mempunyai anak kandung laki2 yang tidak tinggal bersama Ibu ?

Ya - 1 *Tidak* - 2

G4 Berapa orangkah yang tidak tinggal bersama Ibu ?

G5 Apakah Ibu mempunyai anak kandung perempuan yang tinggal bersama Ibu ?

Ya - 1 *Tidak* - 2

G6 Berapa orangkah yang tinggal bersama Ibu ?

G7 Apakah Ibu mempunyai anak kandung perempuan yang tidak tinggal bersama Ibu ?

Ya - 1 *Tidak* - 2

G8 Berapa orangkah yang tidak tinggal bersama Ibu ?

G9 Pernahkah Ibu melahirkan anak (laki2 atau perempuan) yang kemudian meninggal, meskipun anak2 itu hidup hanya selama waktu yang sangat pendek misalnya beberapa jam, hari atau minggu ?

Ya - 1 *Tidak* - 2

G10 Jumlah anak yang masih hidup

G11 Berapa orang anak kandung Ibu yang telah meninggal semuanya ?

LANGSUNG KE G13

G12 Jumlah anak yang lahir hidup

2 7 0

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN
ISI ANGKA ATAU LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN

G13 Untuk meyakinkan apakah catatan saya benar :

Ibu mempunyai ☐☐ orang anak yang lahir hidup dan ☐☐ orang anak yang masih hidup. Betulkah itu ?

Ya - *1* *Tidak* - *2*

BETULKAN BILA ADA KESALAHAN

G14 Apakah Ibu sekarang sedang hamil ?

Ya - *1* *Tidak* - *2* *Tidak tahu* - *3*

G15 Sudah berapa bulan umur kandungan Ibu sekarang ?

☐☐ bulan

G16 Apakah Ibu menginginkan anak laki-laki atau perempuan ?

Laki-laki - *1* *Perempuan* - *2* *Apa saja* - *3*

Jawaban lain _____
JELASKAN

LINGKARI KODE YANG SESUAI

Tidak ada yang lahir hidup - *1* → LANGSUNG KE G19

Satu yang lahir hidup - *2* → LANGSUNG KE G19

Dua atau lebih yang lahir hidup - *3*

G17 Apakah Ibu pernah mempunyai anak kembar 2 atau 3 ?

Ya - *1* *Tidak* - *2* → LANGSUNG KE G19

G18 **Berapa kali Ibu melahirkan anak kembar ?**

☐

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN
ISI ANGKA ATAU LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN.

2 1

G19 Jadi berapa jumlah kehamilan Ibu yang subur ?

KEMBAR DIANGGAP SATU KELAHIRAN

☐☐

PADA SEMUA PERTANYAAN BERIKUTNYA PERGUNAKAN ANGKA INI SEBAGAI JUMLAH YANG LAHIR HIDUP

LINGKARI KODE YANG SESUAI (LIHAT G12)

Sedang hamil - 1 → **G20**

Tidak sedang hamil atau tidak tahu - 2 → **G21**

G20 Disamping kehamilan yang sekarang ini, apakah Ibu pernah hamil sebelumnya ?

KALAU TIDAK, TANYAKAN LAGI

Maksud saya, pernahkah Ibu hamil meskipun kandungan itu hanya berumur beberapa minggu atau bulan saja ?

Ya - 1 → LANGSUNG KE G23

Tidak - 2 → **G22**

G21 Apakah Ibu pernah hamil ?

KALAU TIDAK, TANYAKAN LAGI

Maksud saya pernahkah Ibu hamil, meskipun kandungan itu hanya berumur beberapa minggu atau bulan saja ?

Ya - 1 → LANGSUNG KE G23

Tidak - 2 → **G22**

G22 Pernahkah Ibu atau dukun atau bidan atau dokter atau orang lain melakukan sesuatu untuk mengakhiri kehamilan yang tidak Ibu kehendaki ?

Ya - 1 → **G23**

Tidak - 2 → LANGSUNG KE G24

G23 Berapa kehamilan yang demikian ?

