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Analysis of the 1984 Transmigration Survey

by R.P.Byron



Australian National University

## 1. Introduction

The transmigration survey of 2198 transmigrant households in 31 subdistrict was carried out in the latter part of 1984. The survey asked a wide range of questions relating to production, income, expenditure and welfare. Parts of the income and expenditure surveys are identical to the Susenas survey. In the first part of what follows we provide some details of the questionaire; we will then examine the characteristics of income determination, looking, in particular at the performance of the transmigrant by settlement type, village layout, village of destination, area of origin, type of transmigrant, and so on. The composition of income will be closely examined and the responses to various questions on welfare will be detailed. It soon becomes apparent that tabular or graphical analysis is of limited value in disentangling the relative effects of various influences on the transmigrant ultimate income. In the last section of the report we switch to regression analysis.

## Section 2

## The Questionaire

In this section we detail the questions asked in the survey filed by 13 record types. Enumerating the questions in this manner enables the reader to ascertain what sort of analysis is, in fact, feasible. The details of the questionnaire are given in Appendix I. Below we summarise the details of the type of records.

## Record Type

1 Location and Basic Information
12 Family member information
13 Household Activities
2 Land Allocation
3 Land Use
4 Yields, Expenses and Income from Food Crops
5 Yield, Expenses and Income from Estate Crops
6 Income from Other Activities
7 Other Income lost Month
8 Other Financial Items last Month
9 Assistance from Government
10 Consumption Expenditure
11 Family Welfore

Thirty one transmigrant communities in six provinces were sampled, as mentioned, o total of 2198 households. The provinces, villoge numbers, and where known, village names, sample sizes and tidal/dry farm classification are listed belaw.

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Province Number Name Sample Settlement Village

Riau

## Kab Indragiri Hulu

140102 Kec Kuantan

140104 Tengah $20 \mathrm{lg} / \mathrm{dry}$ linear

140108 Kec Pangkalan Kasai/Siberinda 180 sm\&lg/dry nucleated

Kab Indragiri Hilir

| 140202 |  | 19 | tidal | combined |
| :--- | :--- | :--- | :--- | :--- |
| 140205 | Kec |  |  |  |
|  | Tempuling | 20 | tidal | nucleated |

Kab Kampar
14040420 estate linear

## South Sumatra

Kab Ogan Komering ulu

| 160109 | 80 | dry/est | linear |
| :--- | :--- | :--- | :--- |
| 160110 | 60 | $\mathrm{sm} / \mathrm{lg} / \mathrm{dry}$ | linear |
| 160171 | 40 | dry | linear |

Kab Ogan Komering Ilir

| 160203 |  | 40 | lg/dry |  |
| :--- | :--- | :--- | :--- | :--- |
| 160204 | Kec Mesuji | 201 | sm\&ig/dry | lin/nuc |
| 160205 |  | 241 | sm\&lg/dry | lin/nuc |
| 160212 |  | 120 | tid\&l | lin |

## Kab Lematang llir

Ogan Tengah
$16037459 \mathrm{lg} / \mathrm{dry}$ nuc
Kab Musi Banyu Asin

| 160605 |  | 101 | tidal | linear |
| :--- | :--- | :--- | :--- | :--- |
| 160607 | Kec Banyu <br> Asin II | 40 | tidal | linear |


| Province | Number | Name | Sample | Settlement | Village |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Central Kalimintan |  |  |  |  |  |
|  | Kab Kotawaringin Barat |  |  |  |  |
|  | 620102 |  | 40 | $\mathrm{lg} / \mathrm{dry}$ | nucleated |
|  | Kab Kotawaringin Timur |  |  |  |  |
|  | 620203 |  | 20 | $\lg / \mathrm{dry}$ | linear |
|  | Kab Kapuas |  |  |  |  |
|  | 620401 | Kec S | t 120 | tidal | nucleated |
|  | 620413 | Kec P | dit Patu |  |  |
|  |  |  | 140 | tidal | nucleated |
|  | Kab Kota Baru |  |  |  |  |
|  | 630210 | Kec B Licin |  | sm\&/g/dry estate | lin/nuc/ comb |
|  | 630211 |  | 20 | $\mathrm{lg} / \mathrm{dry}$ | nucleated |
|  | Kab Barito Kuala |  |  |  |  |
|  | 630403 |  | 20 | tidal | linear |
|  | 630408 |  | 20 | tidal | nuclested |
| East Kalimintan |  |  |  |  |  |
|  | Kab Pasir |  |  |  |  |
|  | 640104 |  | 20 | tidal | linear |
|  | 640109 |  | 20 | dry | linear |
|  | Kab Kutal |  |  |  |  |
|  | 640215 |  | 20 | sm/dry | comb |
|  | Kab Balikpapan |  |  |  |  |
|  | 647101 | Kec B | kpapan |  |  |
|  |  | 8ng | 20 | dry | comb |
| Central Sulawesi |  |  |  |  |  |
|  | Kab Donggala |  |  |  |  |
|  | 720314 |  | 100 | tidal | linear/nuc |
|  | Kab Kendari |  |  |  |  |
|  | 740307 |  | 119 | lg/dry | nuclested |
|  | 740314 |  | 40 | $\mathrm{lg} / \mathrm{dry}$ | nucleated |

## Section 3

Tabular Analysis

## Section 3.1

## Overall Results

Our initiel concern will be with the components of income (from the Type 9 records); we will cross tabulate this by repelita, type of settlement, village layout, type of transmigrant etc.

In Table 1 we detail income sources for transmigrants by repelita. For convenience of reading we have suppressed the standard errors associated with each of these estimates In many cases, it is obvious from the standard errors that the range for the means is such that one cannot conclude that a particular submean is significantly greater than another. For completeness the full tables are repeated in the Appendix B.

First, notice that total monthly income by repelita is 60065 vs 57132 ; however, the difference is not statistically significant. In terms of the components of income, note that government subsidies for the repelita 3 households average 12000 rps against 0 for the repelita 2 households, as expected. Agricultural income is about the same by repelita with the exception of estate income which is 4954 rps compered to 519 for repelita 3 . Other income and all other categories apart from "government origin" income are about the same (in a statistical sense).

## Table 1

Income Sources by Repelita and Type of Settlement

$\frac{\text { Rep } 2 \text { Rep } 3}{\text { TORAL }}$ dry $\frac{\text { Repelita } 2}{\text { estate tidal }}$| small |
| :--- |
| $d r y$ |$\frac{\text { Repelita } 3}{\text { large estate }}$| dry |
| :--- | tidal


| sample | 557 | 1641 | 419 | 19 | 119 | 292 | 788 | 40 | 521 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| govt subs | 0 | 12072 | 0 | 0 | 0 | 18660 | 9935 | 0 | 12538 |
| food crops | 12587 | 12959 | 9341 | 11978 | 24114 | 17504 | 13625 | 8456 | 9747 |
| estate | 4954 | 519 | 4303 | 31310 | 3041 | 1453 | 532 | 0 | 16 |
| livestock | 2388 | 2437 | 2144 | 941 | 3479 | 2660 | 3079 | 308 | 1506 |
| other agric | 1291 | 1776 | 1688 | 631 | 0 | 305 | 1502 | 1450 | 3039 |
|  | 6067 | 5671 | 4186 | 11280 | 11857 | 3813 | 7746 | 1379 | 3902 |
| non agric | 28001 | 24526 | 29676 | 18536 | 23616 | 28865 | 26896 | 57181 | 16004 |
| other | 6132 | 3954 | 5389 | 2263 | 9367 | 5520 | 4716 | 4900 | 2020 |
| transfers in | 2003 | 1570 | 1944 | 3157 | 2028 | 1332 | 1929 | 713 | 1227 |
| transfers out | 6407 | 7951 | 5757 | 16131 | 7142 | 11650 | 6861 | 29927 | 5838 |
| other in | 4900 | 2713 | 5409 | 4626 | 3152 | 4019 | 3419 | 5851 | 672 |
| other out | 645 | 6880 | 723 | 0 | 472 | 6287 | 9106 | 1666 | 4245 |
| govt origin | 60065 | 57132 | 55508 | 73785 | 73921 | 64730 | 65265 | 74628 | 39230 |

Table 2 gives the income breakdown by village layout, i.e., linear, nucleated or combination. Here, we notice a startling difference in the income achieved by households in the combination settlements. In the case of combination settlements the average monthly household income is of the order of 80000 rps , whereas for both linear and nucleated it is 56000 . A note of caution is in order as the standard error on the mean for combination settlements is 8282 rps and we probably cannot conclude the difference is statistically significant. Looking back for the reasons we see that food crop income in the combination settlements is 2.5 times that of other settlements (but with a relatively high variability). With the exception of government income for the combination settlements and estate income for the nucleated settlements, which are relatively low in both cases, there is not a great deal of difference between the income sources of the cases.

Combination seltements 122 case
140202 Sci Raven
630210-Batu Licin (panT: ${ }^{2}$ )
$\left.\begin{array}{l}640215-\text { Separu } \\ 647101 \text { - Separmu }\end{array}\right\}$

TABLE 2
INCOME CROSS CLASSIFIED BY TYPE OF VILLAGE LAYOUT ARD INCOME ORIGIK


Cross classifying total monthly household income by type of settlement and repelita we observe the same apparently favourable results for combination settlements; particularly in repelita 3. The results, in Table 3, present an income level at 85226 (rep 3) and 69397 (rep 2), which are much higher than the other figures which are in the 54-59 thousand rupiah range. Again the standard error on the high figure is very large, suggesting a need for caution. However, it is already obvious we will need to look more closely at this set of outlying results.

TABLE 3
TOTAL INCOME CROSS CLASSIFIED BY TYPE OF YILLAGE AND REPELITA

|  | REP2 | REP3 |
| :---: | :---: | :---: |
| LINEAR |  |  |
| MEANS | 59802 | 53899 |
| STD ERRORS | 3496 | 3103 |
| NUMBER | 395 | 461 |
| NUCLEATED |  |  |
| MEANS | 57666 | 56444 |
| STD ERRORS | 2975 | 1289 |
| NUMBER | 120 | 1100 |
| COMBIINATION |  |  |
| MEANS | 69397 | 85226 |
| STD ERRORS | 2838 | 12499 |
| NUMPER | 42 | 80 |

This is taken one step further in Table 4, which considers the dynamics of income generation in the context of the question on the transmigrants personal comparson of household income with two years previously. The responses are cross classified by repelita and type of settlement and what emerges is unclear. Whilst tidal farmers who settled under repelita 2 clearly consider themselves better off, opinion amongst their repelita 3 counterparts is evenly divided. The spread of opinions amongst other farming categories is also uniform.

TABLE 4
COMPARISON OF CURRENT IMCOME TO TYO YEARS AGO FOR TYPE OF SETTLEMENT FOR REPELITA 2 AND REPELITA 3

|  |  | MORE | LESS | SAME | OTHER | TOTA |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| REPELITA 2 | DRY LAND NUMBER |  |  |  |  |  |
|  |  | 131 | 216 | 64 | 6 | 417 |
|  |  | (31\%) | (5290) | (15\%) | (290) | 100 |
|  | number | 8 | 6 | 5 | 0 | 19 |
|  | tidal |  |  |  |  |  |
|  | NUMBER | 73 | 10 | 29 | 5 | 117 |
|  |  |  | 990 | $25 \%$ | 490 | 100 |
| REPELITA 3 | SMALL DRY NUMBER 93 | 93 | 133 | 62 |  |  |
|  |  | 1838 | 6/ | B | 3 | 291 |
|  | LARGE DRY NUMBER | 32\% | $46 \% 0$ | 2190 | 1 |  |
|  |  | 359 | 232 | 168 | 25 | 784 |
|  |  | 4690 | 309 | 2190 | 398 | 100 |
|  | ESTATE <br> NUMBER $\neq$ | 20 |  | 13 | 1 | 35 |
|  |  | V | 18 | $\gamma$ |  | 35 |
|  | tidal |  |  |  |  |  |
|  | NUMBER | 182 | 189 | 110 | 40 | 521 |
|  |  |  |  | 219 |  | -100 |
| ile II | Dry | mon L | LDD | Same | 10 | 9 |
|  |  | 31 | 52 | 15 | 2 |  |
|  | Tidal | 62 | 9 | 25 | 4 |  |
| ive II | S. Ory | 32 | 46 | 21 | 1 |  |
|  | 1 Dry | 46 | 30 | 21 | 3 |  |
|  | Tidal | 35 | 36 | 21 | 8 |  |

When the same question is cross classified by type of village similar results emerge, $40 \%$ think they are better off, $40 \%$ feel they are worse off, and the remainder regard their income level as unchanged. The results are presented below in Table 5.

TABLE 5
COMP ARISOH OF CURRENT INCOME TO TYO YEARS AGO FOR TYPE OF YILLAGE

|  | MORE | LESS | SAME | OTHER |
| :--- | :---: | :---: | :---: | :---: |
| LINEAR <br> NUMBER | 360 | 307 | 165 | 20 |
| NUCLEATED <br> NUMBER | 432 | 456 | 265 | 58 |
| COMBINATION <br> NUMBER | 74 | 24 | 21 | 2 |

In Table 6 we examine hausehold income by province of origin and we again note considerable variabilility in the results with the Javanese and Balinese(51-53) transmigrants apparently faring worst whilst the three groups faring best being those from Riau-Sumatra, Kalimintan and Sulawesi (72-75). However, note that this may not, in fact be a regional difference, but a reflection of the composition of those migrants in particular the representation of military and spontaneous settlers. The mean household income for the Sulawesi group (total number only 24), was 82741 with a standard error of 14000 . The Javanese mean income was 55757 with a standard error of 1130 , reflecting the law of large numbers. The same occurs with the other high income groups, so it is probably the case that not too much can be placed on this result. A more useful exercise may well be to attempt to
account for income differences by urban and rural Kabupaten in areas of origin, this will be attempted in subsequent regression analysis. The outlying Sulawesi group received no government subsidies but high government origin income and other inward monetary flows - suggesting that we may, in fact, have picked up a group of military settlers. Apart from these factors their performance was not much different from the large mass of Javanese. The first group, from Riau-Sumatra had very high "other income", at 43522 rps almost double the average for that category and relatively low food income, suggesting the possibility of an entrepreneurial-trader group.

TABLE 6
INCOME ORIGIN CROSS CLASSIFIED BY PROYINCE OF ORIGIM

|  | $\begin{aligned} & \text { GOYT } \\ & \text { SUBS } \end{aligned}$ | FOOD CROPS | ESTATE | stock | OTHER AG | $\begin{gathered} \text { NON } \\ \text { AG } \end{gathered}$ | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RIAU-SUMATRA |  |  |  |  |  |  |  |
| SMP $=114$ |  |  |  |  |  |  |  |
| MEANS JAVA | 12578 | 11032 | 2638 | 2171 | 2411 | 5229 | 43522 |
| SMP $=1856$ |  |  |  |  |  |  |  |
| MEANS | 9485 | 12788 | 1729 | 2384 | 1549 | 4662 | 24319 |
| BALI |  |  |  |  |  |  |  |
| $S M P=133$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 13361 | 300 | 3149 | 1194 | 10243 | 23924 |
| $S M P=71$ |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| MEANS | 10879 | 15279 | 90 | 2479 | 4076 | 22801 | 27885 |
| SULAWESI |  |  |  |  |  |  |  |
| SMP $=24$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 17513 | 2311 | 2634 | 1451 | 18994 | 24412 |
| - - | TRANS | TRANS | OTHER | OTHER | GOVT | TOTAL |  |
|  | $\mathbb{N}$ | OUT | IN | OUT | ORIG |  |  |
| RIAU-SUMATRA |  |  |  |  |  |  |  |
| SMP $=114$ |  |  |  |  |  |  |  |
| MEANS | 2093 | 1776 | 10471 | 7508 | 3901 | 71224 |  |
| JAVA |  |  |  |  |  |  |  |
| SMP $=1856$ |  |  |  |  |  |  |  |
| MEANS | 4632 | 1514 | 7632 | 2798 | 5224 | 55757 |  |
| BALI |  |  |  |  |  |  |  |
| SMP $=133$ |  |  |  |  |  |  |  |
| MEANS | 5622 | 3615 | 5328 | 2973 | 6606 | 60788 |  |
| KALMMNT AN |  |  |  |  |  |  |  |
| SMP $=71$ |  |  |  |  |  |  |  |
| MEANS | 2830 | 2059 | 4032 | 512 | 4592 | 77977 |  |
| SULAYESI |  |  |  |  |  |  |  |
| SMP $=24$ |  |  |  |  |  |  |  |
| MEANS | 4970 | 2243 | 927 | 9206 | 12696 | 82741 |  |

In Table 7 we examine income by type of transmigrant and note the advantages of the military, spontaneous and local settlers over the sponsored migrants. There really is not a great deal of difference between the income achievements of the four categories with the sole exception of "other income" and "other in" categories for the military transmigrant. These amount to 92000
rps and 21000 rps out of their income of 117000 rps per manth, both totals are significantly higher than those achieved by the other transmigrants in that particular category. Spontaneous migrants fare slightly better than sponsored migrants with incomes of 56000 versus 54000; but the difference is not significant. Finally, local migrants are significantly higher than either of these categories with an income level of 74000 . This would appear to be attributible to better income achievement in the food, other agriculture and non agriculture categories.

TABLE 7
INCOME BY TYPE OF TRAHSMIGRANT
GOVT FOOD
SUBS

| SPONSORED |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAMPLE $=1800$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 9175 | 13036 | 1705 | 2506 | 1629 | 4934 | 22370 | 4332 | 1487 | 7201 | 2649 | 5432 | 54441 |
| STD ER 850 | 559 | 195 | 118 | 181 | 373 | 581 | 596 | 178 | 744 | 325 | 265 | 1089 |
| SPONT ANEOUS |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE= 152 |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 4112 | 10533 | 671 | 1722 | 607 | 7265 | 27113 | 7622 | 1510 | 5782 | 2418 | 2714 | 56741 |
| STDER 1968 | 897 | 341 | 254 | 243 | 2368 | 2140 | 3160 | 531 | 1445 | 1107 | 338 | 4168 |
| MILITITARY |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=57$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 7320 | 11782 | 2101 | 2342 | 100 | 3312 | 92056 | 8573 | 9162 | 21947 | 11087 | 6597 | 117706 |
| STD ER 3670 | 1360 | 992 | 587 | 99 | 1365 | 5079 | 3593 | 2342 | 11706 | 3183 | 2150 | 7102 |
| LOCAL |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=186$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 10748 | 13380 | 1720 | 2240 | 3241 | 13499 | 33270 | 2467 | 1417 | 8136 | 7600 | 5642 | 74045 |
| STD ER 2558 | 1212 | 756 | 329 | 789 | 4948 | 7028 | 590 | 276 | 1780 | 2820 | 679 | 8493 |

Next, in Table 8 we examine income by year of arrival. An examination of mean total income reveals no trend which would be a significant result except that the sampling was done in a stratified way, by village, and the ups and downs by year and really no more than a comparison of villages and it is noticeable that the transmigrants in each village tend to have arrived in a given or the neighbouring year. Not too much can be drawn from this apparent lack of trend in the series. Some obvious results emerge (subsidies and government origin income decreasing with time. Food crop in come in the year of arrival being around half to a third the norm.

## TABLE 8

IHCOME SOURCES BY YEAR OF ARRIYAL

| GOVT | FOOD | ESTATE STOCK | OTHER | NON | OTHER | TRAN | TRAN | OTHER | OTHER | GOVT |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SUBS |  |  |  | AGRIC | AGRIC |  | $\mathbb{N}$ | OUT | HN | OUT | ORIGIN |

1974
$S M P=18$

| MEANS | 0 | 10874 | 11726 | 175 | 1111 | 12333 | 30978 | 49055 | 2725 | 5077 | 7256 | 0 | 103529 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

1975 SMP $=86$
 1976 SMP=187
$\begin{array}{lllllllllllllll}\text { MEANS } & 0 & 7699 & 5748 & 2265 & 1967 & 2284 & 28395 & 5861 & 930 & 5874 & 3800 & 517 & 53809\end{array}$ 1977 SMP=38

| MEANS | 0 | 11882 | 15482 | 965 | 0 | 1859 | 22995 | 3335 | 1602 | 6513 | 2731 | 0 | 54917 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | 1978

SMP $=108$
$\begin{array}{llllllllllllll}\text { MEANS } & 0 & 10504 & 6162 & 2222 & 68 & 8517 & 30151 & 7638 & 4069 & 9541 & 6186 & 0 & \\ 1979 & & & 61195\end{array}$ 1979
$S M P=113$
$\begin{array}{llllllllllllllll}\text { MEANS } & 0 & 21212 & 254 & 3979 & 362 & 4489 & 32292 & 3622 & 2618 & 8889 & 8558 & 1963 & 65558\end{array}$
1980
SMP $=355$
$\begin{array}{llllllllllllllll}\text { MEANS } & 0 & 19427 & 1147 & 2857 & 2036 & 5761 & 28516 & 2019 & 1076 & 6490 & 2435 & 3754 & 64435\end{array}$
1981
SMP=531
$\begin{array}{llllllllllllllll}\text { MEANS } & 2518 & 12604 & 118 & 2834 & 2842 & 8423 & 22253 & 2881 & 1637 & 6530 & 1998 & 5732 & 56030\end{array}$
1982
SMP $=408$
$\begin{array}{llllllllllllllll}\text { MEANS } & 9671 & 10156 & 643 & 2151 & 526 & 5869 & 22610 & 5675 & 2169 & 10603 & 3444 & 6676 & 52126\end{array}$
1983
SMP=283
$\begin{array}{lllllllllllllll}\text { MEANS } & 34486 & 12098 & 487 & 2094 & 1386 & 3549 & 26704 & 5913 & 1584 & 8245 & 2800 & 12891 & 63491\end{array}$
1984
SMP $=71$
$\begin{array}{lllllllllllllll}\text { MEANS } & 67149 & 5550 & 352 & 493 & 1059 & 2559 & 22954 & 3533 & 214 & 8635 & 4630 & 8069 & 44360\end{array}$

In Table 9 we consider the effect of education level of the household head on the household income level achieved. First, note the definition of income used here differs from that used previously; it was drawn from the Type 7 records and forms the component called "other income" in the tables above. We generally observe increases in income with higher levels of education, but it is not completely uniform. In Table 10 we cross classify education against the income definition used previously. Three observations were excluded; there were two college and one university graduate in the sample.
table 9
other income by education level of household head

|  | WAGES | PENS |  <br> SH CRP | OTHER AGRIC | OTHER | OTHER <br> NON AG | total INCOME |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAMPLE $=434$ |  |  |  |  |  |  |  |
| MEANS | 10385 | 0 | 397 | 5437 | 1589 | 1719 | 19529 |
| STD ERRORS | 825 | 0 | 128 | 470 | 282 | 259 | 947 |
| NOT COMPLETED |  |  |  |  |  |  |  |
| PRIMARY |  |  |  |  |  |  |  |
| SAMPLE=798 |  |  |  |  |  |  |  |
| MEANS | 12335 | 298 | 473 | 6090 | 2128 | 1840 | 23167 |
| STD ERRORS | 678 | 150 | 102 | 373 | 248 | 177 | 832 |
| PRIMARY SCHOOL |  |  |  |  |  |  |  |
| SAMPLE=758 |  |  |  |  |  |  |  |
| MEANS | 12818 | 3406 | 1918 | 5404 | 1753 | 1773 | 27074 |
| STD ERRORS | 845 | 619 | 1667 | 300 | 235 | 206 | 1971 |
| JUNIOR HIGH SCHOOL |  |  |  |  |  |  |  |
| SAMPLE $=134$ |  |  |  |  |  |  |  |
| MEANS | 20024 | 9591 | 231 | 4472 | 2461 | 3020 | 39801 |
| STD ERRORS | 2912 | 2500 | 103 | 734 | 809 | 891 | 3726 |
| HIGH SCHOOL |  |  |  |  |  |  |  |
| MEANS | 26134 | 3566 | 507 | 6093 | 3474 | 2413 | 42189 |
| STD ERRORS | 3998 | 2016 | 287 | 1042 | 2098 | 649 | 4751 |

The results below indicate a rising level of income with increasing education, but it does not eminate from farming activities. In fact, the increase stems from the "other income" category which is dissected above. Note, other income" increases from 19000 to 42000 rps stepping from the "no education" to high school categories. The wage component of this income tells the story; all the other components of income below seem invariant to the level of education of the transmigrant.

TABLE 10
InCOME BY EDUCATION LEVEL

| GOV | FOOD | ESTATE STOCK | OTHER | NON | OTHER | TRAN | TRAN | OTHER | OTHER GOVT | TOTAL |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SUBS |  |  |  | AGRIC | AGRIC |  | $\mathbb{N}$ | OUT | $\mathbb{N}$ | OUT | ORIG |


| NO EDUC |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAMPLE= | 434 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 9636 | 13024 | 2395 | 2166 | 1556 | 3703 | 19529 | 5039 | 860 | 5123 | 1840 | 4810 | 51357 |
| NOT PRIM |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=$ | 798 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 6135 | 11718 | 1258 | 2199 | 2386 | 4813 | 23167 | 2938 | 1160 | 7434 | 3371 | 5335 | 52649 |
| PRIM |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE= | 759 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 12237 | 14362 | 1648 | 2583 | 1273 | 6423 | 27061 | 4879 | 2254 | 7669 | 2988 | 5227 | 61191 |
| JR HIGH |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE= | 134 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 5301 | 11337 | 703 | 2719 | 428 | 13711 | 39801 | 9665 | 4328 | 15948 | 7507 | 7531 | 8146.4 |
| HIGH |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=$ | 71 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 10344 | 11662 | 3095 | 4133 | 466 | 7389 | 42189 | 4784 | 1399 | 6735 | 5895 | 4626 | 76949 |

In Table 11 "other income" is examined by type of transmigrant. Apart from the significent advantage given by pensions of the military settlers, there is little to differentiate the four categaries. The lacal settlers gain a substantial bonus from rent and share cropping, not, as one might anticipote, the militory.

TABLE 11

OTHER IHCOME BY TYPE OF TRAMSMIGRANT

```
WAGE PENS RENT OTHER OTHER OTHER TOTAL
AGRIC NON AG INC OTHER
```

| SPONS |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAMPLE= | 1800 |  |  |  |  |  |  |
| MEANS | 12609 | 152 | 323 | 5602 | 1901 | 1780 | 22370 |
| STD ERR | 503 | 80 | 45 | 226 | 177 | 120 | 581 |
| SPONT |  |  |  |  |  |  |  |
| SAMPLE $=$ | 153 |  |  |  |  |  |  |
| MEANS | 16166 | 723 | 281 | 5736 | 2186 | 1955 | 27049 |
| STD ERR | 1949 | 682 | 100 | 663 | 583 | 731 | 2127 |
| MILIT |  |  |  |  |  |  |  |
| SAMPLE= | 57 |  |  |  |  |  |  |
| MEANS | 12210 | 69721 | 640 | 4845 | 1360 | 3279 | 92056 |
| STD ERR | 3644 | 4983 | 283 | 1462 | 465 | 1112 | 5079 |
| LOCAL |  |  |  |  |  |  |  |
| SAMPLE $=$ | 186 |  |  |  |  |  |  |
| MEANS | 14858 | 0 | 7577 | 5913 | 2503 | 2415 | 33270 |
| STD ERR | 1947 | 0 | 6786 | 652 | 535 | 541 | 7028 |

Cansidering ather income by village layout, we notice first the relative constancy of tatal other income. However, there are some differences in the components, wage income is highest on combination settlements, pensions and rent or share cropping income highest on linear settlements. In Table 13 the proposition that "experience counts" is examined. The totals suggest that being over 35 carries an income premium, yet this conclusion must immediately be played dawn due to the large standard errors. The subtotals also do not give strong pointers despite their signs of within group constancy, they too have large standard errors.

TABLE 12
OTHER INCOME BY YILLAGE LAYOUT
YAGE PENS RENT OTHER OTHER OTHER TOTAL
AGRIC NON AG INC OTHER

| LINEAR |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SAMPLE $=$ | 856 |  |  |  |  |  |  |
| MEANS | 11901 | 3022 | 1989 | 6154 | 1466 | 1818 | 26351 |
| STD ERR | 711 | 547 | 1478 | 323 | 236 | 163 | 1716 |
| NUCL |  |  |  |  |  |  |  |
| SAMPLE $=$ | 1221 |  |  |  |  |  |  |
| MEANS | 13364 | 1413 | 269 | 5516 | 2464 | 1724 | 24753 |
| STD ERR | 633 | 325 | 59 | 278 | 229 | 167 | 813 |
| COMB |  |  |  |  |  |  |  |
| SAMPLE $=$ | 122 |  |  |  |  |  |  |
| MEANS | 17418 | 368 | 327 | 2913 | 307 | 3930 | 25265 |
| STD ERR | 2787 | 367 | 326 | 584 | 177 | 908 | 2946 |

TABLE 13
INCOME BY AGE OF HEAD OF HOUSEHOLD

| GOVT | FOOD | ESTATE STOCK | OTH | NON | OTHER | TRAN | TRAN | OTH | OTH | GVT TOTAL |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SUBS |  |  | AGRIC | AGRIC |  | NN | OUT | N | OUT | ORIG |


| 0-20 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAMPLE $=$ | 21 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 4107 | 10704 | 0 | 984 | 321 | 3730 | 25766 | 7686 | 583 | 4923 | 1078 | 3504 | 52046 |
| STD ERR 4008 | 2635 | 0 | 518 | 256 | 2044 | 7780 | 4966 | 189 | 1763 | 665 | 950 | 9807 |
| 21-25 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE= | 198 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 9420 | 12637 | 818 | 1969 | 1408 | 7366 | 22654 | 2805 | 1389 | 5498 | 3129 | 4534 | 52791 |
| STD ERR 2365 | 998 | 356 | 231 | 381 | 2010 | 2040 | 1074 | 330 | 965 | 1111 | 447 | 3015 |
| 26-30 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=$ | 397 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 10730 | 11567 | 1118 | 2330 | 1832 | 7307 | 22519 | 3447 | 1470 | 6335 | 2827 | 6421 | 55044 |
| STD ERR 2021 | 614 | 334 | 191 | 384 | 2227 | 1277 | 769 | 206 | 800 | 572 | 644 | 2752 |
| 31-35 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE= | 394 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 8840 | 13361 | 1546 | 2018 | 1520 | 5265 | 26232 | 3133 | 1560 | 6556 | 4315 | 5107 | 56608 |
| STD ERR 1477 | 1121 | 390 | 171 | 292 | 1044 | 3397 | 515 | 288 | 886 | 1309 | 592 | 3780 |
| $35+$ |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=$ | 1189 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 8508 | 13200 | 2015 | 2692 | 1703 | 5192 | 26543 | 5544 | 1857 | 8691 | 3125 | 5154 | 60179 |
| STD ERR 1045 | 749 | 269 | 166 | 249 | 486 | 854 | 939 | 278 | 1231 | 476 | 308 | 1540 |

The results indicate remarkably little, a lot of variation in the data, some suggestions of differences between tidal and non tidal returns, some suggestion that the combination settlements achieve superior levels of income than non-combination settlements. This latter feature might be accounted for if the combination settlements were shown to have a higher proportion of military transmigrants. However, in Table 14 below we find that it is just due to the effect of one outlying settlement with a very high figure for food income.
table 14
income of combination farmers

| GOV | FOOD |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | SUBS | ESTATE STOCK | OTHER | NON | OTHER | TRAN | TRAN | OTHER | OTHER | GOVT TOTAL |
|  |  | AGRIC | AGRIC |  | $\mathbb{N}$ | OUT | NW | OUT | ORIG |  |

140108
SAMPLE=1

| MEANS 0 | 0 | 0 | 604 | 0 | 0 | 24000 | 0 | 0 | 0 | 6500 | 0 | 24604 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STD ERR 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140202 |  |  |  |  |  |  |  |  |  |  |  |  |

## TABLE 14 (cont)

OTHER INCOME OF COMBINATION FARMERS

| - | WAGES | PENS | RENT | OTH AG | NON AG | OTHER | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 140108 |  |  |  |  |  |  |  |
| SAMPLE=1 |  |  |  |  |  |  |  |
| MEANS | 24000 | 0 | 0 | 0 | 0 | 0 | 24000 |
| STD ERR | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140202 |  |  |  |  |  |  |  |
| SAMPLE=19 |  |  |  |  |  |  |  |
| MEANS | 2842 | 0 | 0 | 13313 | 0 | 1289 | 17444 |
| STD ERR | 1325 | 0 | 0 | 780 | 0 | 707 | 1393 |
| 140205 |  |  |  |  |  |  |  |
| SAMPLE=4 |  |  |  |  |  |  |  |
| MEANS | 11250 | 0 | 0 | 7750 | 3750 | 0 | 22750 |
| STD ERR | 9742 | 0 | 0 | 1441 | 3247 | 0 | 8938 |
| 630210 |  |  |  |  |  |  |  |
| SAMPLE=59 |  |  |  |  |  |  |  |
| MEANS | 19118 | 762 | 0 | 1211 | 381 | 5508 | 26983 |
| STD ERR | 2595 | 756 | 0 | 791 | 266 | 1303 | 2973 |
| 640215 |  |  |  |  |  |  |  |
| SAMPLE $=20$ |  |  |  |  |  |  |  |
| MEANS | 31000 | 0 | 0 | 0 | 0 | 0 | 31000 |
| STD ERR | 13377 | 0 | 0 | 0 | 0 | 0 | 13377 |
| 647101 |  |  |  |  |  |  |  |
| SAMPLE $=19$ |  |  |  |  |  |  |  |
| MEANS | 13368 | 0 | 2105 | 0 | 0 | 6842 | 22315 |
| STD ERR | 5281 | 0 | 2049 | 0 | 0 | 3853 | 7921 |

The outlier is settlement 640215 with a food income alone of 96000 rps and a wage income of 31000 . Not surprisingly, the mean household income for that village is around 134000 rps , which together with the performance of a couple of other combination villages, drags the combined total up. A closer examination of the household records for that village revealed one househald of 7 members with a total income of around $950,000 \mathrm{rps}, 758$ of which originated from food and about $20 \%$ from sharecropping. The household looked like a genuine outlier rather than a series of keypunch errors. In the next section we examine the returns to tidal and dry-land farming.

## Section 3.2

## Comparison of Sponsored Dryland and Sponsored Tidal Transmigrants

In this section we compare the performance of sponsored dryland and sponsored tidal farmers using the same table layouts as previously. To start with the dryland farmers in Repelita 3 appear (fram totals) to be faring better than their Repelita 2 equivalents. An examination of the components reveals this can be accounted for by gavernment origin income together with food crops. Their returns from estate crops are less than those achieved by Repelita 2 farmers; other than that we abserve the usual high degree of variablity.

For tidal farmers we notice a dramatic, and significant degree of difference, compared to the dryland farmers and between the two repelitas. The income totals for tidal farmers in the two repelitas are 66000 and 33000 rps respectively. This breaks down by food (25000 to 9000), estate (3000 to 16), livestock ( 3000 to 1400), other (20000 to 11000 ), transfers in ( 9500 to 1600), and so on. There are some minor variations the other way. Anyway it would be sufficient to say that there was a dramatic deterioration in the income generating performance of the tidal farmers in Repelita 3. Subsequently we will pinpoint the villages involved and attempt to identify reasons, apriori, probably a futile task.

## TABLE 15

HKCOME CROSS CLASSIFIED BY REPELITA AND INCOME ORIGIN
(SPONSORED DRYLAKD) EXCLUDES MILITARY, SPON E! LOCAL

| , | GOYT <br> SUBS | F000 CROPS | ESTATE | stock | OTHER <br> AG | NON | OTHER <br> WAGES |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| REPELITA 2 |  |  |  |  |  |  |  |
| SAMPLE $=358$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 9482 | 4840 | 2303 | 1819 | 3646 | 26344 |
| STD ERRORS | . 00 | 1151 | 754 | 284 | 480 | 807 | 1117 |
| REPELITA 3 |  |  |  |  |  |  |  |
| SAMPLE $=$ | 874 |  |  |  |  |  |  |
| MEANS | 12331 | 15053 | 575 | 3039 | 1038 | 6156 | 25058 |
| STD ERRORS | 1459 | 989 | 175 | 185 | 264 | 593 | 973 |
| - | TRANS $\mathbb{N}$ | TRANS OUT | OTHER $\mathbb{N}$ | OTHER OUT | $\begin{aligned} & \text { GOVT } \\ & \text { ORIG } \end{aligned}$ | TOTAL |  |

REPELITA 2

| SAMPLE=358 |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| MEANS | 5359 | 2001 | 5368 | 5659 | 771 | 52567 |
| STD ERRORS | 1489 | 690 | 1150 | 1302 | 142 | 2197 |

REPELITA 3
SAMPLE $=874$
$\begin{array}{lllllll}\text { MEANS } & 4635 & 1427 & 7229 & 2371 & 8658 & 62761\end{array}$

| STD ERRORS | 531 | 186 | 1316 | 375 | 506 | 1683 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## table 16

income cross classified by repelita and income origin (SPONSORED TIDAL)

| : | $\begin{aligned} & \text { GOYT } \\ & \text { SUBS } \end{aligned}$ | FOOD CROPS | ESTATE | STOCK | $\begin{aligned} & \text { OTHER } \\ & \text { AG } \end{aligned}$ | $\begin{aligned} & \text { NON } \\ & A G \end{aligned}$ | OTHER <br> WAGES |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| REPELITA 2 |  |  |  |  |  |  |  |
| SAMPLE $=95$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 25865 | 3220 | 3921 | . 00 | 6222 | 20019 |
| STD ERRORS | . 00 | 1488 | 583 | 721 | . 00 | 1336 | 2436 |
| REPELITA 3 |  |  |  |  |  |  |  |
| SAMPLE $=423$ |  |  |  |  |  |  |  |
| MEANS | 13565 | 9457 | 16 | 1490 | 3247 | 3315 | 11402 |
| STD ERRORS | 1913 | 497 | 9 | 126 | 348 | 632 | 466 |
| $\cdots$ | TRANS w | TRANS OUT | OTHER时 | OTHER OUT | $\begin{aligned} & \text { GOVT } \\ & \text { ORIG } \end{aligned}$ | TOTAL |  |
| REPELITA 2 |  |  |  |  |  |  |  |
| SAMPLE $=95$ |  |  |  |  |  |  |  |
| MEANS | 9557 | 2391 | 8577 | 2809 | 282 | 66698 |  |
| STD ERRORS | 8185 | 652 | 4294 | 1032 | 78 | 8390 |  |
| REPELITȦ 3 |  |  |  |  |  |  |  |
| SAMPLE $=423$ |  |  |  |  |  |  |  |
| MEANS | 1613 | 1025 | 5979 | 532 | 4382 | 33871 |  |
| STD ERRORS | 400 | 254 | 614 | 115 | 212 | 774 |  |

In Tables 17 and 18 we compare sponsored dryland and tidal farmers. The results are much as before. Tidal sponsored farmers derive about twice as much income from food crops as do dryland and estate farmers. Curiously, the income sponsored transmigrants derive from estate sources were 3400 rps for dryland farmers and only 300 for estate farmers. The "other income" category yields 25000 rps for both tidal and estate farmers but 20000 rps for tidal farmers. Finally, note that government origin income is highest for estate farmers at 9300 rps and lowest for tidal farmers at 200 . This, presumably will be related partly to the gestation period of estate farming and partly to the number of tidal settlements in the last part of Repelita 3.

TABLE 17

## INCOME CROSS CLASSIFIED BY TYPE OF SETTLEMENT AND INCOME ORIGIN FOR REP 2 (SPONSORED DRYLAND)

|  | GOYT <br> SUBS | FOOD CROPS | ESTATE | STOCK | $\begin{gathered} \text { OTHER } \\ A G \end{gathered}$ | $\begin{aligned} & \text { NON } \\ & \text { AG } \end{aligned}$ | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DRY |  |  |  |  |  |  |  |
| SAMPLE=594 |  |  |  |  |  |  |  |
| MEANS | 7459 | 13190 | 3406 | 2478 | 1217 | 3408 | 2579 |
| STD ERRORS | 1666 | 1544 | 513 | 218 | 293 | 612 | 928 |
| ESTATE |  |  |  |  |  |  |  |
| SAMPLE $=638$ |  |  |  |  |  |  |  |
| MEANS | 9946 | 13661 | 332 | 3148 | 1310 | 7306 | 25095 |
| STD ERRORS | 1296 | 453 | 111 | 220 | 360 | 730 | 1194 |
|  | - |  |  |  |  |  |  |
|  | TRANS | TRANS | OTHER | OTHER | GOYT | TOTAL |  |
|  | $\mathbb{N}$ | OUT | N | OUT | ORIG |  |  |
| DRY |  |  |  |  |  |  |  |
| SAMPLE $=594$ |  |  |  |  |  |  |  |
| MEANS | 4771 | 1592 | 7035 | 4409 | 3153 | 55804 |  |
| STD ERRORS | 993 | 425 | 1851 | 834 | 276 | 2210 |  |
| ESTATE |  |  |  |  |  |  |  |
| SAMPLE $=638$ |  |  |  |  |  |  |  |
| MEANS | 4914 | 1596 | 6365 | 2319 | 9358 | 63517 |  |
| STD ERRORS | 611 | 242 | 835 | 445 | 656 | 1619 |  |

TABLE 18

## INCOME CROSS CLASSIFIED BY TYPE OF SETTLEMENT AHD INCOME ORIGIN FOR REP 2 (SPONSORED TIDAL)

| - | GOVT SUBS | $\begin{aligned} & \text { FOOO } \\ & \text { CROPS } \end{aligned}$ | ESTATE | stock | OTHER AG | $\begin{gathered} \text { NON } \\ A G \end{gathered}$ | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| : |  |  |  |  |  |  |  |
| TIDAL |  |  |  |  |  |  |  |
| SAMPLE $=95$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 25865 | 3220 | 3921 | . 00 | 6222 | 20019 |
| STD ERRORS | . 00 | 1488 | 583 | 721 | . 00 | 1336 | 2436 |
|  | TRANS $\mathbb{N}$ | TRANS OUT | OTHER IN | OTHER OUT | $\begin{aligned} & \text { GOYT } \\ & \text { ORIG } \end{aligned}$ | TOTAL |  |
| MEANS | 9557 | 2391 | 8577 | 2809 | 282 | 66698 |  |
| STD ERRORS | 8185 | 652 | 4294 | 1032 | 78 | 8390 |  |

The issue of which type of settlement, linear, nucleated or combination, provides the best income returns. Income is further decompased by spansared dryland and sponsared tidal transmigrants. As nated befare, farmers in cambination settlements da best with tatal income for dryland and tidal farmers at 80800 and 64000 repsectively. These figures compare with subtatals of 53600, 60900 for linear and nucleated dryland farmers and 44000 and 32000 for linear and nucleated tidal farmers. Again, the standard errors an these tatals are quite large, making it difficult conclude that the difference is real rather than on illusion due to sampling variatian. The camponents of income for the spansored tidal and sponsared dryland farmers bear much the same pattern as observed previausly. Tidal farmers get the mast significant incomes, in absalute and relative terms, fram foad crops, especially on the combination settlements. However, the tidal farmers seem to have less access to income fram wages, share cropping and the remaining camponents of "other incame".

TABLE 19

## income cross classified by type of village layout amd income origim (SPONSORED DRYLAND)

|  | GOVT | FOOD | ESTATE STOCK |  | OTHER NON |  | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | SUBS | CROPS |  |  | AG | AG |  |
| LINEAR |  |  |  |  |  |  |  |
| SAMPLE=413 |  |  |  |  |  |  |  |
| MEANS | . 00 | 12640 | 3885 | 2859 | 400 | 3860 | 24815 |
| STD ERRORS | . 00 | 1042 | 653 | 317 | 131 | 554 | 1118 |
| NUCLEATED |  |  |  |  |  |  |  |
| SAMPLE=737 |  |  |  |  |  |  |  |
| MEANS | 14623 | 12021 | 275 | 2731 | 1024 | 6274 | 26118 |
| STD ERRORS | 1717 | 403 | 95 | 180 | 314 | 723 | 1031 |
| COMBINATION |  |  |  |  |  |  |  |
| SAMPLE=82 |  |  |  |  |  |  |  |
| MEANS | . 00 | 30137 | 5215 | 3497 | 7795 | 5699 | 22365 |
| STD ERRORS | . 00 | 9658 | 1669 | 527 | 1833 | 1504 | 3705 |

TRANS TRANS OTHER OTHER GOUT TOTAL
N OUT $\mathbb{N}$ OUT ORIG

LIMEAR
SAMPLE $=413$

| MEANS | 3873 | 1162 | 7345 | 4086 | 2443 | 53616 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| STD ERRORS | 986 | 159 | 2615 | 1063 | 222 | 2005 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

NUCLEATED
SAMPLE=737

| MEANS | 5653 | 1933 | 6856 | 3121 | 8795 | 60930 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| STD ERRORS | 776 | 389 | 765 | 489 | 595 | 1461 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

COMBINATION
SAMPLE=82

| MEANS | 2481 | 719 | 1871 | 1345 | 4298 | 80771 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| STD ERRORS | 928 | 397 | 960 | 809 | 588 | 11635 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## TABLE 20

income cross classified by type of yillage layout and income origin (SPONSORED TIDAL)

GOVT FOOD ESTATE STOCK OTHER NON AG OTHER
SUBS CROPS AG

```
LINEAR
SAMPLE=264
MEANS 
STD ERRORS 
NUCLEATED
SAMPLE=236
\begin{tabular}{llllllllll} 
MEANS & 17915 & 7805 & 143 & 1639 & 4638 & 819 & 11480
\end{tabular}
\begin{tabular}{llllllllll} 
STDERRORS & 3267 & 735 & 46 & 203 & 507 & 277 & 700
\end{tabular}
COMBINATION
SAMPLE=18
\begin{tabular}{llllllll} 
MEANS & .00 & 40015 & 138 & 5978 & .00 & 3712 & 17941 \\
STD ERRORS & .00 & 2854 & 74 & 1172 & .00 & 1752 & 2384
\end{tabular}
            TRANS TRANS OTHER OTHER GOVT TOTAL
            INV OUT INV OUT ORIG
```

LINEAR
SAMPLE=264

| MEANS | 4753 | 1792 | 8012 | 1345 | 2421 | 44722 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

STD ERRORS

| 2994 | 409 | 1740 | 363 | 163 | 3237 |
| :--- | :--- | :--- | :--- | :--- | :--- |

NUCLEATED
SAMPLE=236

| MEANS | 1421 | 439 | 5059 | 496 | 5146 | 32602 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| STDERRORS | 462 | 222 | 621 | 230 | 3.43 | 1065 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

COMBINATION
SAMPLE=18

| ME ANS | .00 | 4661 | 1944 | 1083 | 1488 | 64614 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| STDERRORS | .00 | 1421 | 1120 | 682 | 265 | 3077 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

In Tables 21 and 22 we examine the response of transmigrants to a question asking them to compare their income with that achieved two years previously. This is tabulated by sponsored dryland, sponsored tidal, and type of settlement. As before, tidal farmers in linear and cambination settlemenets seem well satisfied, while their compatriots in combination settlements do not. Curiausly, for dryland farmers, it is the nucleated and combination settlement farmers who appear to be doing best whilst the linear dryland farmers seem to be indicating their income is declining.
table 21
COMP ARISON OF CURRENT INCOME TO TYO YEARS AGO FOR TYPE OF YILLAGE (SPONSORED DRYLAMD)

|  | MORE | LESS | SAME | OTHER |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|      <br> LINEAR     <br> NUMBER     | 127 | 207 | 73 | 1 | 40 |
| NUCLEATED | $(31)$ | $(51)$ | $(18)$ | $(0)$ |  |
| NUMBER | 300 | 257 | 146 | 10 |  |
| COMBINATION <br> NUMBER | 51 | 15 | 7 | 0 |  |

TABLE 22
COMPARISON OF CURRENT INCOME TO TYO YEARS AGO FOR TYPE OF YILLAGE (SPOHSORED TIDAL)

MORE LESS SAME OTHER

## LINE AR <br> NUMBER

nucleated NUMBER

COMBINATION NUMBER

| 154 | 48 | 52 | 8 | 262 |
| :---: | :---: | :---: | :---: | :---: |
| $(59)$ | $(18)$ | $(20)$ | $(3)$ |  |
| 44 | 118 | 50 | 23 | 235 |
| $(19)$ | $(50)$ | $(21)$ | 10 |  |
| 9 | 1 | 7 | 1 |  |

### 3.3 Results by Subdistrict

With 31 sub-districts or villages it is not possible to detail all the cross tabulations as part of a report like this. Instead we consign the tables to Appendix B and discuss the results, with some summary tables, in the body of the text below. To commence we represent the villages with some additional information on class of settlement, typical date of arrival of settlers, how the settlers see their income compared to (i) two years ago and (ii) pre-transmigration, their source of income in their area of origin and their opinion about their health now compared to pre-transmigration.

In Table 23 column 4 gives the earliest date of settlement of each village, typically settlement was completed within two to three years. The next two columns ask the transmigrants to compare their income to two years 8go; it is clear the tend to point to improved income overall, with same notable exceptions. Columns 7 and 8 ask the same question in terms of income prior to transmigration and it is very clear that a significant majority of transmigrants consider themselves better off. The next three columns list the occupations of the settlers prior to migration. The other category includes non-agricultural and "other" in the original questionaire and has been included here to pick up "non-farmer" transmigrants in an attempt to see if any villages have a disproportionate number of non-farmer settlers and if those villages are low income villages. Finally, the last column reports the transmigrants' statements $n$ their health. The idea of this information was to ascertain if the migrants in tidal areas suffered more from health problems than those assigned to dryland areas. This does not appear to be the case.

One possibility, that villages with high household incomes were, in fact, villages with a higher than usual proportion of pensioned military transmigrants, is dismissed by the results in Table 24. When total household income for a village is high it would be nice to be able to say that this is either because food income is high or other (especially wage) income is high, but such a simple explanation is not borne out by the figures.

Table 23

## Question Responses by Village

| Pror Sample | Class | Arriv | Income to Two <br> Years Ago |  | Income to <br> Transmigration |  | Source of Income in Area of Origin |  |  | Health of Origin |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | More | Less | More | Less | Food | Trees | Other | Bett | Wrse |
| Riau |  |  |  |  |  |  |  |  |  |  |  |
| 14010220 | Dry | 80 | 9 | 9 | 12 | 1 | 14 | 0 | 5 | 4 | 3 |
| 14010440 | Dry | 80 | 11 | 21 | 24 | 8 | 29 | 0 | 11 | 21 | 1 |
| 140108180 | Dry | 81 | 61 | 66 | 98 | 40 | 101 | 5 | 72 | 64 | 23 |
| 14020219 | Tidal | 79 | 9 | 1 | 14 | 2 | 14 | 2 | 3 | 1 | 4 |
| 14020520 | Tidal | 78 | 12 | 0 | 19 | 0 | 18 | 0 | 2 | 5 | 0 |
| 14040420 | Dry | 83 | 19 | 1 | 13 | 3 | 3 | 4 | 13 | 8 | 2 |
| South Sumatra |  |  |  |  |  |  |  |  |  |  |  |
| 16010980 | Dry | 78 | 46 | 21 | 60 | 7 | 41 | 21 | 17 | 31 | 6 |
| 16011060 | Dry | 80 | 12 | 31 | 40 | 6 | 19 | 2 | 36 | 27 | 8 |
| 16017140 | Dry | 76 | 16 | 14 | 28 | 6 | 16 | 3 | 21 | 26 | 3 |
| 16020340 | Dry | 82 | 21 | 0 | 39 | 0 | 13 | 0 | 27 | 15 | 4 |
| 160204201 | Dry | 74 | 35 | 141 | 125 | 61 | 133 | 2 | 63 | 66 | 58 |
| 160205205 | Dry | 74 | 39 | 154 | 166 | 54 | 166 | 3 | 69 | 58 | 32 |
| 160212120 | Tidal | 81 | 63 | 19 | 116 | 1 | 92 | 2 | 26 | 83 | 7 |
| 16037459 | Dry | 82 | 4 | 45 | 30 | 8 | 26 | 4 | 29 | 11 | 6 |
| 160605101 | Tidal | 82 | 54 | 23 | 69 | 7 | 42 | 2 | 56 | 36 | 8 |
| 16060740 | Tidal | 80 | 29 | 0 | 35 | 5 | 31 | 4 | 5 | 21 | 0 |
| Central Kalimintan |  |  |  |  |  |  |  |  |  |  |  |
| 62010240 | Dry | 83 | 32 | 0 | 32 | 3 | 15 | 0 | 25 | 6 | 4 |
| 62020320 | Dry | 83 | 12 | 3 | 7 | 1 | 3 | 0 | 16 | 3 | 0 |
| 620401120 | Tidal | 80 | 18 | 74 | 44 | 42 | 62 | 4 | 46 | 70 | 10 |
| 620413140 | Tidal | 81 | 31 | 60 | 78 | 12 | 71 | 1 | 66 | 37 | 9 |
| 630210178 | Dry | 80 | 85 | 40 | 132 | 17 | 74 | 1 | 101 | 70 | 18 |
| 63021120 | Dry | 82 | 8 | 1 | 17 | 2 | 8 | 0 | 12 | 8 | 1 |
| 63040320 | Tidal | 80 | 11 | 5 | 13 | 3 | 17 | 0 | 2 | 11 | 3 |
| 63040820 | Tidal | 80 | 5 | 8 | 15 | 0 | 12 | 0 | 8 | 11 | 1 |
| East Kalimintan |  |  |  |  |  |  |  |  |  |  |  |
| 64010420 | Tidal | 80 | 6 | 9 | 16 | 1 | 11 | 1 | 6 | 7 | 1 |
| 64010920 | Dry | 76 | 23 | 8 | 26 | 3 | 25 | 0 | 15 | 20 | 2 |
| 64021520 | Dry | 80 | 17 | 1 | 18 | 0 | 18 | 0 | 2 | 8 | 1 |
| 64710120 | Dry | 74 | 7 | 10 | 17 | 2 | 6 | 6 | 4 | 16 | 0 |
| Central Sulawesi |  |  |  |  |  |  |  |  |  |  |  |
| 720314100 | Tidal | 76 | 64 | 3 | 88 | 9 | 36 | 2 | 60 | 67 | 9 |
| 740307119 | Dry | 81 | 69 | 17 | 46 | 48 | 33 | 3 | 76 | 52 | 13 |
| 74031440 | Dry | 82 | 38 | 2 | 31 | 6 | 17 | 3 | 18 | 20 | 6 |

Table 24
Income Components by Village

| Province | Income Components by Village |  |  |  |  |  | orner |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |
|  | Number Sample | Class <br> hncome | Total <br> e Crops | Food | Other Origin | Govt | Wages | Pensions |
| Riau |  |  |  |  |  |  |  |  |
|  | 14010220 | Dry | 103426 | 16668 | 58886 | 9756 | 48310 | 0 |
|  | 14010440 | Dry | 78011 | 16314 | 39040 | 9521 | 20775 | 0 |
|  | 14020219 | Tidal | 67536 | 41859 | 17444 | 2895 | 2842 | 0 |
|  | 14020520 | Tidal | 54858 | 24329 | 22674 | 110 | 11100 | 0 |
|  | 14040420 | Dry | 99842 | 11418 | 71563 | 3333 | 61903 | 0 |
| South Sumatra |  |  |  |  |  |  |  |  |
|  | 16010980 | Dry | 51771 | 7572 | 28056 | 385 | 7818 | 3571 |
|  | 16011060 | Dry | 62700 | 10219 | 37137 | 8153 | 13078 | 6511 |
|  | 16017140 | Dry | 86030 | 9480 | 31161 | 3241 | 10751 | 3717 |
|  | 16020340 | Dry | 35714 | 14525 | 8506 | 1846 | 4237 | 0 |
|  | 160204201 | Dry | 56104 | 13321 | 34122 | 2086 | 14100 | 3668 |
|  | 160205205 | Dry | 44820 | 11376 | 26203 | 823 | 13376 | 1609 |
|  | 160212120 | Tidal | 35578 | 13303 | 12764 | 2320 | 2270 | 825 |
|  | 16037459 | Dry | 70219 | 9595 | 48015 | 4621 | 30483 | 5244 |
|  | 160605101 | Tidal | 55258 | 12503 | 32078 | 3490 | 4903 | 4071 |
| $\bullet$ | - 16060740 | Tidal | 76888 | 18033 | 20527 | 182 | 13587 | 0 |
| Central Kalimintan |  |  |  |  |  |  |  |  |
|  | 62010240 | Dry | 51258 | 17235 | 18471 | 11905 | 6040 | 1110 |
|  | 62020320 | Dry | 71348 | 8705 | 48542 | 5042 | 4775 | 0 |
|  | 620401120 | Tidal | 36717 | 4974 | 13619 | 2212 | 5861 | 0 |
|  | 620413140 | Tidal | 33133 | 9121 | 11316 | 7953 | 1428 | 1007 |
|  | 630210178 | Dry | 57088 | 12710 | 36283 | 6160 | 12623 | 2756 |
|  | 63021120 | Dry | 82851 | 9444 | 27961 | 6883 | 12700 | 3000 |
|  | 63040320 | Tidal | 31307 | 7697 | 12632 | 5516 | 9775 | 0 |
|  | 63040820 | Tidal | 45752 | 10094 | 25512 | 4663 | 22373 | 0 |
| East Kalimintan |  |  |  |  |  |  |  |  |
|  | 64010420 | Tidal | 111802 | 22542 | 48781 | 137 | 37250 | 0 |
|  | 64010920 | Dry | 92254 | 33560 | 44253 | 5016 | 31412 | 3525 |
|  | 64021520 | Dry | 167321 | 96527 | 40528 | 2277 | 31000 | 0 |
|  | 64710120 | Dry | 75889 | 9034 | 33850 | 257 | 13700 | 0 |
| Central Sulawesi |  |  |  |  |  |  |  |  |
|  | 720314100 | Tidal 6 | 601571 | 10412 | 32967 | 33 | 14935 | 2579 |
|  | 740307119 | Dry 87 | 87754 | 15364 | 25356 | 27288 | 14499 | 0 |
|  | 74031440 | Dry 6 | 693101 | 11490 | 20557 | 13647 | 8842 | 0 |

Further tables are presented in Appendix B. The first section is devated to questions relating to income. Table B1 provides the income breakdown by village already given in Table 22, together with standard errors. Tables B2 -B4 give full details of three questions summarised in Table 21, i.e. relating to income two years ago, income prior to transmigration, and income source in orea of origin. In mast settlements the transmigrants income sources remain unchanged over a two year periad; however, one (140404) has 19 respondents from whose income patter stands out as originating bath currently and twa years perviously from ather non-rural origins. The income figure of that village is 99842 per household but $75 \%$ of that income originates from other non-agricultural sources. Table B5 indicates that around a third to a half the transmigrants list their occupations priar to migration as being in the other class. A few villages are dominated by this group of people, notably 140404 , 620102, 620203 and 630211; the total household incomes for these villages are 99842, 51258, 71348 and 72851 respectively. In other words, their incomes tend to be on the higher side but in only two of the four cases could it be said to originate predominantly from non-agricultural origins. The next Toble is $B 8$ which lists those villages still receiving subsistence support.