☐☐

Sekarang saya ingin mengajukan beberapa pertanyaan mengenai setiap anak ibu mulai dari yang pertama .

PADA TABEL, G24 LINGKARI NOMOR YANG LAHIR HIDUP SEPERTI YANG TERCANTUM DI G12 DAN BERI TANDA SILANG (X) NOMOR BERIKUTNYA. PERTAMA-TAMA ISI G24 - G32 UNTUK SEMUA YANG LAHIR HIDUP (SAMPAI NOMOR YANG DILINGKARI DI G24) KEMUDIAN UNTUK SETIAP INTERVAL (SAMPAI TANDA SILANG DI G24) ISI UNTUK SETIAP KEHAMILAN.

G. RIWAYAT KEHAMILAN (Lanjutan)

2 2

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN
ISI ANGKA ATAU KODE JAWABAN YANG BETUL DARI RESPONDEN.

G24	G25	G26	G27	JIKA G27 "T.T." G28	G29	G30	G31	JIKA G31 " MATI " G32
Nomor urut yang lahir hidup LINGKARI NO.LAHIR HIDUP TERAKHIR DAN BERI TANDA X PADA NO. BERIKUTNYA	Siapakah nama anak (pertama, kedua .....) TULIS NAMA ANAK	Apakah anak itu laki-laki atau perempuan LINGKARI KODE	Tahun berapa SEBUTKAN NAMA ANAKNYA dilahirkan ?	Berapa tahun dan bulan yang lalu SEBUTKAN NAMA ANAKNYA dilahirkan ? CATAT PERKIRAAN TERBAIK	Pada bulan berapa anak itu dilahirkan ? JIKA BULAN DIKETAHUI SEBUTKAN KALENDERNYA,LINGKARI KODE YANG SESUAI.	Berapa tahun dan bulan jarak antara (perkawinan pertama, anak kesatu, kedua .....) dengan anak ini ?	Apakah ia masih hidup ?	Berapa tahun dan bulan umurnya ketika ia meninggal ?
1		*L - 1* *P - 2* *TT - 9*	Tahun *T.T.-99*	Tahun Bulan	Bulan *Masehi - 1* *Islam/ Jawa - 2*	Tahun Bulan	*Ya -1* *Ti- dak-2*	Tahun Bulan
2		*L - 1* *P - 2* *TT - 9*	Tahun *T.T.-99*	Tahun Bulan	Bulan *Masehi - 1* *Islam/ Jawa - 2*	Tahun Bulan	*Ya -1* *Ti- dak -2*	Tahun Bulan
3		*L - 1* *P - 2* *TT - 9*	Tahun *T.T.-99*	Tahun Bulan	Bulan *Masehi - 1* *Islam/ Jawa - 2*	Tahun Bulan	*Ya -1* *Ti- dak-2*	Tahun Bulan
4		*L - 1* *P - 2* *TT - 9*	Tahun *T.T.-99*	Tahun Bulan	Bulan *Masehi - 1* *Islam/ Jawa - 2*	Tahun Bulan	*Ya -1* *Ti- dak-2*	Tahun Bulan
5		*L - 1* *P - 2* *TT - 9*	Tahun *T.T.-99*	Tahun Bulan	Bulan *Masehi - 1* *Islam/ Jawa - 2*	Tahun Bulan	*Ya-1* *Ti- dak-2*	Tahun Bulan