The subsequent tables in Appendix B look ot socio-economic questions. Table $B 9$ lists the response to the "family members awoy at primary school question; Table $B 10$ asks the same question with respect of junior high school. In
About 60\% of families have children away- at primary school, but that figure drops to $15-20 \%$ for junior high school. Tables B11 and B12 contain the responses to questions on the provision of education services; it is very clear that, both in regard to primary and secondary education, the transmigrants questioned generally regord the education facilities os being superior to thase existing in their oreas of origin. Table B13 contains responses to the
"transportation" question. Here, the consensus appears to be that transportation facilities are worse. As mentioned, there is no evidence that the health of transmigrants in tidal areas is worse than their counterparts on the dryland sites and when the response to the question on medical services (Table B15) is examined it is clear that the level of services is about the same as in the areas of origin.

The remaining questions relate to housing (Table B16), which is generally seen as better and land ownership and usage. From the results in Table B18 it is apparent that about $35 \%$ of migrants owned same land before moving and there is a considerable spread of responses between villages. Table $B 19$ lists land use by village (average per householder). Table B20 provides annual figures for food production, sales and income, tree crop production sales and income and finally income derived from cattle and poultry. The last two tables also relate to land cultivation and contain the responses to the question comparing the amount of land cultivated compared with two years ago and the reason why less land is cultivated. The usual response is that the same amount of land is being cultivated and when less is cultivated it is because it "doesn't pay". The last two tables, B23 and B24, were added as on afterthought to the question, what if the villages are so remote they have no access to markets? The most popular commercial outlet for food crops is the marketplace, whilst estate crops (the sample is much smaller), tend to be disposed of to cooperatives or traders.

As can be seen we have been overwhelmed by a mass of data; tabular presentation is only of limited usefulness in analysing all the detail as it does not isolate underlying influences. Because of this we turn to regression analysis in section 4.

## Section 4

## Exploratory Regression Analysis

In this section we apply regression analysis in an attempt to isolate the causal influences on the various components of income. In a strict sense we are not identifying causality, we are advocating no theoretical model of wage or income determination. We are, however, looking for association between factors likely to influence income in a partial derivative context; that is, with the effects of variation in other explanatory variables removed. Such an analysis is more valuable than the preceeding tabular exercise, looking at a one or two way classification for a particular variable or variables. The hidden influences, which might underlie an apparent relationship in a tabular or graphical presentation, are brought out using multiple regression.

In the first set of results, presented in Table 25, an attempt is made to account for the variation in the various components of income by a selected set of explanatory variables. In some cases the variables are continuous; for example, age of head of household, number of adults in household, year of arrival, area of land opened (in 00 hectares), or areas of land under cultivation for particular purposes. The remaining variables are binary ( 0 or 1) dummies: for example, the variable Rep2 is a variable which takes on the value 1 if the household arrived in Repelita 2, but is zero otherwise. A second dummy variable for Repelita 3 (which would be zero for a rep 2 household and one for a rep 3 case) cannot be included because together they are equivalentto on intercept term, which is already included in the equation. Had the second dummy (for Repelita 3) been included in place of the first dummy its coefficient would have been the negative of its partner. The reason is that the binary variables together measure the shift in the dependent
variable, up and down, due to the components of a particular explanatory variable.

Other dummy variables are included for type of settlement (small dry, large dry, estate and tidal), type of village, actual subdistrict, sex of household head, education level of household head, classification of migrant, area of origin of migrant, means by which the settler is able to dispose of food and/or tree crops (market, trader, co-op or other). This collection of binary variables, 74 in all, exhausts the possible set of reasonable explanators in the dato set.

In Table 25 we list the dependent variable across the row, beneath the title. Thus we are trying to explain the variation in wages, other agricultural income, income from food, income from tree crops, and so on. In each case the set of explanatory variables is the same; however, we only report those coefficients which are significantly different from zero at the $5 \%$ (*) and $1 \mathscr{F}_{\left({ }^{* *}\right)}$ levels. This is to avoid the temptation of placing too much weight on results which are statistically insignificant. The effect of including these insignificant variables in a regression equation is a general loss in the precision with which the effects of the remaining variables is measured but it should not bias the remaining estimates. After presenting the results we will indicate why this is an exploratory exercise and we will proceed with a further analysis.

To interpret the results in Table 25 note that the intercept term is extremely large; it is composed of the unobserved constant and all the neglected dummy variable effects. No interpretation can be placed on this term. Next is the effect of the age of the head of household, this is only significant in the case of wages and non-agricultural income. The coefficient
of -142 in the wage equation means a household head of 30 years of age on average receives 1420 rps less per month from wage income than does a 20 year old household head. Causation is not implicit in the result as the 30 year household head may be more established and may derive more income from other sources, without the need to seek wage remuneration. The results for the number of adults indicate that a household with 5 adults receives 16920 rps more, on average, in total income per household than a family with 2 adults. This would seem to suggest that the typical extra adults in a household are dependants rather than active production members. Year of arrival has a negative relationship with wage and other (which includes wages as a major component) income. The later a household's year of arrival, the less the average income that household draws from wages; this would appear to suggest that the opportunities for earning wage income increase with the age of a settlement, or possibly that the newer settlers are too busy getting established to be able engage in direct wage generating activities. The differences implied are quite startling, on average a household arriving in 1984 earns 23120 less rps per month from wage sources than one which arrived in 1974.

Table 25
Regression Coefficients for Various Income Categories as a function of the Specified Variables

|  | wages | other agriculture | food | tree crops | nonagriculture | other | total income |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| constant | 214771** |  |  |  |  | 274984** |  |
| age head | -142** |  |  |  | $-137 *$ |  |  |
| number adults | 1819** | 435* | 1058* |  | 1133* | 2004** | 5640** |
| year arrival | -2312** |  |  |  |  | -3060** |  |
| land opened | -24* |  |  |  |  |  |  |
| irr sawah open |  |  |  |  | -108* |  |  |
| tidal open |  |  | 68** |  |  |  |  |
| bunded open |  | 14* | 75** |  |  |  |  |
| swamp open |  |  |  |  |  |  |  |
| dry field |  |  | 30* |  | $-30 *$ |  | 62* |
| fish pond | 122* |  | 123* |  |  |  |  |
| tree crop |  | -16** | 53** | 35** |  | -56* |  |
| other food |  | -84* |  |  |  |  |  |
| repelits 2 |  |  | $-10123 * *$ |  |  |  |  |
| small dry |  | 4544* |  |  |  |  |  |
| large dry |  | 5437* |  |  |  |  |  |
| estate | 17212* | 5667* |  |  |  |  |  |
| linear | -19429** | -4322** |  |  | 10450* | $-25633 * *$ |  |
| nucleated | -8827* |  |  |  | 12891** |  |  |
| vill 140102 | 49249** |  |  |  |  | 49432** |  |
| vill 140104 | 11868* |  |  |  |  |  |  |
| vill 140108 | 14635** |  |  |  | -11366* |  |  |
| vill 140202 |  | 13995** | 31108** |  |  |  |  |
| vill 140205 |  | 9626* |  | -4445* |  |  |  |
| vill 140404 | 46146** | 7232* |  | -3695* |  | 50474** |  |
| vill 160109 |  | 13410** |  |  |  | 21415* |  |
| vill 160110 | 15700** | 8521** |  |  |  | 22594* |  |
| vill 160171 | 24362** | 11885** |  | 16117** |  | 28155* |  |
| vill 160203 |  | -3818* |  |  | -16142* |  | -39884** |
| vill 160204 | 9031* | 10155** |  |  | -12193* | 15647* |  |
| vill 160205 |  |  |  |  |  |  | -22970* |
| vill 160212 |  | 10828** |  |  |  |  |  |
| vill 160374 | 22522** |  |  |  | $-17452 * *$ | 24302** |  |
| vill 160605 |  | 7898** |  |  |  |  |  |
| vill 160607 |  | 10227** |  |  |  |  |  |
| vill 620102 |  |  |  |  | $-17864 * *$ |  | -33886* |
| vill 620203 |  | 39783** | -17016* |  |  | 51725* |  |

Table 25(cont.)
Regression Coefficients for Various Income Categories as a function of the Specified Variables

|  | wages | other agriculture | food | tree crops | nonagriculture | other | total income |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| vill 620401 |  | 6738* |  |  |  |  |  |
| vill 620413 |  |  |  |  |  |  | -43511* |
| vill 630210 |  | -3739* |  |  |  |  | -26041* |
| vill 630211 |  |  |  |  |  |  |  |
| vill 630403 |  |  | -19426* |  |  |  |  |
| vill 630408 |  |  |  |  |  |  |  |
| vill 640104 | 33365** |  |  |  | 30623** | 40910** | 51614* |
| vill 640109 | 38695** |  | 20816** |  |  | 37335** | 28670* |
| vill 640215 | 22115** | -8005** | 74423** | 5990** | 18049* |  | 77213** |
| vill 647101 |  |  |  | -8220** |  |  |  |
| vill 720314 |  |  |  |  |  |  |  |
| vill 740314 |  |  |  |  | -10614* |  |  |
| male |  |  |  |  |  |  |  |
| no education |  |  |  |  |  |  |  |
| not compl prim |  |  |  |  |  |  |  |
| primary school |  |  |  |  |  |  |  |
| jr high school |  |  |  |  |  |  |  |
| high school spons migrant |  |  |  |  |  |  |  |
| spont migrant |  |  |  |  |  |  |  |
| military |  |  |  |  | -12090* | 60222** | 35155** |
| food/orig | -4841** | -1231 ** |  |  | $-2924 *$ | -8121**- |  |
| trees/oris |  |  |  |  | $-6984 *$ |  | -12859 |
| stock/origin | -13057* |  |  |  |  |  | -14191 |
| fish/orig |  |  |  |  |  |  | -6192 |
| non-ag/orig |  |  |  |  |  | -6643* | $-7300$ |
| owned land/origin |  |  | 1873* |  |  |  | 8919** |
| from riau/sumatr |  |  |  |  |  |  |  |
| from java |  |  |  |  |  |  |  |
| from bali |  |  |  |  |  |  |  |
| from kalimintan |  |  |  |  |  |  |  |
| food sold market |  | 1147* | 4386** |  |  |  |  |
| food sold trader | $-3125 *$ | 1667** | 8038** | -672* |  |  |  |
| food sold co-op |  | 2557* |  | -2232** |  |  |  |
| tree sold market | - 10739 * |  | 8606** | 7275** |  |  | 22575** |
| tree sold trader |  | 4297** |  | 18352** |  |  | 20360* |
| tree sold co-op | $-14801 * *$ |  |  | 25670** |  |  | 24158* |
| R-squared | . 256 | . 311 | . 261 | . 668 | . 098 | . 198 | . 222 |

The next set of variables relate to land usage, amaunt of land apened, bunded paddy used in production, irrigated sawah used in production, and so an. As one might anticipate, this has little effect on wage, non agriculture and other incame, but is a significant determinant of food income. The units of measurement are in hundreds (actually .00 ha ). Hence, on average, a difference of 1 hectare apened makes a difference of 6800 rps to hausehold income from foad, if the land is tidal. The difference is slightly more for bunded land and much more for fish ponds.

Immediately below these continuous variables is the first of the dummy variables - Repelita 2. The effect of arrival in the second or third repelita is generally insignificant for mast income categories. The ane exception to this is the faad group, where the results suggest a significantly lawer food-incame performance for this graup of transmigrants. The effect of being in the second or third repelita is insignificant on tatal incame, suggesting (perhaps) that the transmigrants compensate by turning their efforts to other activities.

The effect of settlement type on income is generally negligible, with the exception of the other agriculture category. In this case the tidal categary experiences an income reduction of around 15000 rps , whilst the other three categories show average levels of hausehold income of around 5000 rps . One notable figure here is the relatively high wage earnings of estate settlers, when other effects are removed.

The next set af dummies account for the village layout; linear, nucleated or combination. The results point to wage income of combination farmers being higher than thase on linear or nucleated settlements, whilst non-agricultural income is less. There is no significant variation in tatal income due to type of
village and no significant variation in food income. The outlier noticed in the tabular presentation is subsumed as part of the overall randam variation.

Following the village layout dummy variables are 31 dummies for the actual villages themselves. These can be interpreted as "with effects such as age, sex of head, year of arrival, and so on removed, what is the average effect on income of a particular transmigrant household being in a given subdistrict. Some villages show up particularly well, others with negative total income dummies rather poorly. A pattern emerges of subdistricts in Riau and Sumatro deriving notable contributions to income from wages, other agriculture and the other income category. With the exception of subdistrict 640215 , already commented on, there is a fair amount of variation in income derived from food production, so that subdistrict is not a significant determinant of food income.

The next results are slightly surprising, the presence or absence of a male as head of household is of no consequence to the various levels of income achieved. Education is unimportant. The migrant categories do not differ from each other in terms of income earning capacity, with the obvious exception of the income obtained by the military settlers from the other income (including pensions) category. Note that the military, on average, receive less income from non-agriculture than the other categories of migrants, after adjustment for other influences.

The final set of variables were introduced to assess the importance of trading arrangements on income generation. In the case of wages the significant terms are negative for market, trader and co-op disposal of food and tree crops. This suggests that in the absence of such outlets it is mare profitable for migrants to seek wage generating employment. The other returns are generally significant and positive; a household disposing of food vis
markets tends to receive 4386 rps per month on average, if done through a trader this figure becomes 8038 rps , and so on. The tree crop income result is interesting in that it demonstrates that those farmers who use the co-op as their outlet receive, on average 25670 rps compared to 18352 rps via traders and 7275 rps via markets. Likewise the effect of access to commercial disposal of produce is extremely important in terms of its contribution to total income, of those who dispose of their produce in this way.

Finally, the measure of goodness of fit is given in the last row of Table 25; whilst these results indicate that relatively low proportions of the variation in the sources of income have been explained a number of individually significant influences have been discovered. Furthermore, in each case the $F$ test on the overall relationship, calculated as $\left[r^{2} /(n-k)\right] /\left[\left(1-r^{2}\right) / k\right] \sim F_{n-k, k}$ would lead to rejection of the null hypothesis - indicating that the equations do, in fact, explain a significant proportion of the variation in the dependent variables.

One problem present in the treatment of the income equations used in Table 25 is that in many cases the fraction of the dependent variable observations which is non zero is relatively small. The appropriate estimator in this case is a Tobit model rather than least squares. The bias arises because the dependent variable follows the zero axis for some way before assuming positive values. The least squares model, fits the entire data set and the line will straddle both the zero observations and the positive income terms. What is needed is a regression model which predicts if the household will avail itself of a particular income source and, given that it does, haw much the conditional response of income to the explanatory variables is. One way to produce an asymptatically unbiased estimator of the slope coefficients was rediscovered by Greene [1981] and is based on an earlier paper by Pearson and Lee
[1907]. Greene proves, under rather over-stringent conditions for our purposes, that all one need do is estimate the least squares regression using only the subsample of observations for which the dependent variable is non-zero. The resulting least squares slope coefficients are then scaled by the reciprocal of the non-limit sampling fraction to produce the asymptotically unbiased estimates. No standard error adjustments were given in that paper and the problem appears to be that the standard errors on the coefficients can be quite large if the proportion of non-zero dependent variables is low. In Tables 26 and 27 below, we have re-estimated the equations based on the subsample of observations for which the dependent variable is positive. The sample fraction can be calculated from the final row in each table. Thus, for wages in Table 26 we find that 1012 of the 2199 households obtain income from wages which means the slope coefficients must be multiplied by 2199/1012 to be asymptotically unbiased. One problem, which occurs in the context of dummy variable regression, is that selection of a subsample can mean selection of all of one type of a given dummy variable. In other words what had been a dummy variable becomes a column of ones and one or more columns of zeros, leading to singularity of the moment matrix. We avert this by examination of the results and deletion of sets of regressors to which this happens. For one income source with à very small non-limit sampling fraction, rent and sharecropping income, this was a particular headache, and the equation was eventually completely eliminated.

Table 26
Regression Coefficients for Yarious Income Categories as a Function of Specified Yariables

|  | wages | other agric | other non-agric | other income |
| :---: | :---: | :---: | :---: | :---: |
| constant | 286225** | -39845 | 79071 | -84199** |
| age head | -43 | -34 | -38 | 28 |
| number adults | 790 | 805** | 350 | 25 |
| year arrival | -3530** | 568* | -779 | 977** |
| land opened | -33 | -9 | -13 | 8 |
| irr sawah open | -90 | -57** | 33 | 24 |
| tidal open | -30 | -5 | -6 | 5 |
| bunded open | -57 | 3 | 42 | 8 |
| swamp open | 105 | -47 | 12 | -117 |
| dry field | 45* | 8 | 42 | -2 |
| fish pond | 136 | 14 | 8 | 12 |
| tree crop | -7 | 8 | 19 | -1 |
| other food | -151 | -195 | -867** | -57 |
| repelita 2 | -9308 | 4196** | -5560 | 862 |
| small dry | -2946 | 2882* | -33847** | 20270** |
| large dry | 7994 | 4150** | -26796* | 15251* |
| estate | 24677 | -1326 | -55148** | 32923** |
| linear | -5968 |  | 9129 | -12759* |
| nucleated | 746 |  | 10334 | -10611* |
| vill 140102 | 39450** |  | 7783 | 11307 |
| vill 140104 | 18305* |  | 2641 | 19623** |
| vill 140108 | 19817** |  | 11239* | 12573** |
| vill 140202 | 13861 |  |  | 8036 |
| vill 140205 | 21518 |  | -25265 | 18956 |
| vill 140404 | 30955* |  | 32745 |  |
| vill 160109 | 10076 |  | 8445 | -3638 |
| vill 160110 | 3399 |  | 12769. | 1963 |
| vill 160171 | 18208 |  | -11749 | 2220 |
| vill 160203 | -14854* |  | 6998 | 4915 |
| vill 160204 | 5920 |  | 4944 | -708 |
| vill 160205 | 5996 |  | 13900** | 1743 |
| vill 160212 | 17266 |  | -25690 | 15412* |
| vill 160374 | 11117 |  | 13798** | 1773 |
| vill 160605 | 6425 |  | -23727 | 17892* |
| vill 160607 | 22031 |  | -24658 |  |
| vill 620102 | -4364 |  | 1096 | -3747 |
| vill 620203 | 11693 |  | 12199 | -1482 |
| vill 620401 | 13162 |  | -23366 | 12450 |
| vill 620413 | 5562 |  | -22871 | 10364 |
| vill 630210 | 3558 |  | 20590** | 727 |
| vill 630211 | 20615 |  |  | 7138 |
| vill 630403 | 9716 |  |  | 17986* |
| vill 630408 | 16737 |  | -16216 | 15675 |

Table 26(cont)
Regression Coefficients for Various Income Categories as a Function of Specified Variables

|  | Wages | other agriculture | other non-agric | other income |
| :---: | :---: | :---: | :---: | :---: |
| vill 640104 | 65407** |  |  | 118418** |
| vill 640109 | 54368** |  | 7491 | -3645 |
| vill 640215 | 87911** |  |  |  |
| vill 647101 | 1762 |  |  | 29842** |
| vill 720314 | 14204 |  | 37611** | 19892** |
| vill 740314 | 6662 |  | -3097 | -609 |
| male | -988 | 756 | -735 | 1173 |
| no education | 12444 |  | -653 | -208 |
| not compl prim | 13173 |  | -985 | 43 |
| primary school | 15277 |  | -1401 | -320 |
| jr high school | 25172 |  | 2104 | 3810 |
| high school | 21572 |  | 2733 | 505 |
| spons migrant | 4221 | -319 | 7265 | -1420 |
| spont migrant | 9713 | -187 | 6078 | -2204 |
| military | 30361** | -527 | 8469 | 468 |
| food/orig | -5872** | -2031** | 1745 | 10 |
| trees/orig | -1036 | -2129 | 10851** | 1622 |
| stock/origin | -32390** | -6111 | 3179 | 155 |
| fish/orig | -2924 | -544 | 1408 | -861 |
| non-ag/orin | -809 | -386 | 3121 | -164 |
| owned land/orig | 2914* | 1558** | 483 | -452 |
| from riau/sumtr | 5166 |  | 5298 | 1771 |
| from java | -1072 |  | -4122 | 2660 |
| frombali | 8039 |  | -7243 | 5791 |
| from kalimintan | 20861** |  | 4509 | 664 |
| fd sold market | 1217 | 845 | 3663* | -139 |
| fo sold trader | -551 | 4785** | -991 | 460 |
| fo sold co-op | -8146 | 3921 | -2513 | 2089 |
| tr sold market | -1596 | -562 | 1777 | 729 |
| tr sold trader | 7514 | 17638** | -3580 | -8267 |
| tr sold co-op | 11 | 519 | 30284** | 2389 |
| R-squared | . 382 | . 153 | . 359 | . 538 |
| Sample | 1012 | 1246 | 509 | 790 |

Table 27
Regression Coefficients for Yarious Income Categories on Selected Regressor Variables

|  | food | treecrops | stock | other agriculture | other <br> income | total income |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| constant | -10368 | 15976 | 24982 | 54688 | 263548** | 95979 |
| age head | -25 | -73 | 16 | -72 | -85 | -166 |
| number adults | 1064* | 1658* | 331 | 461 | 1749* | 5640** |
| year arrival | 53 | -187 | -208 | -459 | -2950** | -430 |
| land opened | -3 | -27 | 4 | -19 | -27 | -50 |
| irr sawah open | 46 | 26 | -8 | -40 | -47 | -136 |
| tidal open | 69** | 31 | -16* | -28 | 0 | 57 |
| bunded open | 71** | 15 | -8 | 20 | -11 | 66 |
| swamp open | -17 | -72 | 45* | 1123** | 20 | 270 |
| dry field | 28* | 31 | 0 | -19 | 20 | 62 |
| fish pond | 124* | -224 | -194 | -702** | 79 | 283 |
| tree crop | 55** | 197** | -2 | 76** | -40 | 51 |
| other food | -106 | 69 | 18 | -326 | -113 | -303 |
| repelita 2 | -11606** | -30806 | -454 | 22239** | -6211 | -9552 |
| small dry | -535 | -15917 | -4761 | -12453* | -7811 | -946 |
| large dry | 1970 | -11266 | -2450 | -7344 | -4571 | 4206 |
| estate | 3640 | -26660 | -4692 | 30641* | -4567 | 9486 |
| linear | 4208 | 2503 | -605 | 248 | -11530 | -8013 |
| nucleated | -2340 | -2198 | 243 | 1472 | 6624 | -345 |
| vill 140102 | -5032 | 3448 | 5565* |  | 50232** | 21662 |
| vill 140104 | 6727 | 18536 | 2875 |  | 14669 | -738 |
| vill 140108 | -2050 | 22210* | 2752 |  | 13475 | -20461 |
| vill 140202 | 34774** | 21358 | 1156 |  | 771 | -1653 |
| vill 140205 | 15727 | 27631 | 144 |  | 1257 | -21610 |
| vill 140404 | -2128 |  | 5072 |  | 64579** | 21038 |
| vill 160109 | -722 | 68556** | 4819 |  | 23118* | -14605 |
| vill 160110 | -9256 | 31695 | 9386** |  | 24686* | -12230 |
| vill 160171 | -784 | 69804** | 3122 |  | 24058 | 2370 |
| vill 160203 | 7650 |  | 4172** |  | -13773 | -39885** |
| vill 160204 | 6216 | 39463** | 4036* |  | 14780 | -13468 |
| vill 160205 | 4654 |  | 2477 |  | 8612 | -22970 |
| vill 160212 | -6901 |  | 508 |  | 7968** | -27493 |
| vill 160374 | -748 | 18925 | 752 |  | 24196 | -13814 |
| vill 160605 | -6642 | -7911 | 8 |  | 19359 | -15773 |
| vill 160607 | -2326 | 27419 | -3934 |  | 6533 | -449 |
| vill 620102 | 8557 |  | 5496 |  | -6640 | -33886* |
| vill 620203 | -15683* |  |  |  | 51183** | -4202 |
| vill 620401 | -7826 |  | -1095 |  | -13105 | 36231 |
| vill 620413 | -7595 | 1909 | -1106 |  | -12747 | -43511* |
| vill 630210 | 13 | 8012 | 2304 |  | 13394 | -26042* |
| vill 630211 | 171 |  | 1174 |  | 10333 | -2941 |
| vill 630403 | -17565 |  | 394 |  | 6722 | -37553 |
| vill 630408 | -9190 |  | -1355 |  | -899 | -32479 |
| vill 640104 | 16375 | 22918 | 11694** |  | 62275** | 51614* |
| vill 640109 | 23023** | 40837** | 9361** |  | 50144** | 28671 |

Table 27(cont)

## Regression Coefficients for Various Income Categories on Selected Regressor Variables

|  | food | treecraps | stock | other agriculture | other income | total income |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| vill 640215 | 85188** | 39461** | 7011** |  | 85486** | 77214** |
| vill 647101 | 13821 | 45866** | 2075 |  | 13284 | -1087 |
| vill 720314 | 12017* | 42472** | 3079 |  | 10523 | -8816 |
| vill 740314 | 2867 | 11715 | 1642 |  | 898 | 4234 |
| male | 703 | -5444 | 440 | -6056 | -2186 | 1230 |
| no education | 10226 | 4655 | -6777 |  | 3964 | 6842 |
| not compl prim | 8222 | 313 | -6808 |  | 4704 | 4691 |
| primary school | 8587 | 705 | -6350 |  | 6978 | 8653 |
| jr high school | 7573 | 7487 | -5358 |  | 14645 | 23632 |
| high school | 9130 | 8426 | -3460 |  | 15318 | 22676 |
| spons migrant | -1536 | -5943 | 688 | -6919 | -6089 | -12887 |
| spont migrant | -2141 | -6158 | 389 | -8691 | -2070 | -9189 |
| military | -1856 | -2526 | 674 | -24176 | 52249** | 35156** |
| food/orig | 25 | 3099 | 6 | 3140 | -8208** | -11488** |
| trees/orig | -7 | 1529 | 1341 | 157 | -2507 | -12859 |
| stock/origin | 7772 | 2038 | 4228** | 16403 | -16558 | -14191 |
| fish/orig | 573 | 5326 | 693 | 12183** | -7785 | -6192 |
| non-ag/orig | 783 | -1056 | 2478** | -598 | -5650 | -7300 |
| owned land/orig | 1954* | 876 | 497 | -547 | 3261 | 8919** |
| from riau/sumtr | -3570 | -11334 | 179 | 18938** | 11928 | 6258 |
| from java | 572 | 7617 | -104 | 15849 | 1715 | 7608 |
| from bali | 1830 | 8663 | 2098 | 13337 | 6666 | 9800 |
| from katimintan | -1587 | 4003 | 925 | 5019 | 5555 | 17445 |
| fd sold market | 3703** | 2670 | 717 | 2578 | 1975 | 5488 |
| fd sold trader | 6808** | -3616 | -624 | -1369 | 1220 | 3959 |
| fo sold co-op | 3374 | -13398** | 151 |  | 663 | -8181 |
| tr sold market | 9766** | 2255 | 1128 | 9484 | -5557 | 22575** |
| tr sold trader | 5344 | -41 | 20 | 6119 | 5278 | 20361* |
| tr sold co-op | -1469 | 796 | 1406 | 10042 | -945 | 24159* |
| R-sqd | . 267 | . 806 | . 177 | . 700 | . 222 | . 222 |
| Sample | 2095 | 250 | 1100 | 237 | 1955 | 2199 |

As mentioned, to interpret the coefficients it is necessary to multiply the slope coefficients by the recipracals of the sampling fractions. For wages, we note that year of arrival is again significant, and the interpretation is the same as before. Many of the previously significant variables, in the statistical sense, are no longer so. However, subdistricts 64104-64215 again show up as being different from the rest in relation to wage income. The military transmigrants now appear as a group with a significantly higher wage incame than other groups; whilst migrants who were invalved in food and stack production in their areas of origin do not tend to seek wage income in the new areas.