G. RIWAYAT KEHAMILAN (Lanjutan)

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN
ISI ANGKA ATAU KODE JAWABAN YANG BETUL DARI RESPONDEN

UNTUK INTERVAL TERAKHIR (PADA BARIS YANG DIBERI TANDA X DI G25 PERGUNAKAN "Setelah kelahiran terakhir (selain kehamilan yang sekarang)"	G33	Untuk semua kehamilan pada setiap Interval			
		G34	JIKA 7 BULAN ATAU LEBIH		JIKA KURANG DARI 7 BULAN
			G35	G36	G37
	Apakah Ibu pernah hamil diantara SEBUTKAN INTERVALNYA walaupun hanya untuk beberapa minggu atau bulan saja ? Berapa banyaknya JIKA YA kehamilan yang demikian dalam interval tersebut ?	Berapa bulan umur kehamilan yang (kesatu, kedua, ...)	Apakah bayi tersebut menangis atau menunjukkan tanda2 kehidupan setelah dilahirkan ?	Apakah bayi itu JIKA YA laki2 atau perempuan ?	Apakah Ibu atau dukun atau bidan atau orang lain berbuat sesuatu untuk mengakhiri kehamilan sebelum waktunya ?
SEBELUM KELAHIRAN PERTAMA GUNAKAN NAMA DI KOL. G25	Ya - 1 JUMLAH	BULAN → JIKA 7 BLN ATAU LEBIH / JIKA KURANG DARI 7 BLN.	Ya -1 Tidak-2	L - 1 P - 2	Ya - 1 Tidak- 2
	Tidak- 2 LANJUTKAN KE INTERVAL BERIKUTNYA	BULAN → JIKA 7 BLN ATAU LEBIH / JIKA KURANG DARI 7 BLN	Ya -1 Tidak-2	L - 1 P - 2	Ya - 1 Tidak- 2
ANTARA KELAHIRAN PERTAMA DAN KEDUA GUNAKAN NAMA DI KOL. G25	Ya - 1 JUMLAH	BULAN → JIKA 7 BLN ATAU LEBIH / JIKA KURANG DARI 7 BLN	Ya -1 Tidak-2	L - 1 P - 2	Ya - 1 Tidak - 2
	Tidak- 2 LANJUTKAN KE INTERVAL BERIKUTNYA	BULAN → JIKA 7 BLN ATAU LEBIH / JIKA KURANG DARI 7 BLN	Ya -1 Tidak-2	L - 1 P - 2	Ya - 1 Tidak- 2
ANTARA KELAHIRAN KEDUA DAN KETIGA GUNAKAN NAMA DI KOL. G25	Ya - 1 JUMLAH	BULAN → JIKA 7 BLN ATAU LEBIH / JIKA KURANG DARI 7 BLN	Ya -1 Tidak -2	L - 1 P - 2	Ya - 1 Tidak- 2
	Tidak - 2 LANJUTKAN KE INTERVAL BERIKUTNYA	BULAN → JIKA 7 BLN ATAU LEBIH / JIKA KURANG DAR 7 BLN	Ya - 1 Tidak- 2	L - 1 P - 2	Ya - 1 Tidak- 2

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN
ISI ANGKA ATAU LINGKARI JAWABAN YANG BETUL DARI RESPONDEN

3 1

G38 Apakah Ibu menyusukan ?

NAMA ANAK TERAKHIR

Ya - 1 ↓

Tidak - 2

LANGSUNG KE G40

G39 Berapa bulankah Ibu menyusukannya ?

☐☐ *Masih menyusui* - 88

ISI JUMLAH BULAN

G40 LINGKARI KODE YANG SESUAI (LIHAT G24)

Satu yang lahir hidup - 1

Dua atau lebih yang lahir hidup - 2 ↓

LANGSUNG KE G43

G41 Apakah Ibu menyusukan ?

NAMA ANAK KEDUA DARI YANG TERAKHIR

Ya - 1 ↓

Tidak - 2

LANGSUNG KE G43

G42 Berapa bulankah Ibu menyusukannya ?