Skipping to the variables explaining food income, in Toble 27, we note that 2095 of the 2199 households derive some revenue from food. Given the non-limit sampling fraction is so low it may be anticipated the results will be much the same as for Table 25, and this is indeed the case except that same previously insignificant variables now appear significant.

Proceeding to treecrops it is advisable to first note that the sampling fraction is small. Only 250 of the househalds derived income from treecropping. Of those househalds that do derive income from treecropping we note that the explanation provided by the regressor variables is very high; $80 \%$ of the variation in the dependent variable has been explained. However, when one looks to the reasons we con explain this veriation, it is rother disoppointing. The most significant set of explanatory variables are the subdistricts (vill) themselves. All this means is that this group of househalds have a different pattern in relation ta treecrop income than other households.

Proceeding quickly through the remaining columns in Table 27 note that the derivation of stock income in the transmigrant areas relates positively to that same activity being the primary source of incame in the transmigrants area of origin. "Other agriculture" involves few transmigrants and there is little of significance in the results. The results for "non-8griculture" involved large and implausible coefficients, presumably due to a dummy variable problem as the non-limit sampling fraction was low. Hence the column was deleted. The remaining two columns of Table 27 are for "other income" and "total income" and the results in the former case are essentially the same as in Table 25 (with 1955 non-limit observations) while in the latter case they are exactly the same.

To summarise, regression analysis provides some pointers as to the factors influencing income determination; however, as with the tabular analysis of the previous section the results tend to be inconclusive and should be interpreted with caution.

## Section 5

## Comparison of Consumption Patterns

The transmigration survey tape includes a section drawn from a susenas style questionnaire. Consumption of 19 food items, in the last week, is recorded in quantity and expenditure terms. For non-food items the information is recorded on a monthly basis, for expenditure only. Collecting disparate commodities under a single label poses aggregation problems whether one is considering food or non-food items: the quantities in the food group are not particularly meaningful given the different items they represent and the different quality levels possible within those same items. Nevertheless, getting back to the quantity level enables us to make some comparisons of consumption between transmigrant households and other households in transmigrant areas or households in rural Java. Income comparisons would not be particularly useful in the absence of knowledge of the prices paid for commodities in the areas under comparison. One proposition to be examined below is whether price levels are generally higher in transmigrant areas.

The commodity classification used in the survey is listed on page 10 of the User Guide to the 1984 Transmigration Survey. There are 19 food and 19 non-food items. As mentioned, the food group are on a weekly basis and include quantities as well as expenditures. To form total monthly expenditure per household the weekly food figures are multiplied by 30/7. The results below have been converted to a per capita basis. Unfortunately, it was not possible to weight this "per capitaisation" by child-adult factors as the only information on the extracts of the susenas tapes used related to total number of individuals in each household.

Three Susenas tapes were made available to the author. They were released very soon after the material was corrected and as a result still contain some discrepancies. When obvious inconsistencies were noticed the entire household record was removed from the sample. The result was that the samples for the respective groups were: dryland transmigrants - 1555, tidal transmigrants - 640, susenas (transmigrant areas) - 2755, susenas (rural Java 1) - 6490, susenas (rural Java 2) - 1593. We experienced a few minor problems in matching the 38 commodities used in the transmigration survey, in the absence of document translations. As will be noticed below, the consumption patterns for some items differ markedly between the transmigrant and non-transmigrant areas, and the worry is that this could in one or two cases by due to inappropriate aggregation.

Table 28 presents the quantities and expenditures on each item in the food and non-food categories. Obviously, qty refers to quantity whilst exp refers to expenditures. Standard errors are recorded in parenthesis and it will be noted they are almast invariably small relative to their group means.

The quantity of rice consumed per head is lower on dryland than tidal settlements but is slightly higher than in other areas, with the exception of Rural Java (2), which covers the provinces of ... and. The quantity of fresh (and dry) corn consumed per capita is much higher for dryland transmigrant families than any other in the samples. In the ground corn categary it will be noticed that the quantity consumed is higher on dryland than tidal settlements, very low amongst non-transmigrants in transmigration areas but extremely high in the Java-2 areas. For cassava, sweet potatoes and "other starch" we notice very much higher consumption
levels amongst the transmigrants when compared with the remaining groups considered here.

Table 28
Weekly Food Consumption:
Quantities and Expenditures per Capita (standard errors in parenthesis)

| transmig | transmig non- | rural | rural |
| :--- | :--- | :--- | :--- |
| dryland | tidal | transmig | Java 1 | Java 2


| rice qty | 235 | 255.3 | 220.7 | 221.2 | 145.0 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $(4.0)$ | $(7.7)$ | $(1.7)$ | $(1.3)$ | $(2.1)$ |
| rice exp | 739.2 | 785.7 | 817.4 | 697.4 | 432.8 |
|  | $(13.0)$ | $(24.3)$ | $(6.9)$ | $(4.3)$ | $(6.6)$ |
|  |  |  |  |  |  |
| fresh corn qty | 30.0 | 8.8 | 7.1 | 6.5 | 1.3 |
|  | $(2.6)$ | $(2.2)$ | $(0.6)$ | $(0.4)$ | $(0.3)$ |
| fresh corn exp | 30.3 | 11.8 | 9.6 | 5.9 | 1.5 |
|  | $(2.7)$ | $(3.9)$ | $(0.9)$ | $(0.4)$ | $(0.4)$ |
|  |  |  |  |  |  |
| dry corn qty | 6.4 | 3.18 | 0.8 | 0.85 | 4.8 |
|  | $(1.1)$ | $(1.0)$ | $(0.2)$ | $(0.1)$ | $(0.9)$ |
| dry corn exp | 7.9 | 4.0 | 1.23 | 0.96 | 5.1 |
|  | $(1.1)$ | $(1.1)$ | $(0.3)$ | $(0.1)$ | $(1.0)$ |
|  |  |  |  |  |  |
| ground corn qty | 21.9 | 14.0 | 4.8 | 29.3 | 92.3 |
|  | $(2.0)$ | $(1.7)$ | $(0.5)$ | $(1.0)$ | $(3.2)$ |
| ground corn exp | 28.3 | 16.2 | 7.2 | 33.3 | 114.5 |
|  | $(2.8)$ | $(2.1)$ | $(0.8)$ | $(1.1)$ | $(4.0)$ |
|  |  |  |  |  |  |
| cassava qty | 109.4 | 61.8 | 54.4 | 32.6 | 29.0 |
|  | $(6.0)$ | $(4.0)$ | $(1.7)$ | $(0.8)$ | $(1.7)$ |
| cassava exp | 35.3 | 24.5 | 38.2 | 17.2 | 16.2 |
|  | $(2.2)$ | $(2.0)$ | $(1.4)$ | $(0.4)$ | $(0.9)$ |
|  |  |  |  |  |  |
| ground cassava qty | 53.5 | 39.4 | 6.6 | 8.0 | 4.4 |
|  | $(3.4)$ | $(4.9)$ | $(0.7)$ | $(0.5)$ | $(0.7)$ |
| ground cass8va exp | 26.7 | 36.0 | 6.5 | 6.9 | 2.5 |
|  | $(1.8)$ | $(3.7)$ | $(0.7)$ | $(0.4)$ | $(0.4)$ |

Table 28(cont.)
Weekly Food Consumption Quantities and Expenditures per Capita (standard errors in parenthesis)

| transmig transmig non- | rural | rural |  |
| :--- | :--- | :--- | :--- |
| dryland | tidal | transmig | Java 1 |


| sweet potato qty | 10.6 | 10.3 | 0.7 | 1.5 | 4.2 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $(1.4)$ | $(1.8)$ | $(0.1)$ | $(0.1)$ | $(0.5)$ |
| sweet potato exp | 8.4 | 5.6 | 3.2 | 4.0 | 5.6 |
|  | $(1.1)$ | $(1.0)$ | $(0.4)$ | $(0.3)$ | $(0.6)$ |
|  |  |  |  |  |  |
| other starch qty | 34.0 | 40.6 | 27.1 | 3.5 | 2.9 |
|  | $(2.9)$ | $(3.8)$ | $(1.4)$ | $(0.2)$ | $(0.4)$ |
| other starch exp | 22.0 | 24.6 | 36.1 | 3.1 | 2.2 |
|  | $(1.9)$ | $(2.2)$ | $(1.8)$ | $(0.2)$ | $(0.3)$ |
|  |  |  |  |  |  |
| fish qty | 153.9 | 134.4 | 80.1 | 54.3 | 39.8 |
|  | $(5.0)$ | $(6.6)$ | $(1.8)$ | $(0.8)$ | $(1.2)$ |
| fish exp | 158.6 | 156.9 | 373.1 | 143.7 | 129.3 |
|  | $(5.3)$ | $(9.4)$ | $(6.2)$ | $(2.5)$ | $(3.3)$ |
|  |  |  |  |  |  |
| meat qty | 13.3 | 4.3 | 6.3 | 3.3 | 1.7 |
|  | $(1.8)$ | $(1.4)$ | $(0.4)$ | $(0.1)$ | $(0.1)$ |
| mest exp | 34.4 | 9.3 | 83.0 | 53.7 | 36.7 |
|  | $(1.8)$ | $(2.5)$ | $(4.4)$ | $(2.1)$ | $(3.0)$ |
|  |  |  |  |  |  |
| eggs qty | 73.7 | 46.7 | 58.2 | 55.5 | 59.2 |
|  | $(3.5)$ | $(4.4)$ | $(1.9)$ | $(1.2)$ | $(2.6)$ |
| eggs exp | 60.2 | 42.4 | 58.6 | 42.9 | 38.1 |
|  | $(4.1)$ | $(3.8)$ | $(1.9)$ | $(1.0)$ | $(1.8)$ |
| milk qty |  |  |  |  |  |
|  | 27.7 | 8.8 | 2.5 | 1.0 | 0.7 |
| milk exp | $(2.6)$ | $(1.7)$ | $(0.2)$ | $(0.1)$ | $(0.1)$ |
|  | 26.6 | 18.1 | 28.8 | 11.6 | 11.4 |
|  | $(4.5)$ | $(3.0)$ | $(1.6)$ | $(0.7)$ | $(1.7)$ |

Table 28(cont.)
Weekly Food Consumption: Quantities and Expenditures per Capita (standard errors in parenthesis) transmig transmig non- rural rural dryland tidal transmig Java 1 Java 2

| vegetables qty | 195.3 | 170.0 | 37.4 | 40.8 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | (6.2) | (6.4) | (0.7) | (0.5) | 36.1 <br> (0.8) |
| vegetables exp | 203.7 | 178.4 | 250.0 | 194.3 | 157.2 |
|  | (4.7) | (8.2) | (4.0) | (1.8) | (2.5) |
| beans qty | 132.6 | 80.9 | 6.1 |  |  |
|  | (5.0) | (5.4) | (0.2) | (0.2) | $\begin{aligned} & 12.0 \\ & (0.3) \end{aligned}$ |
| beans exp | 99.5 | 56.5 | 43.5 | 97.8 | 107.8 |
|  | (3.2) | (4.0) | (1.7) | (1.4) | (2.7) |
| fruit qty | 148.4 | 105.4 | 44.7 | 26.0 |  |
|  | (5.6) | (5.7) | (1.1) | (0.5) | (0.6) |
| fruit $\exp$ | 98.0 | 80.1 | 143.1 | 87.8 | 52.2 |
|  | (3.4) | (5.1) | (4.1) | (2.1) | (3.4) |
| other qty. | 195.3 | 174.8 | 26.4 | 14.8 |  |
|  | (6.1) | (6.6) | (1.1) | (0.4) | $\begin{aligned} & 14.3 \\ & (0.8) \end{aligned}$ |
| other exp | 405.5 | 356.9 | 518.8 | 322.7 | 341.6 |
|  | (9.1) | (13.5) | (6.3) | (2.7) | (5.0) |
| proc food qty | 48.3 | 35.0 | 22.1 | 16.7 |  |
|  | (3.2) | (4.2) | (0.8) | (0.5) | (0.8) |
| proc food exp | 38.3 | 30.0 | 165.6 | 218.3 | 213.1 |
|  | (3.0) | (3.9) | (11.9) | (5.3) | (10.8) |
| tobac \& alcohol qty | 177.9 | 151.9 | 143.9 | 66.9 |  |
|  | (6.1) | (6.4) | (8.9) | (1.0) | $\begin{aligned} & 89.9 \\ & (2.5) \end{aligned}$ |
| tobac \& slcohol exp(6.0) | 196.6 | 199.3 | 291.4 | 167.6 | 180.1 |
|  | (8.4) | (7.5) | (2.8) | (5.7) | 180.1 |

Table 29

|  | Monthly Per Capit <br> (standar <br> transmig <br> dryland | a Expend <br> d errors <br> tronsmig <br> tidal | itures on <br> in parent nontronsmig | hesis) <br> rural <br> Java 1 | Items <br> rural Java 2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| energy/ fuel | $\begin{aligned} & 696.0 \\ & (19.5) \end{aligned}$ | $\begin{aligned} & 738.1 \\ & (23.8) \end{aligned}$ | $\begin{aligned} & 1002.2 \\ & (21.4) \end{aligned}$ | $\begin{aligned} & 1464.0 \\ & (13.6) \end{aligned}$ | $\begin{aligned} & 1516.1 \\ & (26.3) \end{aligned}$ |
| housing | $\begin{aligned} & 354.8 \\ & (32.5) \end{aligned}$ | $\begin{aligned} & 238.9 \\ & (36.4) \end{aligned}$ | $\begin{aligned} & 1327.5 \\ & (37.8) \end{aligned}$ | $\begin{aligned} & 908.8 \\ & (13.4) \end{aligned}$ | $\begin{aligned} & 745.8 \\ & (34.7) \end{aligned}$ |
| personal effects | $\begin{aligned} & 317.7 \\ & (9.1) \end{aligned}$ | $\begin{aligned} & 242.1 \\ & (10.4) \end{aligned}$ | $\begin{aligned} & 267.1 \\ & (11.6) \end{aligned}$ | $\begin{aligned} & 163.8 \\ & (6.6) \end{aligned}$ | $\begin{aligned} & 208.5 \\ & (18.2) \end{aligned}$ |
| casmetics | $\begin{aligned} & 143.2 \\ & (5.6) \end{aligned}$ | $\begin{aligned} & 104.0 \\ & \{5.9) \end{aligned}$ | $\begin{aligned} & 337.8 \\ & (17.3) \end{aligned}$ | $\begin{aligned} & 190.4 \\ & (6.8) \end{aligned}$ | $\begin{gathered} 222.6 \\ (20.0) \end{gathered}$ |
| medical | $\begin{aligned} & 189.2 \\ & (12.8) \end{aligned}$ | $\begin{aligned} & 120.3 \\ & (16.3) \end{aligned}$ | $\begin{aligned} & 376.9 \\ & (18.8) \end{aligned}$ | $\begin{aligned} & 398.5 \\ & (40.1) \end{aligned}$ | $\begin{aligned} & 339.1 \\ & (24.9) \end{aligned}$ |
| schooling | $\begin{aligned} & 198.1 \\ & (12.2) \end{aligned}$ | $\begin{aligned} & 140.7 \\ & (13.0) \end{aligned}$ | $\begin{aligned} & 225.4 \\ & (12.5) \end{aligned}$ | $\begin{aligned} & 244.1 \\ & (11.2) \end{aligned}$ | $\begin{aligned} & 216.7 \\ & (19.3) \end{aligned}$ |
| ```local transport``` | $\begin{aligned} & 158.2 \\ & (12.3) \end{aligned}$ | $\begin{aligned} & 124.1 \\ & (18.4) \end{aligned}$ | $\begin{aligned} & 48.1 \\ & (9.3) \end{aligned}$ | $\begin{aligned} & 67.8 \\ & (6.6) \end{aligned}$ | $\begin{aligned} & 85.0 \\ & (13.1) \end{aligned}$ |
| other transport | $\begin{aligned} & 270.9 \\ & (66.1) \end{aligned}$ | $\begin{aligned} & 198.2 \\ & (73.7) \end{aligned}$ | $\begin{aligned} & 208.7 \\ & (26.2) \end{aligned}$ | $\begin{aligned} & 207.5 \\ & (8.8) \end{aligned}$ | $\begin{aligned} & 180.4 \\ & (16.7) \end{aligned}$ |
| recrestion | $\begin{aligned} & 62.4 \\ & (16.0) \end{aligned}$ | $\begin{aligned} & 54.8 \\ & (31.5) \end{aligned}$ | $\begin{aligned} & 16.2 \\ & (3.1) \end{aligned}$ | $\begin{aligned} & 23.8 \\ & (2.4) \end{aligned}$ | $\begin{aligned} & 35.6 \\ & (6.9) \end{aligned}$ |
| material (cloth) | $\begin{aligned} & 248.6 \\ & (23.6) \end{aligned}$ | $\begin{aligned} & 177.7 \\ & (31.5) \end{aligned}$ | $\begin{aligned} & 288.2 \\ & (17.6) \end{aligned}$ | $\begin{aligned} & 628.1 \\ & (24.9) \end{aligned}$ | $\begin{aligned} & 914.0 \\ & (77.2) \end{aligned}$ |
| readymade clathes | $\begin{aligned} & 558.0 \\ & (46.6) \end{aligned}$ | $\begin{aligned} & 452.5 \\ & (49.1) \end{aligned}$ | $\begin{aligned} & 1705.8 \\ & (65.3) \end{aligned}$ | $\begin{aligned} & 2181.9 \\ & (450.3) \end{aligned}$ | $\begin{aligned} & 1613.4 \\ & (78.0) \end{aligned}$ |
| hats, shoes socks | $\begin{aligned} & 402.7 \\ & (42.9) \end{aligned}$ | $\begin{aligned} & 302.5 \\ & (41.9) \end{aligned}$ | $\begin{aligned} & 1002.5 \\ & (59.2) \end{aligned}$ | $\begin{aligned} & 1483.0 \\ & (243.0) \end{aligned}$ | $\begin{aligned} & 1388.4 \\ & (80.7) \end{aligned}$ |

Table 29(cont)
Monthiy Per Capita Expenditures on Non-Food Items
(standard errors in parenthesis)
transmig transmig non- rural rural dryland tidal transmig Java 1 Java 2

| furniture | 101.8 | 16.3 | 187.7 | 136.7 | 132.5 |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | $(16.5)$ | $(5.9)$ | $(17.5)$ | $(12.9)$ | $(22.2)$ |


|  <br> bedding | 184.7 <br> $(20.9)$ | 69.8 | 285.3 | 157.9 | 125.8 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $(18.8)$ | $(10.8)$ | $(14.7)$ |
| kitchen | 370.3 | 238.2 | 370.1 | 248.2 | 245.2 |
| utensils | $(40.6)$ | $(35.8)$ | $(18.2)$ | $(10.9)$ | $(29.5)$ |


| household | 129.4 | 64.9 | 168.0 | 142.8 | 184.9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| items | $(15.1)$ | $(9.5)$ | $(11.2)$ | $(7.2)$ | $(14.9)$ |


| durable | 310.7 | 186.4 | 400.7 | 626.5 | 604.5 |
| :--- | :--- | :--- | :--- | :--- | :--- |

goods.
(45.9) (57.8) (42.2) (62.0) (70.6)
$\begin{array}{llllll}\text { taxes \& } & 26.8 & 40.3 & 104.5 & 122.8 & 207.0\end{array}$ insurance (4.9) (10.2) (9.4) (6.9) (23.7)
$\begin{array}{llllll}\text { ceremonial } & 571.9 & 349.5 & 419.0 & 299.3 & 339.5\end{array}$
costs (61.4) (65.3) (43.2) (26.9) (30.4)
$\begin{array}{llllll}\text { total non- } & 9512 & 8726 & 12322 & 9039 & 7919\end{array}$ food
$\begin{array}{llllll}\text { total food } & 5295 & 3859 & 8741 & 9696 & 9305\end{array}$ (monthly)
total
$\begin{array}{lllll}14807 & 12586 & 21064 & 18735 & 17224\end{array}$ expenditure

| sample | 1555 | 640 | 2755 | 6490 | 1593 |
| :--- | :--- | :--- | :--- | :--- | :--- |

Next, turning to fish, it will again be noticed that the quantities consumed per capita are much higher in the transmigrant areas (dry and tital); expenditures however, are at similar or lower levels than for non-transmigrant households. For meat it will be noticed that the quantities consumed tend to be higher (much higher in the case of dryland farmers), whilst the expenditures are much lower. Egg consumption is roughly the same accross all groups with the dryland transmigrants again recording the greatest per capita consumption figures. The same is true of milk (and vegetable) quantities, but is not so marked in the comparison of milk expenditures. For beans, enormous differences will be noticed. Dryland transmigrants consume over 20 times the quantity of beans of their non-transmigrant compatriots in transmigrant areas and 10 times the quantity of Javanese rural households. Again, expenditure levels are relatively similar. The same could be said of fruit, processed foods and the "other category. The impression is of higher consumption levels and lower unit values (prices). The final food item is tobacco and alcohol. We again note higher consumption levels, this time in all transmigrant areas, than in rural Java. Per capita expenditure levels; however, are about the same.

Next, turn to monthly expenditures on non-food items. The transmigrants pay far less for housing, energy and fuel than do households in the three other groups. Expenditure on the medical and schooling categories is lower for transmigrant households than the other three groups. Expenditure on local transport is considerably higher, expenditure on "other transport" about the same. There are some marked differences in the clothin category. The rural Javanese spend far more on material, readymade clothes and the "hats, shoes and socks" category then do the transmigrants. In addition, the nontransmigrants in the transmigration areas also outspend the transmigrants in those categories. For durable items like furniture, mattresses and bedding,
kitchen utensils and household items the expenditure levels are about the same. The lowest spending group in each case being the tidal transmigrants. Finally, in the case of durable goods, the expenditure of the transmigrants is quite restrained relative to the three non-transmigrant categories.

The last two categories relate to services; "taxes and insurance" and "ceremonial costs". In the former case the transmigrants expenses are considerably lower than non-transmigrant households; in the latter they are about the same for the tidal farmers, but the dryland transmigrants outspend the next closest group by 130 rps per capita per month.

Total per capita expenditure on non-food is considerably lower for the transmigrant households, but the most significant part of this saving is derived from housing and energy (say a saving of 1500 rps per month). Lower expenditures on the clothing group contribute a further 2200 rps per capita per month. There may be social reasons for this particular expenditure difference.

The upshot is that one cannot base a welfare comparison of transmigrant versus non-transmigrant households on simple expenditure levels. By that criterion it would appear that non-transmigrant households in the transmigrant areas are better off than any other group, with rural Javanese households next and the transmigrants a poor third. Whilst it may be true that the nontransmigrant/transmigrant area households are better off than any other group the relative price effects which show up in food consumption and the higher expenditures of the Javanese on housing and energy point to a reversal of the above ordering. As the survey questions on welfare compared to area of origin indicate, the transmigrants appear better off than their counterparts in rural Java.

Table 30

## Unit Values for Food Items

$\left.\begin{array}{llll}\text { transmig transmig } & \text { non- } & \text { rural } & \text { rural } \\ \text { dryland } & \text { tidal } & \text { transmig } & \text { Java 1 }\end{array}\right]$ Java 2

| rice | 3.1 | 3.0 | 3.7 | 3.1 | 2.9 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| fresh corn | 1.0 | 1.3 | 1.3 | 0.9 | 1.1 |
| dry corn | 1.2 | 1.25 | 1.53 | 1.12 | 1.0 |
| ground corn | 1.2 | 1.1 | 1.5 | 1.1 | 1.2 |
| cassava | 0.3 | 0.3 | 0.7 | 0.5 | 0.5 |
| ground cassava | 0.4 | 0.9 | 0.9 | 0.8 | 0.5 |
| sweet potato | 0.7 | 0.5 | 4.5 | 2.6 | 1.3 |
| other starch | 0.6 | 0.6 | 1.3 | 0.8 | 0.7 |
| fish | 1.0 | 1.1 | 4.6 | 2.6 | 3.2 |
| meat | 2.5 | 2.1 | 13.1 | 16.2 | 21.5 |
| eggs | 0.8 | 0.9 | 1.0 | 0.7 | 0.6 |
| milk | 0.9 | 2.0 | 11.5 | 11.6 | 16.2 |
| vegetables | 1.0 | 1.0 | 6.6 | 4.7 | 4.3 |
| beans | 0.7 | 0.6 | 7.1 | 8.1 | 8.9 |
| fruit | 0.6 | 0.7 | 3.2 | 3.3 | 3.7 |
| other | 2.0 | 2.0 | 19.6 | 21.8 | 23.8 |
| proc food | 0.7 | 0.8 | 7.4 | 13.0 | 16.1 |
| tobac \& alcohol | 1.1 | 1.3 | 2.0 | 2.5 | 2.0 |

Finally, the calculated unit values (prices) are presented in Table 30. These show some discrepancies which point to quality differences between the items being considered. Prices for basic staples, rice through to other starch are within acceptible ranges of one another; fish and eggs likewise. Meat and all other items in the food budget, except alcohol and tobacco are very much dearer in Java and other areas. Whilst this may be plausible for milk, vegetables, beans and fruit; the most likely explanation for the remaining items is that different items are being consumed in those categories. An example would be if processed foods in the transmigrant areas are predominantly necessities, whilst in Java relative luxuries are included.