☐☐ ISI JUMLAH BULAN

LINGKARI KODE YANG SESUAI PADA G43 DAN G44 DIBAWAH INI SEBELUM MELANJUTKAN KEBAGIAN BERIKUT

G43 KEMAMPUAN RESPONDEN DALAM MENJAWAB TANGGAL-TANGGAL KEHAMILAN, KELAHIRAN DAN SEBAGAINYA

Baik - 1 *Sedang* - 2 *Buruk* - 3

G44 KEHADIRAN ORANG LAIN SAMPAI PADA SAAT WAWANCARA INI (LINGKARI KODE YANG SESUAI)

Tidak ada - 1
Anak-anak dibawah 10 tahun - 2
Suami - 3
Laki2 lain - 4
Perempuan lain - 5

TANYAKAN KEPADA WANITA YANG TERPILIH SEBAGAI RESPONDEN
LINGKARI KODE JAWABAN YANG BETUL DARI RESPONDEN

32

TANYAKAN BARIS DEMI BARIS DAN KOLOM DEMI KOLOM

JENIS CARA / ALAT PENGATUR KEHAMILAN	H1 Sekarang saya ingin bertanya mengenai hal lain, apakah Ibu pernah mendengar tentang ..... CARA / ALAT untuk mengatur kehamilan ?	H2 Apakah Ibu mengetahui tentang : ..... ALAT / CARA untuk mengatur kehamilan ?	H3 Apakah Ibu pernah memakai ..... ALAT / CARA untuk mengatur kehamilan ?	H4 Apakah Ibu sekarang memakai ..... ALAT / CARA untuk mengatur kehamilan ?
Pil K.B.	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T
I . U . D . (SEPIRAL , LOOP).	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T
Kondom (Karet K.B.)	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T
Senggama terputus/ atau Pantang berkala	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T
Tidak kumpul (Abstinence)	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T
Pemandulan wanita atau Pemandulan Pria	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T
Jamu , Pijat dan Lainnya	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T	Ya - Y Tidak - T

SURVEY TRANSMIGRASI

LEMBAGA PENYELIDIKAN EKONOMI DAN MASYARAKAT
FAKULTAS EKONOMI UNIVERSITAS INDONESIA

1976

Keterangan Rumah Tangga

JENIS KETERANGAN	Pertanyaan Hal.	Pertanyaan No.	Kolom	Kode
1. Nomor Kasus			01-03	
2. Nomor Kartu			04-05	0 1
3. Pengangkutan tempat asal ke pelabuhan	06	B1	06	
4. Pengangkutan dengan kapal		B1	07	
5. Pengangkutan dari pelabuhan ke tempat ini		B1	08	
6. Biaya hidup/makanan selama perjalanan		B1	09	
Sumber Pembiayaan Perpindahan		B1		
7. Biaya sendiri		B2.a	10	
8. Biaya saudara kampung asal		B2.a	11	
9. Biaya saudara disini		B2.a	12	
10. Biaya orang lain dikampung asal		B2.a	13	
11. Biaya orang lain disini		B2.a	14	
12. Apakah harus membayar kembali ?		B2.b	15	
13. Menerima bantuan biaya hidup/makanan setelah sampai disini ?		B3	16	
14. Jumlah bulan menerima bantuan		B3.	17-18	
15. Tanah untuk rumah/pekarangan		B3	19	
16. Luas tanah/pekarangan		B3	20-22	
17. Biaya/bahan untuk perumahan		B3	23	
18. Tanah untuk pertanian		B3	24	
19. Luas tanah pertanian		B3	25-28	
20. Alat-alat untuk pertanian		B3	29	
21. Status rumah yang sekarang didiami	07	B4	30	

JENIS KETERANGAN	Pertanyaan Hal.	Pertanyaan No.	Kolom	Kode
22. Luas tanah menyewa	07	B5a.	31-34	
23. Luas tanah membeli		B5b.	35-38	
24. Luas tanah yang diberi Pemerintah		B5c.	39-42	
25. Luas tanah yang diberi Saudara		B5d.	43-46	
26. Luas tanah dengan irigasi sepanjang tahun		B6.1	47-50	
27. Luas tanah setengah irigasi		B6.2	51-54	
28. Luas tanah tanpa irigasi		B6.3	55-58	
29. Luas tanah ladang/tegalan		B6.4	59-62	
30. Jumlah luas tanah pertanian		B6.4	63-67	
31. Bahan dinding	08	C1	68	
32. Bahan lantai		C2	69	
33. Bahan atap		C3	70	
34. Jenis penerangan		C4	71	
35. Sumber air mandi/cuci		C5.a	72	
36. Letak sumber air mandi/cuci		C5.b	73	
37. Sumber air minum		C6.a	74	
38. Letak sumber air minum	09	C6.b	75	
39. Memiliki kamar mandi ?		C7.a	76	
40. Memiliki kakus ?		C7.b	77	
41. Memiliki kursi/meja ?		C8	78	
42. Memiliki lemari ?		C8	79	
43. Memiliki lemari pajangan/ bupet		C8	80	

SURVEY TRANSMIGRASI

1976

LEMBAGA PENYELIDIKAN EKONOMI DAN MASYARAKAT
FAKULTAS EKONOMI UNIVERSITAS INDONESIA

Keterangan Rumah Tangga

JENIS KETERANGAN	Pertanyaan		Kolom	Kode
	Hal.	No.		
1. Nomor Kasus			01-03	
2. Nomor Kartu			04-05	0 2
3. Memiliki seterika	09	C8	06	
4. Memiliki kompor		C8	07	
5. Jumlah sepeda		C8	08	
6. Jumlah mesin jahit		C8	09	
7. Jumlah radio/kaset		C8	10	
8. Jumlah jam/arloji		C8	11	
9. Jumlah sepeda motor		C8	12	
10. Pendapat pendidikan anak laki-lakinya	10	D1.a	13	
11. Pendapat pendidikan anak perempuannya		D1.b	14	
12. Pendapat pendidikan anak laki2 & perempuan		D1.c	15	
13. Pendapat lebih penting anak masuk sekolah atau bekerja		D2	16	
14. Jumlah konsumsi beras		D3	17-19	
15. Jumlah konsumsi jagung		D3	20-22	
16. Jumlah konsumsi singkong		D3	23-25	
17. Nilai konsumsi beras (00Rp)		D3.1	26-29	
18. Nilai konsumsi jagung (00 Rp)		D3.1	30-33	
19. Nilai konsumsi singkong (00 Rp)		D3.1	34-37	
20. Jumlah konsumsi bahan makanan pokok		D3.1	38-41	
21. Nilai pengeluaran makanan lainnya		D3.1	42-45	
22. Nilai pengeluaran pakaian, dll.		D3.2	46-49	
23. Nilai pengeluaran bahan bakar		D3.2	50-53	
24. Nilai pengeluaran lainnya		D3.3	54-57	
25. Jumlah pengeluaran rumah tangga		D3.3.	58-61	
26. Pengeluaran barang-barang bergerak,dll.		D3.3.	62-65	
27. Total pengeluaran rumah tangga		D3.3	66-69	
28. Usaha sendiri dibidang pertanian	12	D4	70	
29. Buruh/pegawai dibidang pertanian		D4	71	
30. Usaha sendiri bukan dibidang pertanian		D4	72	
31. Buruh/pegawai bukan dibidang pertanian		D4	73	
32. Luas tanah yang dikuasai	11	D5.a	74-78	
33. Jumlah sapi		D5.b1	79	
34. Jumlah kerbau		D5.b2	80	