## 6. Preliminary Conclusions

The first part of the analysis was a simple collection of tables, or a two way classification of variables which might be related to income determination. One minor embellishment over usual reports of this kind was that standard errors were calculated and included. The result of this inclusion was that most trends in the tables were, in fact, an illusion. At first glance this seems disappointing; however, the presence of predominantly negative results indicates how complicated are the factors in determining which transmigrants will be successful in an income generation sense.

Many of the results in Section 3 are important in their own right. Duration of time since transmigration appeared unimportant (Table 8); however, this could be a counfounding of a number of other effects. For example, a better selection of sites in later years. Education, appeared important, if the standard errors are ignored; yet, a closer examination of the results reveals that it is wage, not farm income, which is driving this result.

Tidal farmers are pretty conclusively shown as being worse off than any other group - something which was known already. Settlement type, per se, makes very little difference. It also appears to make very little difference which type of transmigrant is being considered, once the persions of the military settlers are removed. One exception to this is the local transmigrants, who do appear to fare better, and this could be attributed to greater participation in sharecropping and other activities. There is a slight upward trend by age of head of household, but this is
probably a reflection of the number of adults in the household increasing with the age of its head.

A collection of detailed responses to the questionaire, by subdistrict, are presented in Section 3.3. It is difficult for the non-specialist to appraise these, and they are left to the reader. In passing one can note that the response to the health question by the tidal farmers is much the same as that of the dryland farmers. Further detailed results are given in Appendix $B$ and the reader is referred to pages 41 and 42 for a discussion.

Because of the problems of separating all possible influences on income, regression analysis was tried in Section 4. The complications casued by the Tobit nature of the problem for income subcategories, meaning that one needs to forecase whether a household will ayail itself of an income source and then how much it will earn, led to the use of least squares and then adjusted least squares estimation. Neither was particularly successful and more work needs to be done to explain subcategory income. As all households earn some income these problems do not relate to the total category. The results in Tables 25 and 27 indicate that very few of the explanatory variables are statistically significant. Number of adults is important (age of head is not). The amount of land pened is not significant; however, the presence of a fish pond is. Some subdistricts show significant positive influences, some negative; more detailed knowledge could make sense of this. Education shows up as an unimportant factor in determining total income. However, being a military transmigrant results in a statistically significant income boost of 35155 rps. On the other hand, if the household head was a farmer in his area of origin, all other influences removed, he (or she) will tend to have a lower income (and that result is statistically significant). Finally, four factors
which significantly and positively affect total household income: land ownership in area of origin and marketing arrangements for cash income from tree crops. Despite the multitude of explanatory variables used, the regression equation only accounts for $22 \mathscr{F}$ of the variation in total income. In itself that is quite enlightening and could be interpreted as, (i) an indication of a need for further work or, (ii) an indication of the essential randomness of the data.

Section 4 considers the well-being of the transmigrants by looking at consumption rather than income data. This was an obvious strategy in the absence of price information enabling inter-spatial comparisons. Unfortunately, the absence of detailed household information on the extracts of the Susenas tapes made available to the author made comparison of equivalent households impossible. The results below are just a comparison of household consumption in the transmigrant areas with those in rural Java. It would be possible to select a subdistrict in rural Java for further comparisons, but the results on food consumption, in particular, strongly suggest the transmigrants are much better off than their compatriots in rural Java. The quantity comparisons indicate per capita consumption levels so much higher that one is left with doubts about the quality and cleanlieness of the data. The results are given in Tables 28 and 29 and discussed in the adjacent pages.

This represents a preliminary report, there is clearly a need for a great deal of further work, in collaboration with an Indonesian specialist, if one is to be able to extract a more positive story on the income determination side.

## USER GUIDE TO 1984 TRANSMIGRATION DATA

FILENAME: TRANSDAT
LOCATION: Bocked up on TSR tape 600142
FORMAT: Free format voriable length integer records (locked)

## RECORD DESCRIPTION:

There are 13 record types identified by the first digits. Types 1, 12 and 13 relate to the original type 01 records in the raw transmigration dota topes.

Record Type 1
Location and Basic Information
Item 1 record type
2 Repelito (2 or 3)
3 type of settlement (for Rep 21=dry land, 2=estate, $3=$ tidal) but ( for Rep 3, 1=small dry, 2=large dry, 3=estate, 4=tidal)
4 Province-district-subdistrict; 6 digit record
5 sample number
6 family number.
7 number of family members

## Record Type 12 Family member information

Item 1 record type (12)
2 number of family member
3 relation to head(1=head, $2=$ wife, husband, $3=$ child, 4=nephew,niece, $5=$ grandchild, $6=$ grandparent, $7=$ relative, $8=8$ ervant, $9=0$ ther)
4 sex ( $1=$ male, $2=$ femole )
5 age
6 education( $1=$ no school, $2=$ not compl. primary, $3=$ primary,
$4=$ not compl high 8 chool, $5=$ high school, $6=$ college,
$7=$ university)

Item 1 record type (13)
2 year of arrival
3 province of origin
4 Kabupaten of origin
5 type of transmigrant (1=sponsored, 2= spontaneous, $3=$ military, $4=$ local)
6

## received income

28
29 comparison of current income to income two years ago ( 1 =more, 2=less, 3=same, 4=other)

## Record Type 2

| Item 1 | record type (2) |  |
| :--- | :--- | :--- |
| 2 | govt allocation | wetland (hectare-3digits |
|  |  | $0.00)$ |
| 3 |  | dryland |
| 4 |  | total |
| 5 | how much received | wetland |
| 6 |  | dryland |
| 7 |  | total |
| 8 | how much opened by govt | wetland |
| 9 |  | dryland |
| 10 |  | total |
| 11 | opened by transmigrant | wetland |
| 12 |  | dryland |
| 13 |  | total |
| 14 | total opened | wetland |
| 15 |  | dryland |
| 16 |  | total |
| 17 | unopened | wetland |
| 18 |  | dryland |
| 19 |  | total |
| 20 | used by others | wetland |
| 21 |  | dryland |
| 22 |  | total |
| 23 | land sold or rented | wetland |
| 24 |  | dryland |
| 25 |  | total |
| 26 | omount under your control | wetland |
| 27 |  | dryland |
| 28 |  | total |
| 29 | under dispute | wetland |
| 30 |  | dryland |
| 31 |  | total |
|  |  |  |

## 4

```
Record Type 3 Land Use
Item 1 Record type (3)
    2 Irrig sowah (0,00 ho)
    3 tidal
4 bunded
5 other (eg swomp)
dry fields
fish ponds
8mallhold tree crops
9 other
10 sub-total
Non-agricultural land
11 business yard
12 unused sowor
13 dryfields
14
15
17 more or less land cultivated than two years ago (1=more,
    2=less, 3=same, 4=other)
18 If less, why? (1=doesn't pay, 2=no time, 3=not enough
    labour, 4=other)
```

| Record Type 4 |  |  |  |
| :---: | :---: | :---: | :---: |
|  | Yields, Expenses and Income from Food Crops |  |  |
| Item 1 | record type(4) |  |  |
| 2 | type of crop |  |  |
| 3 | harvested area |  |  |
| 4 | production |  | kilos |
| 5 |  |  | value |
| 6 | seed | prod sendiri | kilos |
| 7 |  |  | value |
| 8 |  | pembelion | kilos |
| 9 |  |  | value |
| 10 |  | pembagion | kilos |
| 11 |  |  | value |
| 12 | fertilizer | pembelian | kilos |
| 13 |  |  | volue |
| 14 |  | pembagion | kilos |
| 15 |  |  | value |
| 16 | pesticide | pembelion | kilos |
| 17 |  |  | value |
| 18 |  | pembagion | kilo |
| 19 |  |  | value |
| 20 | manure |  | value |
| 21 | labour payment |  | value |
| 22 | taxes |  | value |
| 23 | other expenses |  | value |
| 24 | payment in kind |  | kilos |
| 25 |  |  | value |
| 26 | subtotal |  |  |
| 27 | income |  |  |
| 28 | amount sold |  | kilos |
| 29 |  |  | value |
| 30 | place sold ( $1=m$ | orket, 2=teng | lok, $3=$ co-0p, $4=0$ ther) |

## Record Type 5

## Yield, Expenses and Income from Estate Crops

| Item 1 | record type(5) |  |  |
| :---: | :---: | :---: | :---: |
| 2 | type of crop |  |  |
| 3 | harvested areo |  |  |
| 4 | production |  | kilos |
| 5 |  |  | value |
| 6 | seed | prod sendiri | kilos |
| 7 |  |  | value |
| 8 |  | pembelion | kilos |
| 9 |  |  | value |
| 10 |  | pembagion | kilos |
| 11 |  |  | value |
| 12 | fertilizer | pembelion | kilos |
| 13 |  |  | value |
| 14 |  | pembagion | kilos |
| 15 |  |  | value |
| 16 | pesticide | pembelian | kilos |
| 17 |  |  | value |
| 18 |  | pembagion | kilos |
| 19 |  |  | value |
| 20 | manure |  | value |
| 21 | labour payment |  | value |
| 22 | taxes |  | value |
| 23 | other expenses |  | value |
| 24 | payment in kind |  | kilos |
| 25 |  |  | value |
| 26 | subtotal |  |  |
| 27 | income |  |  |
| 28 | amount sold |  | kilos |
| 29 |  |  | value |
| 30 | place sold ( $1=$ market, 2=tengkulak, $3=$ co-0p, 4=0ther) |  |  |

## Record Type 6

## Income from Other Activities

```
Item 1 record type(6)
    2 source(1 1=cottle,12=poultry, 13=oth livestock, 14=0ther,
        milk eggs, 19=sub-totol, 20=fish, 30=forestry labour,
        41=industry/handcrafts, 42=trade, 43=0ther construction)
    3 production(value)
    4 sales(value)
    5 consumed or given away
    6 sub total
    7 cost of production
    8 income
```


## Record Type $7 \quad$ Other Income last Manth

Item 1 record type
2 wages received by hh members
3 pensions
4 rent \& share cropping
5 other agricultural income
6 other non-agricultural income
7 other income
8 total
9 money received
10 inheritance
11 gifts
12 total in
13 money sent
14 gifts given
15 total out

## 6

## Record Type 8

Other Financial Items last Month
Item 1 record type (8)
2 Incoming
sole of valuables
sale of non-portable assets
sole of possessions
sovings withdrawls
insurance
repoyment of loans
powning
lottery
other
11
12
13
14
15
total incoming
Outgoing
purchase of valuables
purchase of non-portable goods
assurance premiums
savings
paying off loans
recovery from powning
lottery payments
other outgoings
total outgoings

| Record Type 9 |  | Assistance from Government |  |
| :---: | :---: | :---: | :---: |
| Item 1 | record type (9) |  |  |
| 2 | agricultural inputs | seed | cost |
| 3 |  |  | value |
| 4 |  | fertilizer | cost |
| 5 |  |  | volue |
| 6 |  | pesticide | cost |
| 7 |  |  | volue |
| 8 | agricultural implements |  | volue |
| 9 | cottle |  | cost |
| 10 |  |  | value |
| 11 | other assistance |  | value |
| 12 | Receiving subsistence suppor | ( $Y=1, N=2$ ) |  |
| 13 | If yes, since | (4) digit |  |
| 14 | Volue of subsistenc payment |  |  |
| 15 | Value of total assistance in | t year |  |
| 16 | Income |  | food crops |
| 17 |  |  | estate crops |
| 18 |  |  | livestock |
| 19 |  |  | other ag. |
| 20 |  |  | non-ag |
| 21 |  |  | other inc |
| 22 | incoming transfer payments |  |  |
| 23 | outgoing transfer payments |  |  |
| 24 | other funds coming in |  |  |
| 25 | other funds going out |  |  |
| 26 | government support |  |  |
| 27 | total income |  |  |

## Record Type 10

Consumption Expenditure


## Record Type 11

## Family Welfare

Item 1



## record type (11)

how does hh income compare to before migration (1=better, 2=worse, 3=just as good, 4=just as bad) how does hh income compare with two years ago (1-4) main source of income in area of origin ( $1=$ foodcrops, 2=treecrops, $3=$ livestock, 4=fish, 5=non-og, 6=other)
main source of income two years ago fomily members away at primary school ( $1=Y, 2=N$ ) family members away at jr. high ( $1=Y, 2=N$ )
Is chance of getting primary education better or worse than in area of origin? (1=better, 2=worse, 3=just as easy. $4=j u s t$ as hard)
Is chance of getting to jr high better or worse than in area of origin ( $1-4$, as above)
transportation compared to area of origin (1-4, as above) health compored to aree of origin (1=better, 2=worse, $3=$ just 08 good, $4=j u s t$ as bad) if sick, compare medical services to area of origin (1-4) housing compared to orea of origin (1-4) what have you done to improve your housing ( $1=$ improved quality, 2=expanded, 3=both, $4=$ neither)
possessions
be

| bed | before <br> after <br> before |
| :--- | :--- |
| dresser | ofter <br> before <br> ofter |
| sitting room suite | before <br> ofter <br> before <br> after |
| eating table \& chairs | before <br> ofter |
| pressure lamp |  |
| sewing machine |  |

## possessions (cont.)

rodio, recorder
T.V.
cort
bicycle
motor bike
boat
gold(gram)
cottle(number)
did you own land before moving ( $1=Y, 2=N$ )
how much land do you still own in your area of origin ( $00,00 \mathrm{ha}$ )
still own land in area of origin ( $1=Y, 2=\mathrm{N}$ )
if so, how much (4 digits)
When in area of origin did you own a house (Y/N)
if yes, area (sq metres)
do you still have o house in area of origin (Y/N)
before
after
before
ofter
before
after
before
after
before
ofter
before
ofter
before
after
before
ofter

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline wroni cruss \& chasima \& ar locatiot. \& vo income of \& estock \& other matic \& non agric \& <br>
\hline Saber \& $\checkmark 5$ \& 1006.60 \& 1369.45 \& 6E72.70 \& 2787.55 \& 7867.4. \& $55_{56806}$ <br>
\hline Stite \& ${ }^{5}: \frac{3}{6}$ \&  \& 6653:93 \& 15xe: ${ }^{\text {ch }}$ \& 1779.75 \& 2827.08 \& S6Ps.31 <br>
\hline Ans 4 c \& ${ }^{1}$ : 3 32 \& 1636
1826.75
18 \& 3030.:52 \& 5759.92 715 \& 5087.27 \& 37578.77
$\geq 2988.05$ \& 30040.63
3760.18 <br>
\hline si \&  \& 7695.35 \& 3878:91 \& ${ }^{1858} 59$ \& 288:03 \& ${ }_{1}^{13} 9363678$ \& 303935:98 <br>
\hline  \& 970.37 \& -18590: 25.18 \& 40.89\% \& 6516:26 \& ${ }^{27} 8.37$ \& 3569:37 \& ${ }^{17} 7646.74$ <br>
\hline  \& ${ }^{36}: 9.15$ \& 243280 \& 159783.58 \& 61188.73 \& 2:03 \& 9607:50 \& 226759590 <br>
\hline  \& \$10:90 \&  \& 3:00 \& 3800:00 \& 29001.037 \& 2522:40 \& 71563.00 <br>
\hline TO"EAnsions \& 238:\% ${ }^{\text {d }}$ \&  \& 79779:86 \& 298:06 ${ }^{6}$ \& \{2¢ 51.87 \& ${ }^{38867} 31726$ \& 2e9560:30 <br>
\hline  \& 297.20 ${ }^{2}$ \& ${ }^{12219} 88.9 .928$ \& 1589 \& 4650:32 \& ${ }^{12923} 51215$ \& ${ }^{25580} 1624.63$ \& 3713728:25 <br>
\hline  \& 1710:98 \& 9680:75 \& 38012.85 \& 2907:25 \& ${ }^{9850} 908$ \& ${ }_{162}^{2268} 8.85$ \& 3178183.75 <br>
\hline  \& \% $1: 3020$ \& 14525:07 9 \& 3.00 \& 6227:65 \& 196.88
3 \& 38291.50
1619.65

1985 \& ${ }^{8506.25} 75$ <br>
\hline  \& ${ }_{6}^{62}: 6.58$ \& ${ }^{1332515} 97.78$ \& 158:75 \& 2688096 \& 126:888 \& ${ }^{2} 18185353.32$ \& 32122.31 2616 <br>
\hline  \& 9575.50 1458 \& ${ }^{11376} 898.19$ \& ${ }^{2} 288$ \& 31717:983 \& 372: 98 \& ${ }^{11564} 76397$ \& 26203.57 <br>
\hline STE NER \&  \&  \& 1:87\% \& 2511.59 \& 1 33$\}: 8{ }^{\text {\% }}$ \& $4{ }^{15858} 8.38$ \&  <br>
\hline suple sis \&  \& 95959.02 \& 2568.36 \& 456.976 \& ${ }_{1}^{80}$ : 515 \&  \& 480142.25 <br>

\hline  \& 8235:36 \& | 12503.86 |
| :--- |
| 1037 |
| 185 | \& ${ }_{5}^{8}: 72$ \& ${ }^{1268} 8.80$ \& ${ }^{2505} 9.85$ \& ${ }^{15563} 13500$ \& $32078: 32$

1267202 <br>
\hline STMEE \& ${ }^{175}$ : 0 : 6 \& 1903\% 16010 Re \& 18368:76 \& 4008.95 \& ${ }^{31}: 40$ \& 219972:48 \& 20527:25 <br>
\hline  \& 113255: 6 ¢ 29 \&  \& ${ }^{1}: 145$ \& ${ }^{8095} 59.11$ \& 860.02 \& 92700:88 \& $18671: 28$
207109 <br>
\hline City \& $75: 88$ \& 8795:50 \& 2.98 \& 75:88 \& 91295:95 \& 26067:88 \& 48565.59 <br>
\hline (uitis 120 \& ${ }^{19} 1.68$ \& ${ }^{4976.78} 8$ \& ${ }^{1}: 97$ \& 1671:79 \&  \&  \& 13019:39 20918 <br>
\hline  \& 349999.96 \& 91218:36 \& \$09:78 \&  \&  \& 13959\%:86 \& 113196:9\% <br>
\hline  \& 66:83 \& 12710.788
888.98 \& ${ }_{56}^{204.20}$ \& 3212.96

40158 \& | 383 |
| :--- |
| 78.68 |
| 88 | \& 28846.55 \& 36283.488

2660.988

28885 <br>

\hline  \& 77:58 \& 9446:189 \& 2. Ef $_{10}$ \& 35599. 816 \& 2993:78 \& 13333:88 \& | 27861.25 |
| :--- |
| 6863 |
| 888 | <br>

\hline  \& 195.08 \& 7697.85
677 \& ${ }^{2} .805$ \& ${ }^{2} 4888.105$ \& ${ }^{88} 878$ \& 23999980 29818 \& 12032.75
1083
105 <br>
\hline  \& 200:88 \& ${ }^{198988.15}$ \& 1:29 \&  \& \}¢¢5:88 \& 22510:90 \&  <br>
\hline  \& 83:25 \& 22542.65 \& \$980.7.5 \&  \& 8000:00 \& 868530.25 \& 488881.75 <br>

\hline | SARPEE 4 |
| :--- |
| Stitnss | \& $\left.{ }^{9} 97.72\right\}$ \& 3 3888989 \&  \& 92411:95 \& 188.13 \& 11380.85 \&  <br>

\hline Plem ${ }^{\text {cte }}$ \& 80:.50 \& 9655798.00 \& ${ }^{162315} 685$ \& 2154.635 \& 16959:979 \& 78887.50 \& 40528.75
3346.20 <br>
\hline Sixphe $=20$ STOLEREORS \& 13.50 \& 203368.85 \& 7965.18 \& 2096:35 \& 4178868 \& 119695: ${ }^{\text {¢ }}$ \& 33858:98 <br>
\hline  STE ERRORS \& 28:96 \& 10412:97 967 \& ${ }_{3180}^{88} .15$ \& ${ }_{6}^{6777} 8858$ \& ${ }^{17748} 1372.48$ \& 16756:82 \& 32967.58 2300.32 <br>

\hline $$
\text { PRE } 110
$$ \& 5 ${ }_{5}$. 78 \&  \& ¢78\%: 28 \& ${ }^{517} 705.68$ \& 90782:53 \& 27541.50 \& 253885.18 <br>

\hline  \& 69:3发 \& 1169\%:78 \&  \& 2738:797 \& 368\% 3 \% ${ }^{\text {\% }}$ \& 2 E 596.95 \& 20¢5¢57: 4 \% 3 <br>
\hline
\end{tabular}

|  | teaus lit | thans out | ano income | other out | covt oric | ¢12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1470.5:58 | 14890:35 | ${ }_{3}^{1767672.95}$ | 20122: 80 | 9752:06\% |  |
|  | ${ }_{80} 877.36$ | 3125: ${ }_{110}^{10}$ | 2668.75 | 2676:32 |  | 78011:25 |
|  |  |  |  |  |  |  |
| Sithe | 2415 ¢ 208 | 2867:13 | ${ }^{14380} 278087$ | 2826:79\% | 11880:7\% 714 | ¢ 565858 |
|  | 30.05 | 5313:16 | 11.3737 | 77720:11 | 2895:59 | 67530 $2186: 53$ |
|  | \$5929:80 | 198555000 | ${ }_{15925}^{1585} 9$ | 10975 336 | 110.03 6.71 | 54858.75 4.160 .36 |
|  | 119888:969 | 1937:35 |  | 3 3 ¢ 3 : 59 | 3333:88 | $9985\} 3: 86$ |
| SAMPEEES 80 SIP ERPors | 159115:727 | 4939.71 68086 | 28022.06 | 112659.63 | 385:67 | 517711:20 |
| SI | 13705:77 | 83331:28 | 20000:85 | 247800888 | 8159:12 | ${ }^{6} \mathbf{6} 5480088.25$ |
|  | 12885:60 |  | f60601.77 | 22596:30 | 32450:20 | ${ }^{56030} 535: 16$ |
|  | 6610:931 | 23 2cie: 20 | 5675:00 | 1228888 | 1842:37 | ${ }_{3}^{35114685}$ |
|  | 7901:93 | 3465.737 | 71918:28 | 6409:76 | 2086:33 | S6106\%:05 |
| SAYPLE 261 | 62995:57 | S009:39 | 8009:993 | 1890.70 88 | 823:45 | "17820:07 |
|  | 108789896 | 13901:07 | 12092.962 | ${ }^{1797} 296824$ | ${ }^{2325} 12.19$ | 355775.65 |
|  | ${ }^{1641724: 80}$ | 90196. 973 | 219868818 | 88150:084 | 4821.73 | 7 921898.85 |
| STMPENE 101 | 6320.31 | 16700:30 | 28831.23 | 8999.93 | 34959 | 55285:98 |
|  | 1385339:973 | 2\}เชิ: ${ }^{\text {¢ }}$ | 85196.988 | 58824:4\% | 181:90 | 796272:82 |
|  | 207\% 2085 | 1530 4765 | 26639:50 | 885:39 | 1190985 | 51258.05 |
|  | 564. ${ }_{3}$ | 2:88 | 4550789 | 5:88 | 5042:8\% | 71368.86\% |
|  sio frbors | 11523.51 | 1958.37 <br> 39.22 | 10216:78 | 2390.62 | ${ }^{217212,313}$ | 8717:11 292:28 |
|  | 1996:90 | 3571:98 | 12378:8929 | - 36092.63 | 7933:26 | 331333:91 |
|  | 15¢¢: 5 \% | 2¢ici:36 |  | ${ }^{26} 36: 30$ | ${ }^{6} 199$ :3? | 2989\%能 |
| 20 | 35750:00 | 2680.00 34305 | 12438.30 7703 | ${ }_{2635}^{530685}$ |  | 12esti.30 |
| ${ }_{\text {ors }}{ }^{20}$ | 3890:00 | 400:80 | ${ }_{11}^{81} 163$ | $811: 37$ | 5516:75 | ${ }^{31} 179753.75$ |
|  | 216160:60 | 2519, 817 | ${ }^{3590} 1103.85$ | 68079:50 | ${ }^{4} 863.485$ | 45752:90 |
| SAMP STDERRORS | 98, 9 ¢ 58 | 52.75 | 237481:107 | \$1599:75 | 137.25 | 111802.35 |
|  STEANRSORS | Esfers: 17 |  | 8698:36 | 188998: 89 | ${ }^{51} 182: 39$ | 933 356.5 |
|  |  | 23770.c0 | 3564:35 | ${ }^{427} 273025$ | 2277:19 | 167321:40 |
|  | 159880:35 | 2700:68 | 10758: 48 | ¢88: ${ }^{3} 8$ | 259:63 | 7588980 |
|  | 171773:39 | 88907: 26 | 125353:07 | 2350921 | 33:87 ${ }^{\text {¢ }}$ | ${ }_{5}{ }_{5}$ |
|  |  |  |  |  |  |  |
|  | 1066:99\% | 17978:13 | 96070:19 | 2203:9\% | ${ }^{27} 888895$ | 87996:60 |
| Stotereme | ¢¢¢ 98.50 | 216900\% | 16312.32 | 107585 | 120429:27 | 09310:00 626 |


|  | BETTER | WORSE | JUST AS GOODJUST | AS BAD |
| :---: | :---: | :---: | :---: | :---: |
| $140102$ <br> FREQUENCIES | 12 | 6 | 1 | 1 |
| 140104 L | 19 | 13 | 7 | 1 |
| 140108 | 78 | 46 | 50 | 5 |
| FREQUENCIES |  |  |  |  |
| FREQUENCIES | 18 | 1 | 0 | 0 |
| FREQUENCIES | 10 | 0 | 10 | 0 |
| 140404 CIES | 17 | 2 | 1 | 0 |
| 160109 des | 50 | 21 | 9 | 0 |
| 160110 |  |  | 15 | 2 |
| FREQUENCIES | 34 | 9 | 15 |  |
| FREQUENCIES | 34 | 1 | 5 | 0 |
| FREQUENCIES | 28 | 4 | 8 | 0 |
| 160204 $F$ CREUENCIES | 78 | 105 | 13 | 5 |
| 160205 ${ }^{\text {FREQUENCIES }}$ | 132 | 62 | 37 | 3 |
| 160212 | 90 | 14 | 15 | 0 |
| 160374 NTES | 18 | 12 | 29 | 0 |
| FREQUENCIES | 18 | 12 |  |  |
| FREQUENCIES | 56 | 22 | 23 | 0 |
| FREQUENCIES | 5 | 2 | 32 | 1 |
| GREQUENCIES | 5 | 3 | 17 | 0 |
| 62020 ? | 9 | 4 | 5 | 2 |
| 620401 | 30 | 61 | 27 | 2 |
| 620413 Cles |  | 33 | 48 | 27 |
| FREQUENCIES | 32 | 33 |  |  |
| FREQUENCIES | 93 | 25 | 41 | 15 |
| FREQUENCIES | 9 | 0 | 11 | 0 |
| O30403 FREQUE CIES | 8 | 2 | 1 | 9 |
| $\begin{aligned} & 630408 \\ & \text { FREOUENCIES } \\ & 640104 \end{aligned}$ | 11 | 2 | 3 | 4 |
| frequencies | 13 | 2 | 5 | 0 |
| FREQUENCIES | 19 | 6 | 8 | 7 |
| G40215 ${ }^{\text {FREQUENCIES }}$ | 17 | 1 | 2 | 0 |
| 647101 |  | 7 | 2 | C |
| FREQUENCIES | 11 | 7 |  |  |
| FREQUENCIES | 87 | 2 | 10 | 1 |
| FREQUENCIES | 69 | 10 | 39 | 1 |
| FREQUENCIES | 33 | 4 | 2 | 1 |