SURVEY TRANSMIGRASI

LEMBAGA PENYELIDIKAN EKONOMI DAN MASYARAKAT
FAKULTAS EKONOMI UNIVERSITAS INDONESIA

1976

Keterangan Rumah Tangga

JENIS KETERANGAN	Pertanyaan		Kolom	Kode
	Hal.	No.		
1. Nomor Kasus			01-03	
2. Nomor Kartu			04-05	0 3
3. Jumlah kambing/domba	11	D5.b3	06	
4. Jumlah ayam/unggas		D5.b4	07-08	
5. Jumlah babi		D5.b5	09-10	
6. Ani-ani		D5.c1	11	
7. Sabit		D5.c2	12	
8. Pacul		D5.c3	13	
9. Waluku/bajak		D5.c4	14	
10. Garu		D5.c5	15	
11. Penyemprot/spray		D5.c6	16	
12. Traktor tangan		D5.c7	17	
13. Pompa air		D5.c8	18	
14. Kerbau		D5.d1	19	
15. Sapi		D5.d2	20	
16. Pupuk		D5.d3	21	
17. Bibit unggul		D5.d4	22	
18. Obat anti hama		D5.d5	23	
19. Pengairan		D5.d6	24	
20. Luas tanaman padi		DD1.A	25-28	
21. Luas tanaman ketela pohon/rambat		DD1.A	29-32	
22. Jumlah panen padi		DD1.A	33	
23. Jumlah panen ketela pohon/rambat		DD1.A	34	
24. Jumlah produksi padi		DD1.A	35-38	
25. Jumlah produksi ketela pohon/rambat		DD1.A	39-42	
26. Nilai produksi padi		DD1.A	43-46	
27. Nilai produksi ketela pohon/rambat		DD1.A	47-50	
28. Nilai produksi lainnya		DD1.A	51-54	
29. Jumlah hasil pertanian		DD1.A	55-58	
30. Jumlah mandays yang dibayar	12	DD1.B	59-61	
31. Jumlah mandays yang tak dibayar		DD1.B	62-64	
32. Nilai ongkos-ongkos usaha pertanian		DD1.B	65-68	
33. Hasil bersih usaha pertanian		DD1.B	69-72	
34. Pendapatan bukan pertanian		DD2.B	73-76	
35. Pendapatan Buruh/Pegawai		DD3	77-80	

SURVEY TRANSMIGRASI

LEMBAGA PENYELIDIKAN EKONOMI DAN MASYARAKAT
FAKULTAS EKONOMI UNIVERSITAS INDONESIA

1976

Keterangan Rumah Tangga

JENIS KETERANGAN	Pertanyaan Hal	Pertanyaan No.	Kolom	Kode
1. Nomor Kasus			01-03	
2. Nomor Kartu			04-05	0 4
3. Jumlah penghasilan bukan pertanian dan buruh/Pegawai	12	DD2+DD3	06-09	
4. Hasil penjualan barang-barang			10-12	
5. Sub-total penerimaan rumah tangga			13-16	
6. Total penerimaan rumah tangga			17-20	
7. Jumlah petak yang sudah dikerjakan	Tamb	D11	21-22	
8. Jarak rumah petak terdekat		D12	23-26	
9. Jarak rumah petak terjauh		D13	27-30	
10. Jarak petak terdekat-terjauh		D14	31-34	
11. Jumlah tenaga yang seharusnya dibutuhkan		D15	35-36	
12. Jumlah tenaga yang digunakan		D16	37-38	
13. Jumlah tenaga anggota rumah-tangga		D17	39-40	
14. Jumlah tenaga bayaran		D18	41-42	
15. Bulan lahir Ibu	02	A5	43-44	
16. Tahun lahir Ibu		A5	45-46	
17. Sekolah terakhir Ibu	05	A10.b	47	
18. Kelas/tingkat tertinggi yang pernah diduduki		A10.c	48	
19. Status perkawinan Ibu	16	F1	49	
20. Suami tinggal dirumah ini ?		F5	50	
21. Suami sedang pergi sementara dst.		F6	51	
22. Berapa kali menikah		F9	52	
23. Pernah dengar tentang pil K.B.	32	H1	53	
24. Mengetahui tentang pil K.B.		H2	54	
25. Pernah memakai pil K.B.		H3	55	
26. Sekarang memakai pil K.B.	32	H4.	56	
27. Pernah dengar tentang IUD,Spiral, loop		H1.	57	
28. Mengetahui tentang IUD, Spiral, loop		H2.	58	
29. Pernah memakai IUD, spiral, loop		H3.	59	
30. Sekarang memakai IUD, spiral, loop		H4.	60	
31. Pernah dengar tentang kondom		H1.	61	
32. Mengetahui tentang kondom		H2.	62	
33. Pernah memakai kondom		H3.	63	
34. Sekarang memakai kondom		H4.	64	
35. Pernah dengar tentang senggama terputus atau pantang berkala		H1.	65	
36. Mengetahui tentang senggama terputus atau pantang berkala		H2.	66	
37. Pernah memakai senggama terputus atau pantang berkala		H3.	67	
38. Sekarang memakai senggama terputus atau pantang berkala		H4.	68	
39. Pernah dengar tentang tidak kumpul		H1.	69	
40. Mengetahui tentang tidak kumpul		H2.	70	
41. Pernah memakai tidak kumpul		H3.	71	
42. Sekarang memakai tidak kumpul		H4.	72	
43. Pernah dengar tentang pemandulan		H1.	73	
44. Mengetahui tentang pemandulan		H2.	74	
45. Pernah memakai pemandulan		H3.	75	
46. Sekarang memakai pemandulan		H4.	76	
47. Pernah dengar tentang jamu, pijat,dll.		H1.	77	
48. Mengetahui tentang jamu, pijat, dll.		H2.	78	
49. Pernah memakai jamu, pijat, dll.		H3.	79	
50. Sekarang memakai jamu, pijat, dll.		H4.	80	