Table B4


|  | AG | tree | Stock | FISH | NON AG | Other |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14J10? <br> fregufncies | 14 | 0 | $\bigcirc$ | 1 | $\bigcirc$ | 5 |
| 14. ${ }_{\text {PREUENCIES }}$ | 29 | 0 | 0 | 0 | 1 | 10 |
| $14010^{\circ}$ <br> fREQUENCIES | 101 | 5 | 0 | 2 | 7 | 65 |
| FREQUENCIES | 14 | 2 | 0 | 0 | 2 | 1 |
| 140205 | 18 | 0 | 0 | 0 | 1 | 1 |
| FREQUENCIES 143404 | 18 |  |  |  | 1 | 1 |
| FREQUENCIES | 3 | 4 | 0 | 0 | 3 | 10 |
| FREQUENCIES | 41 | 21 | 1 | 0 | 3 | 14 |
| FREQUENCIES | 19 | 2 | 1 | 2 | 8 | 28 |
| FREQUENCIES | 16 | 3 | 0 | 0 | 2 | 19 |
| FREQUENCIES | 13 | 0 | 0 | 0 | 0 | 27 |
| FREQUENCIES | 133 | 2 | 1 | 2 | 4 | 59 |
| FREQUENCIES | 166 | 3 | 1 | 2 | 10 | 59 |
| FREQUENCIES | 92 | 2 | 0 | 0 | 2 | 24 |
| FREQUENCIES | 26 | 4 | 0 | 0 | 3 | 26 |
| FREGUENCIES | 42 | 2 | 1 | 0 | 13 | 43 |
| FREQUENCIES | $\geq 1$ | 4 | c | 0 | 1 | 4 |
| FREQUENCIES | 15 | 0 | 0 | 0 | 1 | 24 |
| FREQUENCIES | 3 | 0 | 0 | 1 | 3 | 13 |
| 623401 |  |  |  |  |  |  |
| FREQUENCIES | 62 | 4 | 1 | 7 | 6 | 40 |
| FPEQUENCIES | 71 | 1 | 1 | 1 | 3 | 63 |
| FREQUENCIES | 74 | 1 | 0 | 1 | 15 | 86 |
| FREQUENCIES | 8 | 0 | c | 0 | 0 | 12 |
| FREQUENCIES | 17 | 0 | 0 | 1 | 2 | 0 |
| FREQUENCIES | 12 | 0 | $\bigcirc$ | 0 | 0 | 8 |
| $\begin{aligned} & \text { FREQUENCIES } \\ & 640109 \end{aligned}$ | 11 | 1 | 1 | 1 | 0 | 6 |
| FREQUENCIES | 25 | 0 | C | C | 1 | 14 |
| FREOUENCIES | 18 | 0 | c | 0 | 0 | 2 |
| FRERUENCIES | 6 | c | 1 | 3 | 0 | 4 |
| 72J?14 ${ }_{\text {FREIES }}$ | 36 | 2 | 1 | 0 | 21 | 39 |
| FREOUENCIES | 23 | 3 | 5 | 2 | 18 | 58 |
| FPGUENCIES | 17 | 3 | , | - | 4 | 14 |
|  |  |  |  |  |  |  |



Table B9



secondary education better or worse than in area of origin


Table B13


| 143102 | 3ETTER | WORSE | AS GOOD | AS | EAD |
| :---: | :---: | :---: | :---: | :---: | :---: |
| FREOUENCIES | 4 | 3 | 13 |  | 0 |
| FREQUENCIES | 21 | 1 | 18 |  | 0 |
| FREQUENCIES | 64 | 23 | 92 |  | 1 |
| FREQUENCIES | 1 | 4 | 14 |  | 0 |
| FREQUENCIES | 5 | 0 | 15 |  | 0 |
| FREQUENCIES | 8 | 2 | 10 |  | 0 |
| FREQUENCIES | 31 | 6 | 43 |  | 0 |
| frequidincies | 27 | 8 | 25 |  | 0 |
| frequencies | 26 | 3 | 10 |  | 0 |
| FREOUENCIES | 15 | 4 | 21 |  | 0 |
| FREQUENCIES | 66 | 58 | 76 |  | 1 |
| FREQUENCIES | 58 | 32 | 149 |  | 2 |
| fREQUENCIES | 83 | 7 | 30 |  | 0 |
| 160374 |  |  |  |  |  |
| FREQUENCIES | 11 | 6 | 42 |  | 0 |
| FREQUENCIES | 36. | 8 | 57 |  | 0 |
| FREQUENCIES | 21 | 0 | 19 |  | 0 |
| FREOUENCIES | 6 | 4 | 30 |  | 0 |
| FREQUENCIES | 3 | 0 | 17 |  | c |
| FREQUENCIES | 70 | 10 | 40 |  | 0 |
| FREQUEINCIES | 37 | 9 | 90 |  | 4 |
| FREOUENCIES | 70 | $1 \varepsilon$ | 90 |  | 0 |
| FREQUENCIES | $\delta$ | 1 | 11 |  | 0 |
| FREQUENCIES | 11 | 3 | $\epsilon$ |  | 0 |
| FREQUENCIES | 11 | 1 | $\varepsilon$ |  | 0 |
| frequencies | 7 | 1 | 10 |  | 1 |
| FREQUENCIES | 20 | 2 | 17 |  | 1 |
| frénuencies | 8 | 1 | 11 |  | 0 |
| freoulencies | 16 | 0 | 4 |  | c |
| 720314 |  |  |  |  |  |
| FREGUENCIES | 67 | 9 | 24 |  | 0 |
| frequencies | 52 | 12 | 54 |  | 0 |
| 74)?14 |  |  |  |  |  |
| frequencies | 20 | 6 | 14 |  | 0 |



|  | better | WORSE | AS G000 | AS | BAD |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $14310 ?$ <br> frequeincies | 10 | 5 | 3 |  | 2 |
| 140104 |  |  |  |  |  |
| FREQUENCIES 140108 | 25 | 9 | 6 |  | c |
| FREQUENCIES | 84 | 59 | 37 |  | 0 |
| FREQUENCIES | 14 | 2 | 3 |  | 0 |
| FREQUENCIES | 15 | 0 | 5 |  | 0 |
| FREQUENCIES | 7 | 8 | , |  | 0 |
| 16J109 FREQUNCIES | 57 | 12 | 11 |  | 0 |
| 165110 |  |  |  |  |  |
| FREGUENCIES | 27 | 14 | 18 |  | 1 |
| FRESUENCIES | 22 | 11 | 4 |  | 3 |
| FREQUENCIES | 35 | 0 | 5 |  | C |
| 16REGUENCIES | 102 | 59 | 30 |  | 10 |
| FREQUENCIES | 134 | 3.4 | 66 |  | 7 |
| FREQUENCIES | 53 | 23 | 44 |  | 0 |
| FREQUENCIES | 21 | 12 | 26 |  | 0 |
| 160605 CIES |  | 16 |  |  | 0 |
| FREQUENCIES 160607 | 53 | 16 | 32 |  |  |
| FREQUENCIES | 32 | 3 | 5 |  | 0 |
| FREQUENCIES | 10 | 9 | 15 |  | 0 |
| FREQUENCIES | 11 | 2 | 7 |  | 0 |
| FREQUENCIES | 55 | 16 | 44 |  | 5 |
| 620413 |  |  |  |  |  |
| FREQUENCIES | 72 | 7 | 50 |  | 11 |
| fregutncies | 100 | 27 | 51 |  | 0 |
| 630211 |  |  |  |  |  |
| $\begin{aligned} & \text { FREQUENCIES } \\ & 63040 \text { ? } \end{aligned}$ | 10 | 6 | 4 |  | 0 |
| FREQUENCIES | 18 | 1 | 1 |  | 0 |
| FREQUENCIES | 14 | 1 | 5 |  | 0 |
| FREQUENCIES | 13 | 4 | 2 |  | 0 |
| FREQUENCIES | 15 | 6 | 17 |  | 1 |
| FFEDUENCIES | 9 | 2 | 8 |  | $\bigcirc$ |
|  | 15 | 2 | 3 |  | c |
| 720?14 | 75 | 12 | 12 |  | 1 |
| $\begin{aligned} & \text { FREOUE } \\ & 740307 \end{aligned}$ |  |  |  |  |  |
| FREOUENCIES | 95 | 16 | 7 |  | 1 |
| frequealies | 15 | 16 | 9 |  | C |

Table B17

WHAT HAVE YOU DONE TO IMPROVE YOUR HUUSING

|  | GUAL | EXPAND | ECTH | NEITH |
| :---: | :---: | :---: | :---: | :---: |
| $140102$ | 1 | $\varepsilon$. | 4 | 7 |
| $140104$ |  | \% |  |  |
| FREQUENCIES | 1 | 14 | 4 | 21 |
| 140108 <br> FREQUENCIES | 53 | 30 | 21 | 76 |
| 143202 |  |  |  | 6 |
| FREQUENCIES | 12 | 1 | 0 | 6 |
| FREQUENCIES | 11 | 0 | 2 | 7 |
| 140404 |  |  | 1 |  |
| FREQUENCIES | 7 | 6 | 1 | 6 |
| FREQUENCIES | 10 | 9 | 24 | 37 |
| $16011{ }^{\text {d }}$ |  |  |  | 0 |
| FREQUENCIES | 0 | 19 | 11 | 30 |
| FREQUENCIES | 7 | 27 | 0 | 6 |
| 169203 |  |  |  | 20 |
| FREQUENCIES | 17 | 2 | 1 | 20 |
| 160204 $F$ REQUEIES | 42 | 32 | 41 | 36 |
| 160205 |  |  |  |  |
| FREQUENCIES | 41 | 90 | 15 | 95 |
| FREQUENCIES | 35 | 39 | 5 | 41 |
| 160374 CIES | 16 | 8 | 3 | 32 |
| FREQUENCIES 165605 | 16 | 8 | 3 | 32 |
| FREQUENCIES | 19 | 12 | 5 | 65 |
| $\begin{aligned} & 160607 \\ & \text { FREQUENCIES } \\ & \text { CZUU2 } \end{aligned}$ | . 11 | 9 | 14 | 6 |
| FREQUENCIES 62年 | 1 | 1 | 1 | 37 |
| FREQUENCIES | 1 | 0 | 0 | 19 |
| FREQUENCIES | 1 | 1 | 11 | 107 |
| O20413 ${ }_{\text {FREQUENCIES }}$ | 13 | 7 | 2 | 118 |
| 630210 |  |  |  |  |
| FREQUENCIES | 43 | 39 | 40 | 50 |
| FREQUENCIES | 0 | 1 | 12 | 7 |
| 630403 |  |  |  |  |
| FREQUENCIES | 3 | 0 | 3 | 14 |
| FREQUENCIES | 3 | 3 | 7 | 7 |
| $64 J 104$ |  |  |  |  |
| FREQUENCIES | 1 | 2 | 7 | 9 |
| FREQUENCIFS | 2 | 6 | 3 | 29 |
| 64J215 |  |  |  | 14 |
| FREQUENCIES | 0 | 5 | 0 | 14 |
| FREQUENCIES | 0 | 7 | 9 | 4 |
| 72J314 |  |  |  |  |
| FREQUENCIES | 21 | 12 | 14 | 53 |
| FREQUENCIES | 34 | 20 | 34 | 31 |
| 74 JRQ14 | 5 | 4 | 14 | 17 |



|  | ikr san |  | bendoto | sw | flo | Hish |  | गн |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAMPEENS 20 <br> Stif erbors | 8 | $\bigcirc$ | \$! | $\varepsilon$ | S9 | 8 | \% | \} |
|  | 0 | $\therefore$ | 8 | 8 | 100 | $\bigcirc$ | 8 | ${ }^{3}$ |
|  | $\bigcirc$ | $\bigcirc$ | ${ }_{3} 8$ | $\stackrel{1}{4}$ | $6_{3}$ | ${ }_{\square}^{\circ}$ | ${ }_{1}$ | : |
|  |  |  |  |  |  |  |  |  |
|  | 8 | $\bigcirc$ | 9 9\% | $\bigcirc$ | 82 | $\bigcirc$ | 1 | $\bigcirc$ |
|  | 8 | 17 | 58 | 8 | ${ }^{32}$ | 8 | 18 | 8 |
| $\begin{aligned} & \text { Shificins } \\ & \text { STO EARORS } \end{aligned}$ | \% | $\bigcirc$ | 8 | 8 | ${ }^{21}$ | $i$ | 8 | 8 |
|  | $\bigcirc$ | $\bigcirc$ | $\stackrel{5}{2}$ | $\bigcirc$ | ${ }_{5}^{96}$ | 1 | $4{ }_{5}$ | 8 |
|  | 8 | 8 |  | 8 | 138 | 8 | 15 | f |
|  | 8 | 8 | 8 | 8 | ${ }_{172}^{17}$ | 8 | 98 | 8 |
|  | $\delta$ | 8 | 8 | 8 | 10 z | 8 | $\delta$ | 3 |
| SAMPLE= 201 <br> STEERSSORS | $\bigcirc$ | 8 | ! | 8 | $17 \%$ | $\stackrel{\square}{1}$ | $i$ | 8 |
|  | ${ }_{0}$ | 0 | 0 | 0 | $\stackrel{108}{2}$ | 8 | 8 | 8 |
|  | $\bigcirc$ | 8 | 20 | 0 | $1 \%$ | 8 | 8 | 8 |
|  | 0 | 4 | 4 | 8 | , | 8 | 14 | 8 |
|  | $\bigcirc$ | 0 | 5 | 0 |  | 8 |  |  |
| SAMPEES 101 <br> STO MEREDS | 8 | $6 \frac{1}{5}$ | iq | 8 | 21 | 8 | 8 | 8 |
|  | 8 | ${ }^{170}$ | 0 | 8 | ${ }_{1}^{3}$ | $\bigcirc$ | 18 | 0 |
|  | 0 | 6 | 3 | $\bigcirc$ | 70 | $\frac{2}{2}$ | $\bigcirc$ | $\bigcirc$ |
|  | 8 | 8 | 3? | 8 | ${ }_{6}$ | \} | 33 | 8 |
|  <br>  | i | 14 | そ | 8 | ${ }^{13}$ | 8 | \% | 8 |
| SCRTLEE 140 STE ERRORS | $\bigcirc$ | 80 | \% 6 | : | 17 | 8 | : | 8 |
| SAMPLEE ${ }^{178}$ 5 STO ERRORS | 8 | 8 | $1 \frac{12}{2}$ | \% | 97 | 8 | \% | \% |
| SAMPEEES 20 STO ERROAS | 8 | : | $\bigcirc$ | : | $\stackrel{97}{1}$ | 8 | $\bigcirc$ | $2 \%$ |
|  | 8 | 179 | 8 | 8 | $1 / 1$ | 8 | ¢ | 8 |
|  | 8 | 191 | 8 | 8 | 18 | 8 | : | 8 |
|  | : | $6{ }^{6}$ | : | 8 | 4 | 8 | 12 | 8 |
| SAMPE <br>  | 17 | ${ }_{2}^{2}$ | 70 | - | 83 | : | 10 | : |
| SAMPLEES 20 <br> STD ERBORS | 8 | 8 | 98 | $\stackrel{8}{6}$ | 72 | 8 | 11 | 8 |
|  | 8 | \% | $\frac{2}{2}$ | 8 | 98 | 8 | ${ }^{30}$ | 8 |
| SAMPAN 100 | 8 | 8 | ${ }^{21}$ | 8 | 66 | 8 | $\xi$ | 8 |
|  |  |  |  |  |  |  |  |  |
| $\text { ? } 5 \xi_{0} \xi_{1}$ | i | : | 22 | ¢ | 96 | : | 4 | ? |
| SAMPEENS 6 sto erroas | 5\% | 8 | 21 | 8 | 39 | 8 | 1 | 8 |


|  | 10 pren | roinc | 10 SOLD | ís pad | tr inc | ir sold | gatile | Poult |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 17700 | 10417 | 13350 | 7125 | 73087 |
|  | 18029 | 17ics | 15686 | 8458 | 7848 | 6770 | 6946 | 17343 |
|  |  | 99824. 14018 | 1915348 | 3575 2985 | 7575 2983 | 35909 | 8 | 67459 6315 |
|  ID ERBOR | 42959 | 32928 | $2 C 928$ 2783 | 10258 6046 | 7957 4999 | 7750 6589 | 26081 | 13979 2470 |
| $\begin{aligned} & \text { SAMEENE } 19 \\ & \text { SIDEANSOQS } \end{aligned}$ | 19540 | 91717 10423 | 75071 9988 | 4878 | 473 | 8 | 35236 15679 | 42957 2142 |
|  | 730625 | 6722 12639 | 58262 12949 | 20275 5042 | 18850 4719 | 11225 4002 | 23000 15245 | 50625 7523 |
|  | 39585 8895 | $35 C 33$ 8053 | 14750 6795 | ¢ | 0 | $\stackrel{0}{8}$ | 1335 | 3 |
|  | 45462 626 | 39655 5960 | 17235 3342 | 99407 21462 | 25867 20636 | 89600 19550 | 1250 684 | 3798 2494 |
|  | ${ }^{4} 42024$ | 37671 7662 | 29401 | 408089 | ${ }_{18989} 218$ | 46888 | 30283 1166 | 22595 7045 |
| STIEANS | 49507 12611 | 41216. | 35152 7706 | 479739 44884 | 456150 | 465656 46075 | 196000 | 15763 |
|  | 2¢513 | 24503 | 29969 | $\bigcirc$ | 8 | 8 | 8 | 67888 6778 |
| SAYPLEE ? 01 <br> $S$ TDERPORS | 56672 5079 | ${ }^{46} 4875$ | 39035 | 3689 2034 | 3335 185 | 201472 | 7971 2614 | 7988 1691 |
| SAMPLT $=241$ <br> CHEARSORS <br> 165212 | 492157 | 43190 | $\begin{array}{r}29425 \\ \hline 985\end{array}$ | $\stackrel{8}{\circ}$ | 8 | 5 | 12593 | $\begin{array}{r}2183 \\ 285 \\ \hline 18\end{array}$ |
|  | 35255 3 3 | $\begin{array}{r}73935 \\ 3584 \\ \hline\end{array}$ | 23371 2827 | 8 | ¢ | $\bigcirc$ | 0 | 2635 2878 |
|  | 47335 6307 | 42018 5608 | 33711 4622 | 16121 | 15909 | 15909 | 8 | 3786 164 |
|  | 20136 2770 | 21640 2654 | 9190 1332 | ${ }_{68}^{69}$ | 60 68 | 49 | S400 | 7628 2029 |
|  | 208838 | 1景512\% | 13) 3 ? | 9398\% | \%9188 | 17\% 363 | 38\% 6 | 3 |
|  | 40585 | 57393 | 22325 4686 | 8 | ${ }_{6}^{6}$ | $\bigcirc$ | 8 | 4225 |
|  | 4074 $C 105$ | ${ }_{4}^{40002}$ | $\begin{array}{r}19972 \\ \hline 644\end{array}$ | ก | $\bigcirc$ | $\bigcirc$ | $\stackrel{\square}{c}$ | ? |
|  | 589063 | 46est 4 ¢ 4 ¢ | 16377 6350 | 0 | $\bigcirc$ | 0 |  | 15255 2445 |
| STVEARSORS | 27878 | $\begin{array}{r}25607 \\ \hline 828\end{array}$ | 19523 643 | 846 | 3918 | 348 | 875 586 | 17655 257 |
|  | 27722 2796 | 26292 2683 | 15561 2200 | 2746 | 22885 | 1612 613 | 3216 1026 | 243736 |
| $\begin{aligned} & \text { SAMLC } \quad 20 \\ & \text { STHEAREORS } \end{aligned}$ | 42312 4865 | ${ }^{369829}$ | 31750 8404 | 8 | $\bigcirc$ | $\bigcirc$ | 0 | 38075 9585 |
| $\begin{aligned} & \text { SAMPLEE } \\ & \text { STEANE } \\ & \text { STSORRORS } \end{aligned}$ | 24000 | 20830 2992 | 29912 | $\bigcirc$ | 0 | 8 | 8 | ${ }_{1585}^{625}$ |
| SAMPLE = 20 <br>  | 1敄9 | 171373 | 5999 | 8 | 8 | 8 | 1920 | 3 |
| ShEANS | $\begin{array}{r}141050 \\ 31208 \\ \hline\end{array}$ | 113657 25993 | 112630 28839 | 33200 26418 | 30660 24011 | 28400 26261 | 61500 27685 | 10149 9846 |
|  | 3215 4680 | 28361 4111 | 29588 | 77676 | 589 138 | 1758 | $17998{ }^{79}$ | 48075 |
| SAMPLEAN 20 <br> STO ERPORS | 213325 86215 | 211980 86208 | ${ }_{213}^{213235}$ | 170700 72888 | 170780 72889 | 170760 72689 | 0 | 438174 |
|  | E2225 23608 | 58925 288 | 25725 18164 | 52350 12634 | \$81909 | 50750 12590 | 7000 0822 | 15509 5263 |
| SAYPEEE CANE | 1046977 | 86158 11693 | 47893 | 11125 |  |  |  |  |
|  | 14977 | 11693 | 7843 | 5593 | 4529 | 4859 | 2681 | 3675 |
|  |  | 1885 235 | 13712 3225 | \$903 | 83936 | \$319 | ${ }^{13176} 96$ | 375038 |
| $\begin{aligned} & S A P L P=\quad \text { CO } \\ & \text { STOEARSORS } \end{aligned}$ | 756805 | 30248 8618 | $209908{ }^{9}$ | 675 468 | \$196 | 287 287 | 3236 2811 | 19614 |




Table B23


Table B24


Relotionship beiween Subdistricts and Settlements
Each line below gives the subdistrict followed by settlement and number of households in that settlement (in pairs).

140102, $60-20$
140104,
$61-20.62-20$ Teluk Kuamtan
140106, 51-20,52-20,53-20,54-20,55-20,56-20,57-20, Belıas
58-20,59-20
140202, $\left[\begin{array}{l}2-19, \\ 1-20,\end{array}\right]$ Sel Ratch
140404, 63-20 PIR PROJECT-Tapung tandon


620102, 110-20, 111-20 Kumai
620203, 109-20 Hanjalipan
620401. 96-20, 97-20,98-20,99-20, 100-20, 101-20 Terusan Tengah
620413. (102-20,103-20,104-20, 105-20,106-20,107-20, 108-20) pankoh

630210, $\left(\begin{array}{l}12-20,113-19,114-20,115-19,116-20,117-20,118-20, \\ 119-20,121-20\end{array}\right.$
630211, Batu Lin?
630403, 123-20 Sunggai Muhur
630408, $122-20$ Saka Lagon
640104, $\frac{126-20}{124-20}$ Tamah Grogot
640109, $\frac{124-20,125-20}{}$ Babulu Darat
640215, $\quad 127-20$
647101. 20-20. Sepaku

720314, 21-20, 22-20, 23-20, 24-20, 25-20 Malonas
740307, $127-1,128-20,129-20,130-20,131-20,132-19,133-19$ Lahumbuti
740314, 134-20, 135-20 Lanumbuti (?)

## Section 3

Tabular Analysis

## Section 3.1

## Oyerall Results

Our initial concern will be with the components of income (from the Type 9 records); we will cross tabulate this by repelita, type of settlement, village layout, type of transmigrant etc.

In Table 1 we detail income sources for transmigrants by repelita. For convenience of reading we have suppressed the standard errors associated with each of these estimates In many cases, it is obvious from the standard errors that the range for the means is such that one cannot conclude that a particular submean is significantly greater than another. For completeness the full tables are repeated in the Appendix $B$.

First, notice that total monthly income by repelita is 60065 vs 57132; however, the difference is not statistically significant. In terms of the components of income, note that government subsidies for the repelita 3 households average 12000 rps against 0 for the repelita 2 households, as expected. Agricultural income is about the same by repelita with the exception of estate income which is 4954 rps compered to 519 for repelita 3. Other income and all other categories apart from "government origin" income are about the same (in a statistical sense).

Table 1
Income Sources by Repelita and Type of Settlement
Rep 2 Rep 3 Repelita 2
Repelita 3 dry estate tidal small large estate tidal dry dry

| sample | 557 | 1641 | 419 | 19 | 119 | 292 | 788 | 40 | 521 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| gart subs | 0 | 12072 | 0 | 0 | 0 | 18660 | 9935 | 0 | 12538 |
|  | 12587 | 12959 | 9341 | 11978 | 24114 | 17504 | 13625 | 8456 | 9747 |
| food crops | 4954 | 519 | 4303 | 31310 | 3041 | 1453 | 532 | 0 | 16 |
| estate | 2388 | 2437 | 2144 | 941 | 3479 | 2660 | 3079 | 308 | 1506 |
| livestock | 1291 | 1776 | 1688 | 631 | 0 | 305 | 1502 | 1450 | 3039 |
| other agric | 6067 | 5671 | 4186 | 11280 | 11857 | 3813 | 7746 | 1379 | 3902 |
| non agric | 28001 | 24526 | 29676 | 18536 | 23616 | 28865 | 26896 | 57181 | 16004 |
| other | 6132 | 3954 | 5389 | 2263 | 9367 | 5520 | 4716 | 4900 | 2020 |
| transfers in | 2003 | 1570 | 1944 | 3157 | 2028 | 1332 | 1929 | 713 | 1227 |
| transfers out | 20507 | 7951 | 5757 | 16131 | 7142 | 11650 | 6861 | 29327 | 5838 |
| other in | 6407 |  |  |  |  |  |  |  |  |
| other out | 4900 | 2713 | 5409 | 4626 | 3152 | 4019 | 3419 | 5851 | 672 |
| govt origin | 645 | 6880 | 723 | 0 | 472 | 6287 | 9106 | 1666 | 4245 |

Table 2 gives the income breakdown by village layout, i.e., linear, nucleated or combination. Here, we notice a startling difference in the income achieved by households in the combination settlements. In the case of combination settlements the average monthly househald income is of the order of 80000 rps , whereas for both linear and nucleated it is 56000. A note of caution is in order as the standard error on the mean for combination settlements is 8282 rps and we probably cannot conclude the difference is statistically significant. Looking back for the reasons we see that food crop income in the combination settlements is 2.5 times that of other settlements (but with a relatively high variability). With the exception of government income for the combination settlements and estate income for the nucleated settlements, which are relatively low in both cases, there is not a great deal of difference between the income sources of the cases.

TABLE 2
mCOME CROSS CLASSIfied by type of village layout and income origin

| GOUT | FOOD |
| :--- | :--- |
| SUBS | CROPS |


| LWNEAR |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| MEANS | 1928 | 12969 | 3161 | 2184 | 875 | 5974 | 26351 |
| STO ERRORS | 293 | 566 | 385 | 180 | 190 | 1058 | 1716 |
| NUCLEATED |  |  |  |  |  |  |  |
| SMP=1220 |  |  |  |  |  |  |  |
| MEANS | 14885 | 11021 | 384 | 2450 | 1838 | 5485 | 24759 |
| STD ERRORS | 1321 | 336 | 104 | 129 | 228 | 588 | 814 |
| SMP=122 |  |  |  |  |  |  |  |
| MEANS | . 00 | 30554 | 3581 | 3860 | 5267 | 7206 | 25265 |
| STD ERRORS | . 00 | 6593 | 1142 | 434 | 1275 | 2749 | 2946 |
|  | TRANS $\mathbb{N}$ | TRANS OUT | OTHER $\mathbb{N}$ | OTHER OUT | $\begin{aligned} & \text { GOVT } \\ & \text { ORIG } \end{aligned}$ | TOTAL |  |

LINEAR
SMP=856

| MEANS | 4358 | 1636 | 7750 | 3404 | 2383 | 56621 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STD ERRORS | 1085 | 187 | 1417 | 614 | 129 | 2325 |
| MUCEATED |  |  |  |  |  |  |
| SMP 1220 |  |  |  |  |  |  |
| MEANS | 4894 | 1728 | 7994 | 3380 | 7488 | 56565 |
| STD ERRORS | 618 | 266 | 788 | 522 | 396 | 1198 |
| COMBINATION |  |  |  |  |  |  |
| SMP 122 |  |  |  |  |  |  |
| MEANS | 1668 | 1513 | 1872 | 1182 | 3885 | 79777 |
| STD ERRORS | 633 | 419 | 739 | 558 | 444 | 8282 |

Cross classifying total monthly household income by type of settlement and repelita we observe the same apparently favourable results for combination settlements; particularly in repelita 3. The results, in Table 3, present an income level at 85226 (rep 3) and 69397 (rep 2), which are much higher then the other figures which are in the 54-59 thousand rupiah range. Again the standard error on the high figure is very large, suggesting a need for caution. However, it is already obvious we will need to look more closely at this set of outlying results.