SURVEY TRANSMIGRASI

LEMBAGA PENYELIDIKAN EKONOMI DAN MASYARAKAT
FAKULTAS EKONOMI UNIVERSITAS INDONESIA

1976

Keterangan Rumah Tangga

JENIS KETERANGAN	Pertanyaan Hal.	Pertanyaan No.	Kolom	Kode		
1. Nomor Kasus			01-03			
2. Nomor Kartu			04-05	0	5	
3. Jumlah anggota rumah tangga	01		06-07			
4. Jumlah perkawinan	17		08			
5. Jumlah kehamilan			09-10			
6. Jumlah anak kandung laki-laki yang tinggal bersama ibu	19	G2	11-12			
7. Jumlah anak kandung laki-laki yang tidak tinggal bersama ibu		G4	13-14			
8. Jumlah anak kandung perempuan yang tinggal bersama ibu		G6	15-16			
9. Jumlah anak kandung perempuan yang tidak tinggal bersama ibu		G8	17-18			
10. Jumlah anak yang masih hidup		G10	19-20			
11. Jumlah anak kandung yang telah meninggal		G11	21-22			
12. Jumlah anak yang lahir hidup		G12	23-24			
13. Apakah sedang hamil ?	20	G14	25			
14. Umur kandungan		G15	26-27			
15. Ingin anak laki-laki atau perempuan		G16	28			
16. Berapa kali melahirkan anak kembar ?		G18	29			
17. Jumlah kehamilan yang tidak diakhiri sebagai kelahiran hidup	21	G23	30			
18. Apakah menyusui anak terakhir	31	G38	31			
19. Jumlah bulan menyusuinya		G39	32-33			
20. Apakah menyusui anak kedua dari terakhir		G41	34			
21. Jumlah bulan menyusuinya		G42	35-36			

LEMBAGA PENYELIDIKAN EKONOMI DAN MASYARAKAT
FAKULTAS EKONOMI UNIVERSITAS INDONESIA

SURVEY TRANSMIGRASI

1976

Sejarah Perkawinan

JENIS KETERANGAN	Pertanyaan		I			II		III		IV		V	
	Hal.	Nomor	Kolom	Kode		Kolom	Kode	Kolom	Kode	Kolom	Kode	Kolom	Kode
1. Nomor Kasus			01-03										
2. Nomor Kartu			04-05	0	6								
3. Bulan perkawinan	17	F10	06-07			21-22		36-37		51-52		66-67	
4. Tahun perkawinan	17	F10	08-09			23-24		38-39		53-54		68-69	
5. Lamanya perkawinan berlangsung		F12	10-12			25-27		40-42		55-57		70-72	
6. Caranya perkawinan berakhir	18	F13	13			28		43		58		73	
7. Bulan perkawinan berakhir		F14	14-15			29-30		44-45		59-60		74-75	
8. Tahun perkawinan berakhir		F14	16-17			31-32		46-47		61-62		76-77	
9. Jumlah bulan hidup tanpa suami setelah berakhirnya perkawinan		F15	18-20			33-35		48-50		63-65		78-80	