TABLE 3
TOTAL InCOME CROSS CLASSIfiEd by TYPE OF YILLAGE AND REPELITA

|  | REP2 | REP3 |
| :---: | :---: | :---: |
| LINEAR |  |  |
| MEANS | 59802 | 53899 |
| STD ERRORS | 3496 | 3103 |
| NUMBER | 395 | 461 |
| nucleated |  |  |
| MEANS | 57666 | 56444 |
| STD ERRORS | 2975 | 1289 |
| NMMBER | 120 | 1100 |
| COMBHHATHN |  |  |
| MEANS | 69397 | 85226 |
| STD ERRORS | 2838 | 12499 |
| NUMEER | 42 | 80 |

This is taken one step further in Table 4, which considers the dynamics of income generation in the context of the question on the transmigrants personal comparsan of household income with two years previously. The responses are cross classified by repelita and type of settlement and what emerges is unclear. Whilst tidal farmers who settled under repelita 2 clearly consider themselves better off, opinion amongst their repelita 3 counterparts is evenly divided. The spread of opinions amongst other farming categories is also uniform.

TABLE 4
COMPARISON OF CURRENT IHCOME TO TYO YEARS AGO FOR TYPE OF SETTLEMENT FOR REPELITA 2 AHD REPELITA 3

|  |  | MORE | LESS | SAME | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | DRY LAND NUMBER | 131 | 216 | 64 | 6 |
| REPELITA 2 | ESTATE <br> NUMBER | 8 | 6 | 5 | 0 |
|  | TIDAL NUMBER | 73 | 10 | 29 | 5 |
| REPELITA 3 | SMALL DRY NUMBER 93 | 133 | 62 | 3 |  |
|  | LARGE DRY NUMBER | 359 | 232 | 168 | 25 |
|  | ESTATE NUMBER 20 | 1 | 13 | 1 |  |
|  | TIDAL NUMBER | 182 | 189 | 110 | 40 |

When the same question is cross classified by type of village similar results emerge, $40 \%$ think they are better off, $40 \%$ feel they are worse off, and the remainder regard their income level as unchanged. The results are presented below in Table 5.

TABLE 5
COMPARISOH OF CURRENT INCOME TO TYO YEARS AGO FOR TYPE OF YILLAGE

|  | MORE | LESS | SAME | OTHER |
| :--- | :--- | :--- | :--- | :--- |
| LANEAR <br> NUMBER | 360 | 307 | 165 | 20 |
| MUCLEATED <br> NUMBER | 432 | 456 | 265 | 58 |
| COMBINATION <br> MUMBER | 74 | 24 | 21 | 2 |

In Table 6 we examine household income by province of origin and we again note considerable variabilility in the results with the Javanese and Balinese (51-53) transmigrants apparently faring worst whilst the three groups faring best being those from Riau-Sumatra, Kalimintan and Sulawesi (72-75). However, note that this may not, in fact be a regional difference, but a reflection of the composition of those migrants in perticular the representation of military and spontaneous settlers. The mean household income for the Sulawesi group (total number only 24), was 82741 with a standard error of 14000 . The Javanese mean income was 55757 with a standard error of 1130 , reflecting the law of large numbers. The same occurs with the other high income groups, so it is probably the case that not too much can be placed on this result. A more useful exercise may well be to ettempt to
account for income differences by urban and rural Kabupaten in areas of origin, this will be attempted in subsequent regression analysis. The outlying Sulawesi group received no government subsidies but high government origin income and other inward monetary flows - suggesting that we may, in fact, have picked up a group of military settlers. Apart from these factors their performance was not much different from the large mass of Javanese. The first group, from Riau-Sumatra had very high "other income", at 43522 rps almost double the average for that category and relatively low food income, suggesting the possibility of an entrepreneurial-trader group.

TABLE 6
INCOME ORIGIN CROSS CLASSIFIED BY PROYINCE OF ORIGIM


In Table 7 we examine income by type of transmigrant and note the advantages of the military, spontaneous and local settlers over the sponsored migrants. There really is not a great deal of difference between the income achievements of the four categories with the sole exception of "other income" and "other in" categories for the military transmigrant. These amount to 92000
rps and 21000 rps out of their income of 117000 rps per month, both totals are significantly higher than those achieved by the other transmigrants in that particular category. Spontaneous migrants fare slightly better than sponsored migrants with incomes of 56000 versus 54000; but the difference is not significant. Finally, lacal migrants are significantly higher then either of these categories with an income level of 74000 . This would appear to be attributible to better income achievement in the food, other agriculture and non agriculture categories.

TABLE 7
INCOME BY TYPE OF TRANSMIGRANT
GOVT FOOD
SUBS

| SPONSORED |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAMPLE=1800 |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 9175 | 13036 | 1705 | 2506 | 1629 | 4934 | 22370 | 4332 | 1487 | 7201 | 2649 | 5432 | 54441 |
| STO ER 850 | 559 | 195 | 118 | 181 | 373 | 581 | 596 | 178 | 744 | 325 | 265 | 1089 |
| SPONT ANEOUS |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=152$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 4112 | 10533 | 671 | 1722 | 607 | 7265 | 27113 | 7622 | 1510 | 5782 | 2418 | 2714 | 56741 |
| STDER 1968 | 897 | 341 | 254 | 243 | 2368 | 2140 | 3160 | 531 | 1445 | 1107 | 338 | 4168 |
| MILITITARY |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=57$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 7320 | 11782 | 2101 | 2342 | 100 | 3312 | 92056 | 8573 | 9162 | 21947 | 11087 | 6597 | 117706 |
| STD ER 3670 | 1360 | 992 | 587 | 99 | 1365 | 5079 | 3593 | 2342 | 11706 | 3183 | 2150 | 7102 |
| LOCAL |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=186$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 10748 | 13380 | 1720 | 2240 | 3241 | 13499 | 33270 | 2467 | 1417 | 8136 | 7600 | 5642 | 74045 |
| STD ER 2558 | 1212 | 756 | 329 | 789 | 4948 | 7028 | 590 | 276 | 1780 | 2820 | 679 | 8493 |

Next, in Table 8 we examine income by year of arrival. An examination of mean total income reveals no trend which would be a significant result except that the sampling was done in a stratified way, by village, and the ups and downs by year and really no more than a comparison of villages and it is noticeable that the transmigrants in each village tend to have arrived in a given or the neighbouring year. Not too much can be drawn from this apparent lack of trend in the series. Some obvious results emerge (subsidies and government origin income decreasing with time. Food crop in come in the year of arrival being around half to a third the norm.

## TABLE 8

IHCOME SOURCES BY YEAR OF ARRIYAL

| GOYT FOOD ESTATE STOCK | OTHER | NON | OTHER | TRAN | TRAN | OTHER | OTHER | GOYT |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SUBS |  |  | AGRIC | AGRIC |  | $\mathbb{N}$ | OUT | $\mathbb{N}$ | OUT | ORIGIN |

1974
$S M P=18$

| $\begin{aligned} & \text { MEANS } 0 \\ & 1975 \end{aligned}$ | 10874 | 11726 | 175 | 1111 | 12333 | 30978 | 49055 | 2725 | 5077 | 7256 | 0 | 103529 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SMP $=86$ |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MEANS } 0 \\ & 1976 \end{aligned}$ | 12851 | 3804 | 1774 | 3294 | 5114 | 21475 | 910 | 859 | 1156 | 1735 | 114 | 48480 |
| SMP $=187$ |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MEANS O } \\ & 1977 \end{aligned}$ | 7699 | 5748 | 2265 | 1967 | 2284 | 28395 | 5861 | 930 | 5874 | 3800 | 517 | 53809 |
| SMP=38 |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MEANS O } \\ & 1978 \end{aligned}$ | 11882 | 15482 | 965 | 0 | 1859 | 22995 | 3335 | 1602 | 6513 | 2731 | 0 | 54917 |
| SMP $=108$ |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MEANS O } \\ & 1979 \end{aligned}$ | 10504 | 6162 | 2222 | 68 | 8517 | 30151 | 7638 | 4069 | 9541 | 6186 | 0 | 61195 |
| SMP $=113$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 0 | 21212 | 254 | 3979 | 362 | 4489 | 32292 | 3622 | 2618 | 8889 | 8558 | 1963 | 65558 |


| 1980 | 362 | 4899 | 32292 | 3622 | 2618 | 8889 | 8558 | 1963 | 65558 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| SMP $=355$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| MEANS | 0 | 19427 | 1147 | 2857 | 2036 | 5761 | 28516 | 2019 | 1076 | 6490 | 2435 | 3754 | 64435 |

1981
SMP=531

| MEANS | 2518 | 12604 | 118 | 2834 | 2842 | 8423 | 22253 | 2881 | 1637 | 6530 | 1998 | 5732 | 56030 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

1982
SMP $=408$

| MEANS | 9671 | 10156 | 643 | 2151 | 526 | 5869 | 22610 | 5675 | 2169 | 10603 | 3444 | 6676 | 52126 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

SMP $=283$
$\begin{array}{llllllllllllll}\text { MEANS } & 34486 & 12098 & 487 & 2094 & 1386 & 3549 & 26704 & 5913 & 1584 & 8245 & 2800 & 12891 & 63491\end{array}$
1984
SMP $=71$

| MEANS | 67149 | 5550 | 352 | 493 | 1059 | 2559 | 22954 | 3533 | 214 | 8635 | 4630 | 8069 | 44360 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

In Table 9 we consider the effect of education level of the household head on the household income level achieved. First, note the definition of income used here differs from that used previously; it was drawn from the Type 7 records and forms the component called "other income" in the tables above. We generally observe increases in income with higher levels of education, but it is not completely uniform. In Table 10 we cross classify education against the income definition used previously. Three observations were excluded; there were two college and one university graduate in the sample.

TABLE 9
OTHER INCOME BY EDUCATION LEYEL OF HOUSEHOLD HEAD

|  | WAGES | PENS | RENT \& SH CRP | OTHER AGRIC | OTHER | OTHER <br> NON AG | TOTAL NCOME |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAMPLE $=434$ |  |  |  |  |  |  |  |
| MEANS | 10385 | 0 | 397 | 5437 | 1589 | 1719 | 19529 |
| STD ERRORS | 825 | 0 | 128 | 470 | 282 | 259 | 947 |
| NOT COMPLETED |  |  |  |  |  |  |  |
| PRIMARY |  |  |  |  |  |  |  |
| SAMPLE=798 |  |  |  |  |  |  |  |
| MEANS | 12335 | 298 | 473 | 6090 | 2128 | 1840 | 23167 |
| STD ERRORS | 678 | 150 | 102 | 373 | 248 | 177 | 832 |
| PRIMARY SCHOOL |  |  |  |  |  |  |  |
| SAMPLE=758 |  |  |  |  |  |  |  |
| MEANS | 12818 | 3406 | 1918 | 5404 | 1753 | 1773 | 27074 |
| STD ERRORS | 845 | 619 | 1667 | 300 | 235 | 206 | 1971 |
| JUNIOR HIGH SCHOOL |  |  |  |  |  |  |  |
| SAMPLE=134 |  |  |  |  |  |  |  |
| MEANS | 20024 | 9591 | 231 | 4472 | 2461 | 3020 | 39801 |
| STD ERRORS | 2912 | 2500 | 103 | 734 | 809 | 891 | 3726 |
| HIGH SCHOOL |  |  |  |  |  |  |  |
| SAMPLE=71 |  |  |  |  |  |  |  |
| MEANS | 26134 | 3566 | 507 | 6093 | 3474 | 2413 | 42189 |
| STO ERRORS | 3998 | 2016 | 287 | 1042 | 2098 | 649 | 4751 |

The results below indicate a rising level of income with increasing education, but it does not eminate from farming activities. In fact, the increase stems from the "other income" category which is dissected above. Note, other income" incresses from 19000 to 42000 rps stepping from the "no education" to high school categories. The wage component of this income tells the story; all the other components of income below seem invariant to the level of education of the transmigrant.

## TABLE 10

income by education level

| GOV SUBS | FOOD | ESTATE STOCK |  | OTHER <br> AGRIC | NON AGRIC | OTHER | TRAN <br> $\mathbb{N}$ | TRAN OUT | OTHER <br> in | OTHER OUT | GOVT ORIG | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NO EDUC |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE= | 434 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 9636 | 13024 | 2395 | 2166 | 1556 | 3703 | 19529 | 5039 | 860 | 5123 | 1840 | 4810 | 51357 |
| NOT PRM |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE= | 798 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 6135 | 11718 | 1258 | 2199 | 2386 | 4813 | 23167 | 2938 | 1160 | 7434 | 3371 | 5335 | 52649 |
| PRIM |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE= | 759 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 12237 | 14362 | 1648 | 2583 | 1273 | 6423 | 27061 | 4879 | 2254 | 7669 | 2988 | 5227 | 61191 |
| JR HIGH |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE= | 134 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 5301 | 11337 | 703 | 2719 | 428 | 13711 | 39801 | 9665 | 4328 | 15948 | 7507 | 7531 | 8146.4 |
| HIOH |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=$ | 71 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 10344 | 11662 | 3095 | 4133 | 466 | 7389 | 42189 | 4784 | 1399 | 6735 | 5895 | 4626 | 76949 |

In Table 11 "other income" is examined by type of transmigrant. Apart from the significant advantage given by pensions of the military settlers, there is little to differentiate the four categories. The lacal settlers gain a substantial bonus from rent and share cropping, not, as one might onticipote, the militory.

## TABLE 11

OTHER INCOME BY TYPE OF TRANSMIGRANT

| WAGE PENS RENT OTHER OTHER OTHER TOTAL |  |
| :--- | :--- | :--- | :--- |
|  | AGRIC NON AG INC OTHER |


| SPONS |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SAMPLE $=$ | 1800 |  |  |  |  |  |  |
| MEANS | 12609 | 152 | 323 | 5602 | 1901 | 1780 | 22370 |
| STD ERR | 503 | 80 | 45 | 226 | 177 | 120 | 581 |

## SPONT

SAMPLE $=153$

| MEANS | 16166 | 723 | 281 | 5736 | 2186 | 1955 | 27049 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STD ERR | 1949 | 682 | 100 | 663 | 583 | 731 | 2127 |

MILIT
SAMPLE $=57$

| MEANS | 12210 | 69721 | 640 | 4845 | 1360 | 3279 | 92056 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STD ERR | 3644 | 4983 | 283 | 1462 | 465 | 1112 | 5079 |

LOCAL
SAMPLE $=186$

| MEANS | 14858 | 0 | 7577 | 5913 | 2503 | 2415 | 33270 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STD ERR | 1947 | 0 | 6786 | 652 | 535 | 541 | 7028 |

Considering other income by village layaut, we notice first the relative constancy of total other income. However, there are some differences in the components, wage income is highest on combinatian settlements, pensions and rent or share cropping income highest on linear settlements. In Table 13 the proposition that "experience counts" is examined. The totals suggest that being over 35 carries an income premium, yet this conclusion must immediately be played down due to the large standard errors. The subtotals also do not give strong pointers despite their signs of within group constancy, they too have large standard errors.

TABLE 12
OTHER INCOME BY VILLAGE LAYOUT

| WAGE PENS RENT | OTHER <br> AGRIC | OTHER OTHER TOTAL |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  | NON AGC | OTHER |


| LNEAR |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SAMPLE $=$ | 856 |  |  |  |  |  |  |  |
| MEANS | 11901 | 3022 | 1989 | 6154 | 1466 | 1818 | 26351 |  |
| STD ERR | 711 | 547 | 1478 | 323 | 236 | 163 | 1716 |  |
| RUCL |  |  |  |  |  |  |  |  |
| SAMPLE $=$ | 1221 |  |  |  |  |  |  |  |
| MEANS | 13364 | 1413 | 269 | 5516 | 2464 | 1724 | 24753 |  |
| STD ERR | 633 | 325 | 59 | 278 | 229 | 167 | 813 |  |
| COMB |  |  |  |  |  |  |  |  |
| SAMPLE $=$ | 122 |  |  |  |  |  |  |  |
| MEANS | 17418 | 368 | 327 | 2913 | 307 | 3930 | 25265 |  |
| STD ERR | 2787 | 367 | 326 | 584 | 177 | 908 | 2946 |  |

TABLE 13
HCOME BY AGE OF HEAD OF HOUSEHOLD

| GOYT | FOOD | ESTATE STOCK | OTH | NON | OTHER | TRAN | TRAN | OTH | OTH | GVT TOTAL |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SUBS |  |  | AGRIC | AGRIC |  | NH | OUT | N | OUT | ORIG |


| 0-20 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SAMPLE $=$ | 21 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 4107 | 10704 | 0 | 984 | 321 | 3730 | 25766 | 7686 | 583 | 4923 | 1078 | 3504 |  |
| STD ERR 4008 | 2635 | 0 | 518 | 256 | 2044 | 7780 | 4966 | 189 | 1763 | 665 | 950 |  |
| 21-25 |  |  |  |  |  |  |  | 189 | 1763 | 665 |  |  |
| SAMPLE= | 198 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 9420 | 12637 | 818 | 1969 | 1408 | 7366 | 22654 | 2805 | 1389 | 5498 | 3129 | 4534 | 52791 |
| STD ERR 2365 | 998 | 356 | 231 | 381 | 2010 | 2040 | 1074 | 330 | 965 | 1111 | 447 | 3015 |
| 26-30 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=$ | 397 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 10730 | 11567 | 1118 | 2330 | 1832 | 7307 | 22519 | 3447 | 1470 | 6335 | 2827 | 6421 | 55044 |
| STD ERR 2021 | 614 | 334 | 191 | 384 | 2227 | 1277 | 769 | 206 | 800 | 572 | 644 | 2752 |
| 31-35 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=$ | 394 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 8840 | 13361 | 1546 | 2018 | 1520 | 5265 | 26232 | 3133 | 1560 | 6556 | 4315 | 5107 | 56608 |
| STD ERR 1477 | 1121 | 390 | 171 | 292 | 1044 | 3397 | 515 | 288 | 886 | 1309 | 592 | 3780 |
| $35+$ |  |  |  |  |  |  |  |  |  | 1309 | 582 | 3780 |
| SAMPLE $=$ | 1189 |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 8508 | 13200 | 2015 | 2692 | 1703 | 5192 | 26543 | 5544 | 1857 | 8691 | 3125 | 5154 | 60179 |
| STD ERR 1045 | 749 | 269 | 166 | 249 | 486 | 854 | 939 | 278 | 1231 | 476 | 308 | 1540 |

The results indicate remarkably little, a lot of variation in the data, some suggestions of differences between tidal and non tidal returns, some suggestion that the combination settlements achieve superior levels of income than non-combination settlements. This latter feature might be accounted for if the combination settlements were shown to have a higher proportion of military transmigrants. However, in Table 14 below we find that it is just due to the effect of one outlying settlement with a very high figure for food income.

TABLE 14
INCOME OF COMBINATION FARMERS

| GOV FOOD | ESTATE STOCK | OTHER | NON | OTHER | TRAN | TRAN | OTHER | OTHER | GOVT TOTAL |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SUBS |  |  | AGRIC | AGRIC |  | WN | OUT | NW | OUT ORIG |


| 140108 |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - means 0 | 0 | 0 | 604 | 0 | 0 | 24000 | 0 | 0 | 0 | 6500 | 0 | 24604 |
| : STD ERR 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140202 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=19$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 0 | 41859 | 39 | 6516 | 0 | 3517 | 17444 | 0 | 4731 | 0 | 1342 | 2890 | 67536 |
| STD ERR 0 | 2564 | 38 | 1231 | 0 | 1671 | 1393 | 0 | 1330 | 0 | 717 | 941 | 2186 |
| 140205 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE=4 |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 0 | 23003 | 698 | 3531 | 0 | 0 | 22750 | 0 | 50 | 8750 | 250 | 0 | 49933 |
| STD ERR 0 | 3507 | 209 | 630 | 0 | 0 | 8938 | 0 | 43 | 3247 | 216 | 0 | 7302 |
| 630210 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=59$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 0 | 12674 | 129 | 3640 | 608 | 7372 | 26983 | 898 | 203 | 0 | 966 | 6320 | 58425 |
| STD ERR 0 | 1758 | 69 | 619 | 185 | 2018 | 2973 | 620 | 177 | 0 | 957 | 70 | 4007 |
| 640215 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE $=20$ |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 0 | - 96519 | 14230 | 4009 | 991 | 15750 | 31000 | 3875 | 1250 | 2075 | 2225 | 2195 | 167321 |
| STD ERR 0 | 35799 | 6057 | 1147 | 585 | 15351 | 13377 | 2065 | 1218 | 1460 | 1686 | 2140 | 43678 |
| 647101 |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE=19 |  |  |  |  |  |  |  |  |  |  |  |  |
| MEANS 0 | 8534 | 7429 | 1973 | 30886 | 3280 | 22315 | 3842 | 3026 | 8000 | 515 | 121 | 75357 |
| STD ERR 0 | 2548 | 1818 | 691 | 5038 | 1476 | 7921 | 2698 | 1603 | 4054 | 409 | 60 | 5097 |

## TABLE 14 (cont)

## OTHER WCOME OF COMBINATION FARMERS

|  | WAGES | PENS | RENT | OTH AG | NON AG | OTHER | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| : |  |  |  |  |  |  |  |
| 140108 |  |  |  |  |  |  |  |
| SAMPLE=1 |  |  |  |  |  |  |  |
| MEANS | 24000 | 0 | 0 | 0 | 0 | 0 | 24000 |
| STD ERR | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140202 |  |  |  |  |  |  |  |
| SAMPLE $=19$ |  |  |  |  |  |  |  |
| MEANS | 2842 | 0 | 0 | 13313 | 0 | 1289 | 17444 |
| STD ERR | 1325 | 0 | 0 | 780 | 0 | 707 | 1393 |
| 140205 |  |  |  |  |  |  |  |
| SAMPLE $=4$ |  |  |  |  |  |  |  |
| MEANS | 11250 | 0 | 0 | 7750 | 3750 | 0 | 22750 |
| STD ERR | 9742 | 0 | 0 | 1441 | 3247 | 0 | 8938 |
| $\cdots$ | - |  |  |  |  |  |  |
| 630210 |  |  |  |  |  |  |  |
| SAMPLE $=59$ |  |  |  |  |  |  |  |
| MEANS | 19118 | 762 | 0 | 1211 | 381 | 5508 | 26983 |
| STD ERR | 2595 | 756 | 0 | 791 | 266 | 1303 | 2973 |
| 640215 |  |  |  |  |  |  |  |
| SAMPLE $=20$ |  |  |  |  |  |  |  |
| MEANS | 31000 | 0 | 0 | 0 | 0 | 0 | 31000 |
| STD ERR | 13377 | 0 | 0 | 0 | 0 | 0 | 13377 |
| 647101 |  |  |  |  |  |  |  |
| SAMPLE $=19$ |  |  |  |  |  |  |  |
| MEANS | 13368 | 0 | 2105 | 00 | 0 | 6842 | 22315 |
| STD ERR | 5281 | 0 | 2049 | 00 | 0 | 3853 | 7921 |

The outlier is settlement 640215 with a food income slone of 96000 rps and a wage income of 31000 . Not surprisingly, the mean household income for that village is around 134000 rps , which together with the performance of a couple of other combination villages, drags the combined total up. A closer examination of the household records for that village revealed one household of 7 members with a tatal income of around $950,000 \mathrm{rps}, 758$ of which originated from food and about $20 \mathscr{F}$ from sharecropping. The household looked like a genuine outlier rather than a series of keypunch errors. In the next section we examine the returns to tidal and dry-land farming.

## Section 3.2

## Comparison of Sponsored Dryland and Sponsored Tidal Transmigrants

In this section we compare the performance of sponsared dryland and sponsored tidal farmers using the same table layouts as previously. To start with the dryland farmers in Repelita 3 appear (from tatals) to be faring better than their Repelita 2 equivalents. An examination of the components reveals this can be accounted for by government origin income tagether with food crops. Their returns from estate crops are less than those achieved by Repelita 2 farmers; other thar that we observe the usual high degree of variablity.

For tidal farmers we notice a dramatic, and significent degree of difference, compared to the dryland farmers and between the two repelitas. The income totals for tidal farmers in the two repelitas are 66000 and 33000 rps respectively. This breaks down by food ( 25000 to 9000 ), estate ( 3000 to 16), livestock ( 3000 to 1400), other (20000 to 11000), transfers in (9500 to 1600), and so on. There are some minor variations the other way. Anyway it would be sufficient to say that there was a dramatic deterioration in the income generating performance of the tidal farmers in Repelita 3. Subsequently we will pinpoint the villages involved and attempt to identify reasons, apriori, probably a futile task.

TABLE 15
IWCOME CROSS CLASSIFIED BY REPELITA AND INCOME ORIGIN (SPONSORED DRYLAND)

|  | $\begin{aligned} & \text { GOVT } \\ & \text { SUBS } \end{aligned}$ | $\begin{aligned} & \text { FOOO } \\ & \text { CROPS } \end{aligned}$ | ESTATE | STOCK | $\begin{aligned} & \text { OTHER } \\ & \text { AG } \end{aligned}$ | $\begin{array}{r} \text { NON } \\ \text { AG } \end{array}$ | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| REPELITA 2 |  |  |  |  |  |  |  |
| SAMPLE $=358$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 9482 | 4840 | 2303 | 1819 | 3646 | 26344 |
| STD ERRORS | . 00 | 1151 | 754 | 284 | 480 | 807 | 1117 |
| REPELITA3 |  |  |  |  |  |  |  |
| SAMPLE $=$ | 874 |  |  |  |  |  |  |
| MEANS | 12331 | 15053 | 575 | 3039 | 1038 | 6156 | 25058 |
| STD ERRORS | 1459 | 989 | 175 | 185 | 264 | 593 | 973 |
|  | TRANS $\mathbb{N}$ | TRANS OUT | OTHER $\mathbb{N}$ | OTHER OUT | $\begin{aligned} & \text { GOYT } \\ & \text { ORIG } \end{aligned}$ | TOTAL |  |
| REPELITA 2 |  |  |  |  |  |  |  |
| SAMPLE=358 |  |  |  |  |  |  |  |
| MEANS | 5359 | 2001 | 5368 | 5659 | 771 | 52567 |  |
| STD ERRORS | 1489 | 690 | 1150 | 1302 | 142 | 2197 |  |
| REPELIT ${ }^{\text {3 }}$ |  |  |  |  |  |  |  |
| SAMPLE $=874$ |  |  |  |  |  |  |  |
| MEANS | 4635 | 1427 | 7229 | 2371 | 8658 | 62761 |  |
| STD ERRORS | 531 | 186 | 1316 | 375 | 506 | 1683 |  |

## TABLE 16

## INCOME CROSS CLASSIFIED BY REPELITA AMD INCOME ORIGIM (SPONSORED TIDAL)

| - | $\begin{aligned} & \text { GOYT } \\ & \text { SUBS } \end{aligned}$ | F000 CROPS | ESTATE | STOCK | $\begin{aligned} & \text { OTHER } \\ & A G \end{aligned}$ | $\begin{aligned} & \text { NON } \\ & \text { AG } \end{aligned}$ | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| REPELITA 2 |  |  |  |  |  |  |  |
| SAMPLE $=95$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 25865 | 3220 | 3921 | . 00 | 6222 | 20019 |
| STD ERRORS | . 00 | 1488 | 583 | 721 | . 00 | 1336 | 2436 |
| REPELITA 3 |  |  |  |  |  |  |  |
| SAMPLE $=423$ |  |  |  |  |  |  |  |
| MEANS | 13565 | 9457 | 16 | 1490 | 3247 | 3315 | 11402 |
| STD ERRORS | 1913 | 497 | 9 | 126 | 348 | 632 | 466 |

TRANS TRANS OTHER OTHER GOVT TOTAL
W OUT WN OUT ORIG

REPELITA 2

SAMPLE $=95$

| MEANS | 9557 | 2391 | 8577 | 2809 | 282 | 66698 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STD ERRORS | 8185 | 652 | 4294 | 1032 | 78 | 8390 |

REPELITA 3
SAMPLE=423

| MEANS | 1613 | 1025 | 5979 | 532 | 4382 | 33871 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STD ERRORS | 400 | 254 | 614 | 115 | 212 | 774 |

In Tables 17 and 18 we compare sponsored dryland and tidal farmers. The results are much as before. Tidal sponsored farmers derive about twice as much income from food crops as do dryland and estate farmers. Curiously, the income sponsored transmigrants derive from estate sources were 3400 rps for dryland farmers and only 300 for estate farmers. The "other income" category yields 25000 rps for both tidal and estate farmers but 20000 rps for tidal farmers. Finally, note that government origin income is highest for estate farmers at 9300 rps and lowest for tidal farmers at 200 . This, presumably will be related partly to the gestation period of estate farming and partly to the number of tidal settlements in the last part of Repelita 3.