LEMBAGA PENYELIDIKAN EKONOMI DAN MASYARAKAT
FAKULTAS EKONOMI UNIVERSITAS INDONESIA

SURVEY TRANSMIGRASI

1976

Sejarah Kehamilan

JENIS KETERANGAN	Pertanyaan		I		II		III		IV	
	Hal	No.	Kolom	Kode	Kolom	Kode	Kolom	Kode	Kolom	Kode
1. Nomor Kasus			01-03							
2. Nomor Kartu			04-05	1						
3. Jumlah kehamilan pada kartu ini			06							
4. Bulan berakhirnya kehamilan	22-24	G27-29	07-08		23-24		39-40		55-56	
5. Tahun berakhirnya kehamilan		G27-29	09-10		25-26		41-42		57-58	
6. Nomor urut kehamilan			11-12		27-28		43-44		59-60	
7. Hasil kehamilan			13		29		45		61	
8. Jenis kelamin dan tempat tinggal		G26 & A1	14		30		46		62	
9. Nomor urut lahir hidup	22-24	G24	15-16		31-32		47-48		63-64	
10. Umur pada waktu meninggal	22-24	G32	17-19		33-35		49-51		65-67	
11. Interval kelahiran	22-24	G30	20-22		36-38		52-54		68-70	

SURVEY TRANSMIGRASI

LEMBAGA PENYELIDIKAN EKONOMI DAN MASYARAKAT
FAKULTAS EKONOMI UNIVERSITAS INDONESIA

1976

Keterangan Perorangan

JENIS KETERANGAN	Pertanyaan		Kolom	Kode
	Hal.	No.		
1. Nomor Kasus			01-03	
2. Nomor Kartu			04-05	
3. Hubungan dengan Kepala rumah tangga	01	A2	06	
4. Jenis kelamin		A3	07	
5. Status perkawinan		A4	08	
6. Umur	02	A7	09-10	
7. Kabupaten kelahiran	03	A8	11-13	
8. Propinsi kelahiran		A8	14-15	
9. Tahun meninggalkan tempat kelahiran	04	A9a.	16-17	
10. Jumlah tahun tinggal di Lampung		A9c.	18-19	
11. Propinsi tempat tinggal sebelum pindah ke Kabupaten Survey		A9d.	20-21	
12. Kabupaten tempat tinggal sebelum pindah ke Kabupaten Survey		A9d.	22-24	
13. Jumlah tahun tinggal di kabupaten perpindahan pertama setelah kelahiran		A9e.	25-26	
14. Masih sekolah ?	05	A10a.	27	
15. Sedang disekolah apa ? Sekolah apakah yang terakhir ?		A10b.	28	
16. Tingkat/Kelas tertinggi		A10b.	29	
17. Dapat membaca dan menulis		A11ab	30	
18. Kegiatan utama selama seminggu yang lalu	13	E1	31	
19. Pernah bekerja paling sedikit 1 jam ?		E2	32	
20. Jenis pekerjaan utama		E3	33	
21. Dalam pekerjaan tersebut sebagai		E4	34	
22. Jumlah jam kerja		E5	35-36	
23. Mempunyai pekerjaan tambahan ?	14	E6	37	
24. Jumlah macam pekerjaan tambahan		E7	38	
25. Jumlah jam kerja pekerjaan tambahan		E7	39-40	
26. Telah mencari pekerjaan ?		E8	41	
27. Jumlah bulan mencari pekerjaan		E9	42	
28. Jenis usaha mencari pekerjaan		E10	43	
29. Mau menerima pekerjaan yang sesuai		E11	44	
30. Kegiatan yang biasa dilakukan selama setahun yang lalu	15	E12	45	
31. Pernah bekerja paling sedikit 2 bulan ?		E13	46	
32. Jenis pekerjaan		E14	47	
33. Dalam pekerjaan tersebut sebagai		E15	48	