## TABLE 17

## WCOME CROSS CLASSIFIED BY TYPE OF SETTLEMENT AND INCOME ORIGIN FOR REP 2 (SPONSORED DRYLAND)

|  | $\begin{aligned} & \text { GOVT } \\ & \text { SUBS } \end{aligned}$ | $\begin{aligned} & \text { FOOD } \\ & \text { CROPS } \end{aligned}$ | ESTATE | STOCK | OTHER <br> AG | $\begin{aligned} & \text { NON } \\ & \text { AG } \end{aligned}$ | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DRY |  |  |  |  |  |  |  |
| SAMPLE $=594$ |  |  |  |  |  |  |  |
| MEANS | 7459 | 13190 | 3406 | 2478 | 1217 | 3408 | 25794 |
| STD ERRORS | 1666 | 1544 | 513 | 218 | 293 | 612 | 928 |
| ESTATE |  |  |  |  |  |  |  |
| SAMPLE $=638$ |  |  |  |  |  |  |  |
| MEANS | 9946 | 13661 | 332 | 3148 | 1310 | 7306 | 25095 |
| STD ERRORS | 1296 | 453 | 111 | 220 | 360 | 730 | 1194 |
|  | TRANS |  |  |  |  | TOTAL |  |
|  | $\mathbb{N}$ | OUT | N | OUT | ORIG |  |  |
| DRY |  |  |  |  |  |  |  |
| SAMPLE $=594$ |  |  |  |  |  |  |  |
| MEANS | 4771 | 1592 | 7035 | 4409 | 3153 | 55804 |  |
| STD ERRORS | 993 | 425 | 1851 | 834 | 276 | 2210 |  |
| ESTATE |  |  |  |  |  |  |  |
| SAMPLE $=638$ |  |  |  |  |  |  |  |
| MEANS | 4914 | 1596 | 6365 | 2319 | 9358 | 63517 |  |
| STD ERRORS | 611 | 242 | 835 | 445 | 656 | 1619 |  |

TABLE 18

## INCOME CROSS CLASSIFIED BY TYPE OF SETTLEMENT AND INCOME ORIGIN FOR REP 2 (SPONSORED TIDAL)

|  | GOVT SUBS | FOOD CROPS | ESTATE | stock | OTHER AG | $\begin{aligned} & \text { NON } \\ & A G \end{aligned}$ | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| THAAL |  |  |  |  |  |  |  |
| SAMPLE $=95$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 25865 | 3220 | 3921 | . 00 | 6222 | 20019 |
| STD ERRORS | . 00 | 1488 | 583 | 721 | . 00 | 1336 | 2436 |
|  | TRANS | TRANS | OTHER | OTHER | GOYT | TOTAL |  |
|  | $\mathbb{N}$ | OUT | $\mathbb{N}$ | OUT | ORIG |  |  |
| MEANS | 9557 | 2391 | 8577 | 2809 | 282 | 66698 |  |
| STD ERRORS | 8185 | 652 | 4294 | 1032 | 78 | 8390 |  |

The issue of which type of settlement, linear, nucleated or combination, provides the best income returns. Incame is further decomposed by sponsored dryland and sponsared tidal transmigrants. As noted before, farmers in combination settlements do best with tatal income for dryland and tidal farmers at 80800 and 64000 repsectively. These figures compare with subtotals of 53600, 60900 for linear and nucleated dryland farmers and 44000 and 32000 for linear and nucleated tidal farmers. Again, the standard errors an these totals are quite large, making it difficult conclude that the difference is real rather than on illusion due to sampling variation. The camponents of income for the sponsored tidal and sponsored dryland formers bear much the same pattern as observed previously. Tidal farmers get the mast significant incomes, in absolute and relative terms, from foad crops, especially on the cambination settlements. However, the tidal farmers seem to have less access to income from wages, share cropping and the remaining camponents of "ather income".

TABLE 19

## HCOME CROSS CLASSIFIED BY TYPE OF VILLAGE LAYOUT AMD INCOME ORIGIM (SPONSORED DRYLAND)

|  | GOVT | F000 | ESTATE STOCK |  | OTHER NON |  | OTHER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | SUBS | CROPS |  |  | AG | AG |  |
| LINEAR |  |  |  |  |  |  |  |
| SAMPLE $=413$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 12640 | 3885 | 2859 | 400 | 3860 | 24815 |
| STD ERRORS | . 00 | 1042 | 653 | 317 | 131 | 554 | 1118 |
| NUCLEATED |  |  |  |  |  |  |  |
| SAMPLE $=737$ |  |  |  |  |  |  |  |
| MEANS | 14623 | 12021 | 275 | 2731 | 1024 | 6274 | 26118 |
| STD ERRORS | 1717 | 403 | 95 | 180 | 314 | 723 | 1031 |
| COMBINATION |  |  |  |  |  |  |  |
| SAMPLE $=82$ |  |  |  |  |  |  |  |
| MEANS | . 00 | 30137 | 5215 | 3497 | 7795 | 5699 | 22365 |
| STO ERRORS | . 00 | 9658 | 1669 | 527 | 1833 | 1504 | 3705 |
|  | TRANS N | TRANS OUT | OTHER W | OTHER OUT | $\begin{aligned} & \text { GONT } \\ & \text { ORIG } \end{aligned}$ | TOTAL |  |
| LIMEAR |  |  |  |  |  |  |  |
| SAMPLE $=413$ |  |  |  |  |  |  |  |
| MEANS | 3873 | 1162 | 7345 | 4086 | 2443 | 53616 |  |
| STO ERRORS | 986 | 159 | 2615 | 1063 | 222 | 2005 |  |
| NUCLEATED |  |  |  |  |  |  |  |
| SAMPLE=737 |  |  |  |  |  |  |  |
| MEANS | 5653 | 1933 | 6856 | 3121 | 8795 | 60930 |  |
| STO ERRORS | 776 | 389 | 765 | 489 | 595 | 1461 |  |
| COMPBINATION |  |  |  |  |  |  |  |
| SAMPLE $=82$ |  |  |  |  |  |  |  |
| MEANS | 2481 | 719 | 1871 | 1345 | 4298 | 80771 |  |
| STD ERRORS | 928 | 397 | 960 | 809 | 588 | 11635 |  |

TABLE 20
income cross classified by type of village layout and income origin (SPONSORED TIDAL)

| GOVT FOOD | ESTATE STOCK | OTHER NON AG | OTHER |  |
| :--- | :--- | :--- | :--- | :--- |
| SUBS |  | CROPS |  |  |

LINEAR
SAMPLE $=264$

| MEANS | 5719 | 14755 | 1047 | 1925 | 1057 | 6565 | 13987 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STD ERRORS | 878 | 680 | 229 | 266 | 304 | 1064 | 986 |

NUCLEATED
SAMPLE $=236$

| MEANS | 17915 | 7805 | 143 | 1639 | 4638 | 819 | 11480 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STO ERRORS | 3267 | 735 | 46 | 203 | 507 | 277 | 700 |

COMBINATION
SAMPLE $=18$
$\begin{array}{llllllll}\text { MEANS } & .00 & 40015 & 138 & 5978 & .00 & 3712 & 17941\end{array}$
$\begin{array}{lllllllll}\text { STD ERRORS } & .00 & 2854 & 74 & 1172 & .00 & 1752 & 2384\end{array}$

TRANS TRANS OTHER OTHER GOVT TOTAL
IIV OUT IN OUT ORIG

LINEAR
SAMPLE=264

| MEANS | 4753 | 1792 | 8012 | 1345 | 2421 | 44722 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

$\begin{array}{lllllllll}\text { STDERRORS } & 2994 & 409 & 1740 & 363 & 163 & 3237\end{array}$
NUCLEATED
SAMPLE $=236$

| MEANS | 1421 | 439 | 5059 | 496 | 5146 | 32602 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| STD ERRORS | 462 | 222 | 621 | 230 | 343 | 1065 |

COMBINATION
SAMPLE= 18

| MEANS | .00 | 4661 | 1944 | 1083 | 1488 | 64614 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| STDERRORS | 00 | 1421 | 1120 | 682 | 265 | 3077 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

In Tables 21 and 22 we examine the response of transmigrants to a question asking them to compare their income with that achieved two years previously. This is tabulated by sponsored dryland, sponsored tidal, and type of settlement. As before, tidal farmers in linear and combination settlemenets seem well satisfied, while their compatriots in combination settlements do not. Curiously, for dryland farmers, it is the nucleated and combination settlement farmers who appear to be doing best whilst the linear dryland farmers seem to be indicating their incame is declining.

TABLE 21
COMPARISON OF CURRENT INCOME TO TYO YEARS AGO FOR TYPE OF YILLAGE
(SPONSORED DRYLAND)

|  |  | MORE | LESS | SAME |
| :--- | :--- | :--- | :--- | :--- |
| LINEAR | 127 | 207 | 73 | 1 |
| NUMBER | 300 | 257 | 146 | 10 |
| NUCLEATED <br> NUMBER | 51 | 15 | 7 | 0 |
| COMBINATION <br> NUMBER |  |  |  |  |

TABLE 22
COMPARISON OF CURRENT INCOME TO TYO YEARS AGO FOR TYPE OF YILLAGE (SPONSORED TIDAL)

|  | MORE | LESS | SAME | OTHER |
| :--- | :---: | :---: | :---: | :---: |
| LINEAR <br> NUMBER | 154 | 48 | 52 | 8 |
| NUCLEATED |  |  |  |  |
| NUMBER |  |  |  |  |
| COMBINATION <br> NUMBER | 44 | 118 | 50 | 23 |

### 3.3 Results by Subdistrict

With 31 sub-districts or villages it is not possible to detail all the cross tabulations as part of a report like this. Instead we consign the tables to Appendix B and discuss the results, with some summary tables, in the body of the text below. To commence we represent the villages with some additional information on class of settlement, typical date of arrival of settlers, how the settlers see their income compared to (i) two years ago and (ii) pre-transmigration, their source of incame in their area of origin and their opinion about their health now compared to pre-transmigration.

In Table 23 column 4 gives the earliest date of settlement of each village, typically settlement was completed within two to three years. The next two columns ask the transmigrants to compare their income to two years ago; it is clear the tend to point to improved income overall, with some notable exceptions. Columns 7 and 8 ask the same question in terms of income prior to transmigration and it is very clear that a significant majority of transmigrants consider themselves better off. The next three columns list the occupations of the settlers prior to migration. The other categary includes non-agricultural and "other" in the original questionaire and has been included here to pick up "non-farmer" transmigrants in an attempt to see if any villages have a disproportionate number of non-farmer settlers and if those villages are low income villages. Finally, the last column reports the transmigrants' statements n their health. The idea of this information was to ascertain if the migrants in tidal areas suffered more from health problems than those assigned to dryland areas. This does not appear to be the case.

One possibility, that villages with high household incomes were, in fact, villages with a higher then usual proportion of pensioned military transmigrants, is dismissed by the results in Table 24. When total household income for a village is high it would be nice to be able to say that this is either because food income is high or other (especially wage) income is high, but such o simple explanation is not borne out by the figures.

Table 23
Question Responses by Village

| Prov Sample Class Arriv | Inoome to Two <br> Years Ago <br> More Less | Income to <br> Transmigration <br> More Less Area of Origin | Source of hoome <br> in | Food <br> cf Origin |
| :---: | :---: | :---: | :--- | :--- |
|  |  | Trees Other Bett Wrse |  |  |


| Riau |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 14010220 | Dry | 80 | 9 | 9 | 12 | 1 | 14 | 0 | 5 | 4 | 3 |
| 14010440 | Dry | 80 | 11 | 21 | 24 | 8 | 29 | 0 | 11 | 21 | 1 |
| 140108180 | Dry | 81 | 61 | 66 | 98 | 40 | 101 | 5 | 72 | 64 | 23 |
| 14020219 | Tidal | 79 | 9 | 1 | 14 | 2 | 14 | 2 | 3 | 1 | 4 |
| 14020520 | Tidal | 78 | 12 | 0 | 19 | 0 | 18 | 0 | 2 | 5 | 0 |
| 14040420 | Dry | 83 | 19 | 1 | 13 | 3 | 3 | 4 | 13 | 8 | 2 |
|  |  |  |  |  |  |  |  |  |  |  |  |
| South Sumatra |  |  |  |  |  |  |  |  |  |  |  |
| 16010980 | Dry | 78 | 46 | 21 | 60 | 7 | 41 | 21 | 17 | 31 | 6 |
| 16011060 | Dry | 80 | 12 | 31 | 40 | 6 | 19 | 2 | 36 | 27 | 8 |
| 16017140 | Dry | 76 | 16 | 14 | 28 | 6 | 16 | 3 | 21 | 26 | 3 |
| 16020340 | Dry | 82 | 21 | 0 | 39 | 0 | 13 | 0 | 27 | 15 | 4 |
| 160204201 | Dry | 74 | 35 | 141 | 125 | 61 | 133 | 2 | 63 | 66 | 58 |
| 160205205 | Dry | 74 | 39 | 154 | 166 | 54 | 166 | 3 | 69 | 58 | 32 |
| 160212120 | Tidal | 81 | 63 | 19 | 116 | 1 | 92 | 2 | 26 | 83 | 7 |
| 16037459 | Dry | 82 | 4 | 45 | 30 | 8 | 26 | 4 | 29 | 11 | 6 |
| 160605101 | Tidal | 82 | 54 | 23 | 69 | 7 | 42 | 2 | 56 | 36 | 8 |
| 16060740 | Tidal | 80 | 29 | 0 | 35 | 5 | 31 | 4 | 5 | 21 | 0 |


| Central Kalimintan |  |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 62010240 | Dry | 83 | 32 | 0 | 32 | 3 | 15 | 0 | 25 | 6 | 4 |
| 62020320 | Dry | 83 | 12 | 3 | 7 | 1 | 3 | 0 | 16 | 3 | 0 |
| 620401120 | Tidal | 80 | 18 | 74 | 44 | 42 | 62 | 4 | 46 | 70 | 10 |
| 620413140 | Tidal | 81 | 31 | 60 | 78 | 12 | 71 | 1 | 66 | 37 | 9 |
| 630210178 | Dry | 80 | 85 | 40 | 132 | 17 | 74 | 1 | 101 | 70 | 18 |
| 63021120 | Dry | 82 | 8 | 1 | 17 | 2 | 8 | 0 | 12 | 8 | 1 |
| 63040320 | Tidal | 80 | 11 | 5 | 13 | 3 | 17 | 0 | 2 | 11 | 3 |
| 63040820 | Tidal | 80 | 5 | 8 | 15 | 0 | 12 | 0 | 8 | 11 | 1 |

East Kalimintan

| 64010420 | Tidal | 80 | 6 | 9 | 16 | 1 | 11 | 1 | 6 | 7 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 64010920 | Dry | 76 | 23 | 8 | 26 | 3 | 25 | 0 | 15 | 20 | 2 |
| 64021520 | Dry | 80 | 17 | 1 | 18 | 0 | 18 | 0 | 2 | 8 | 1 |
| 64710120 | Dry | 74 | 7 | 10 | 17 | 2 | 6 | 6 | 4 | 16 | 0 |

Central Sulawesi

| 720314100 | Tidal | 76 | 64 | 3 | 88 | 9 | 36 | 2 | 60 | 67 | 9 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 740307119 | Dry | 81 | 69 | 17 | 46 | 48 | 33 | 3 | 76 | 52 | 13 |
| 74031440 | Dry | 82 | 38 | 2 | 31 | 6 | 17 | 3 | 18 | 20 | 6 |

Table 24
Income Components by Village

| Province | Income Components by Village |  |  |  |  | Gort | Wages | Pensions |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number Sample | Class hncome | Total Crops | Food | Other Origin |  |  |  |
| Riau |  |  |  |  |  |  |  |  |
|  | 14010220 | Dry | 103426 | 16668 | 58886 | 9756 | 48310 | 0 |
|  | 14010440 | Dry | 78011 | 16314 | 39040 | 9521 | 20775 | 0 |
|  | 14020219 | Tidsl | 67536 | 41859 | 17444 | 2895 | 2842 | 0 |
|  | 14020520 | Tidal | 54858 | 24329 | 22674 | 110 | 11100 | 0 |
|  | 14040420 | Dry | 99842 | 11418 | 71563 | 3333 | 61903 | 0 |
| South Sumatra |  |  |  |  |  |  |  |  |
|  | 16010980 | Dry | 51771 | 7572 | 28056 | 385 | 7818 | 3571 |
|  | 16011060 | Dry | 62700 | 10219 | 37137 | 8153 | 13078 | 6511 |
|  | 16017140 | Dry | 86030 | 9480 | 31161 | 3241 | 10751 | 3717 |
|  | 16020340 | Dry | 35714 | 14525 | 8506 | 1846 | 4237 | 0 |
|  | 160204201 | Dry | 56104 | 13321 | 34122 | 2086 | 14100 | 3668 |
|  | 160205205 | Dry | 44820 | 11376 | 26203 | 823 | 13376 | 1609 |
|  | 160212120 | Tidal | 35578 | 13303 | 12764 | 2320 | 2270 | 825 |
|  | 16037459 | Dry | 70219 | 9595 | 48015 | 4621 | 30483 | 5244 |
|  | 160605101 | Tidal | 55258 | 12503 | 32078 | 3490 | 4903 | 4071 |
|  | . 16060740 | Tidal | 76888 | 18033 | 20527 | 182 | 13587 | 0 |
| Central Kalimintan |  |  |  |  |  |  |  |  |
|  | 62010240 | Dry | 51258 | 17235 | 18471 | 11905 | 6040 | 1110 |
|  | 62020320 | Dry | 71348 | 8705 | 48542 | 5042 | 4775 | 0 |
|  | 620401120 | Tidal | 36717 | 4974 | 13619 | 2212 | 5861 | 0 |
|  | 620413140 | Tidal | 33133 | 9121 | 11316 | 7953 | 1428 | 1007 |
|  | 630210178 | Dry | 57088 | 12710 | 36283 | 6160 | 12623 | 2756 |
|  | 63021120 | Dry | 82851 | 9444 | 27961 | 6883 | 12700 | 3000 |
|  | 63040320 | Tidal | 31307 | 7697 | 12632 | 5516 | 9775 | 0 |
|  | 63040820 | Tidal | 45752 | 10094 | 25512 | 4663 | 22373 | 0 |
| East Kalimintan |  |  |  |  |  |  |  |  |
|  | 64010420 | Tidal | 111802 | 22542 | 48781 | 137 | 37250 | 0 |
|  | 64010920 | Dry | 92254 | 33560 | 44253 | 5016 | 31412 | 3525 |
|  | 64021520 | Dry | 167321 | 96527 | 40528 | 2277 | 31000 | 0 |
|  | 64710120 | Dry | 75889 | 9034 | 33850 | 257 | 13700 | 0 |
| Central Sulawesi |  |  |  |  |  |  |  |  |
|  | 720314100 | Tidal | 60157 | 10412 | 32967 | 33 | 14935 | 2579 |
|  | 740307119 | Dry | 87754 | 15364 | 25356 | 27288 | 14499 | 0 |
|  | 74031440 | Dry | 69310 | 11490 | 20557 | 13647 | 8842 | 0 |

Further tobles are presented in Appendix B. The first section is devated to questions reloting to income. Toble B1 provides the income breakdown by village already given in Table 22, together with standard errors. Tables B2 -B4 give full details of three questions summarised in Table 21, i.e. relating to income two years ago, income prior to transmigration, and income source in orea of origin. In mast settlements the transmigrants income sources remain unchanged over a two year period; however, one (140404) has 19 respondents from whose income patter stands out as originating both currently and two years perviously from ather non-rurol origins. The income figure of that village is 99842 per household but $75 \%$ of that income originates from other non-agricultural sources. Table B5 indicates that around a third to a half the transmigrants list their accupations prior to migration as being in the other class. A few villages are dominated by this group of people, notably 140404, 620102, 620203 and 630211; the total household incomes for these villages are $99842,51258,71348$ and 72851 respectively. In other words, their incomes tend to be on the higher side but in only two of the four cases could it be said to originate predaminantly from non-agricultural origins. The next Toble is $\mathrm{B8}$ which lists those villoges still receiving subsistence support.

The subsequent tables in Appendix B look ot sacio-economic questions. Table B9 lists the response to the "family members away at primary school question; Toble B10 osks the same question with respect of junior high school. About $60 \%$ of families have children oway ot primary school, but that figure drops to $15-20 \%$ for junior high school. Tobles B11 and B12 contain the responses to questions on the provision of education services; it is very clear that, both in regard to primary and secondary education, the transmigrants questioned generally regord the education facilities os being superior to those existing in their oreas of arigin. Table B13 contains responses to the
"transportation" question. Here, the consensus eppears to be that transportation facilities are worse. As mentioned, there is no evidence that the health of transmigrants in tidal areas is worse than their counterparts on the dryland sites and when the response to the question on medical services (Table B15) is examined it is clear that the level of services is about the same as in the areas of origin.

The remaining questions relate to housing (Table B16), which is generally seen as better and land ownership and usage. From the results in Table B18 it is apparent that about $35 \%$ of migrants owned some land before moving and there is a considerable spread of responses between villages. Table B19 lists land use by village (average per householder). Table B20 provides annual figures for food production, sales and income, tree crop production sales and income and finally income derived from cattle and poultry. The last two tables also relate to land cultivation and contain the responses to the question comparing the amount of land cultivated compared with two years ago and the reason why less land is cultivated. The usual response is that the same amount of land is being cultivated and when less is cultivated it is because it "doesn't pay". The last two tables, B23 and B24, were added as on afterthought to the question, what if the villages are so remote they have no access to markets? The most popular commercial outlet for food crops is the marketplace, whilst estate crops (the sample is much smaller), tend to be disposed of to cooperatives or traders.

As can be seen we have been overwhelmed by a mass of data; tabular presentation is only of limited usefulness in analysing all the detail as it does not isolate underlying influences. Because of this we turn to regression analysis in section 4.

## Section 4

## Exploratory Regression Analysis

In this section we apply regression analysis in an ottempt to isolate the causal influences on the various components of income. In a strict sense we are not identifying causality, we are advocating no theoretical model of wage or income determination. We are, however, looking for association between factors likely to influence income in a partial derivative context; that is, with the effects of variation in other explanatory variables removed. Such an analysis is more valuable than the preceeding tabular exercise, looking at a one or two way classification for a particular variable or variables. The hidden influences, which might underlie an apparent relationship in a tabular or graphical presentation, are brought out using multiple regression.

In the first set of results, presented in Table 25, an attempt is made to account for the variation in the various components of income by a selected set of explanatory variables. In some cases the variobles are continuous; for example, age of head of household, number of adults in household, year of arrival, area of land opened (in 00 hectares), or areas of land under cultivation for particular purposes. The remaining variables are binary ( 0 or 1 ) dummies: for example, the variable Rep2 is a variable which takes on the value 1 if the household arrived in Repelita 2, but is zero otherwise. A second dummy variable for Repelita 3 ( which would be zero for a rep 2 household and one for a rep 3 case) cannot be included because together they are equivalentto on intercept term, which is olready included in the equation. Had the second dummy (for Repelita 3) been included in place of the first dummy its coefficient would have been the negotive of its pertner. The reason is that the binary variables together measure the shift in the dependent
variable, up and down, due to the components of a particular explanatory variable.

Other dummy variables are included for type of settlement (small dry, large dry, estate and tidal), type of village, actual subdistrict, sex of household head, education level of household head, classification of migrant, area of origin of migrant, means by which the settler is able to dispose of food and/or tree crops (market, trader, co-op or other). This collection of binary variables, 74 in all, exhausts the possible set of reasonable explanators in the dato set.

In Table 25 we list the dependent variable across the row, beneath the title. Thus we are trying to explain the variation in wages, other agricultural income, income from food, income from tree crops, and so on. In each case the set of explanatory variables is the same; however, we only report those coefficients which are significantly different from zero at the 58 (*) and $1 \%\left({ }^{* *}\right)$ levels. This is to avoid the temptation of placing too much weight on results which are statistically insignificant. The effect of including these insignificant variables in a regression equation is a general loss in the precision with which the effects of the remaining variables is measured but it should not bias the remaining estimates. After presenting the results we will indicate why this is an exploratory exercise and we will proceed with a further analysis.

To interpret the results in Table 25 note that the intercept term is extremely large; it is composed of the unobserved constant and all the neglected dummy variable effects. No interpretation can be placed on this term. Next is the effect of the age of the head of household, this is only significant in the case of wages and non-agricultural income. The coefficient
of -142 in the wage equation means a household head of 30 years of age on average receives 1420 rps less per month from wage income than does a 20 year old household head. Causation is not implicit in the result as the 30 year household head may be more established and may derive more income from other sources, without the need to seek wage remuneration. The results for the number of adults indicate that a household with 5 adults receives 16920 rps more, on average, in total income per household than a family with 2 adults. This would seem to suggest that the typical extra adults in a household are dependants rather than active production members. Year of arrival has a negative relationship with wage and other (which includes wages as a major component) income. The later a household's year of arrival, the less the average income that household draws from wages; this would appear to suggest that the opportunities for earning wage income increase with the age of a settlement, or possibly that the newer settlers are too busy getting established to be able engage in direct wage generating activities. The differences implied are quite startling, on average a household arriving in 1984 earns 23120 less rps per month from wage sources than one which arrived in 1974.

Table 25
Regression Coefficients for Various Income Categories as a function of the Specified Variables

|  | wages | other agriculture | food | tree crops | nonagriculture | other | total income |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| constant | 214771** |  |  |  |  | 274984** |  |
| age head | -142** |  |  |  | $-137 *$ |  |  |
| number adults | 1819** | 435* | 1058* |  | 1133* | 2004** | 5640** |
| year arrival | -2312** |  |  |  |  | -3060** |  |
| land opened | -24* |  |  |  |  |  |  |
| irr sawah open |  |  |  |  | -108* |  |  |
| tidal open |  |  | 68** |  |  |  |  |
| bunded open |  | 14* | 75** |  |  |  |  |
| swamp open |  |  |  |  |  |  |  |
| dry field |  |  | 30* |  | $-30 *$ |  | 62* |
| fish pond | 122* |  | 123* |  |  |  |  |
| tree crop |  | -16** | 53** | 35** |  | $-56 *$ |  |
| other food |  | -84* |  |  |  |  |  |
| repelita 2 |  |  | -10123** |  |  |  |  |
| small dry |  | 4544* |  |  |  |  |  |
| large dry |  | 5437* |  |  |  |  |  |
| estate | 17212* | 5667* |  |  |  |  |  |
| linear | -19429** | -4322** |  |  | 10450* | $-25633 * *$ |  |
| nucleated | -8827* |  |  |  | 12891** |  |  |
| vill 140102 | 49249** |  |  |  |  | 49432** |  |
| vill 140104 | 11868* |  |  |  |  |  |  |
| vill 140108 | 14635** |  |  |  | -11366* |  |  |
| vill 140202 |  | 13995** | 31108** |  |  |  |  |
| vill 140205 |  | 9626* |  | -4445* |  |  |  |
| vill 140404 | 46146** | 7232* |  | -3695* |  | 50474** |  |
| vill 160109 |  | 13410** |  |  |  | 21415* |  |
| vill 160110 | 15700** | 8521** |  |  |  | 22594* |  |
| vill 160171 | 24362** | 11885** |  | 16117** |  | 28155* |  |
| vill 160203 |  | -3818* |  |  | -16142* |  | $-39884 * *$ |
| vill 160204 | 9031* | 10155** |  |  | -12193* | 15647* |  |
| vill 160205 |  |  |  |  |  |  | -22970 * |
| vill 160212 |  | 10828** |  |  |  |  |  |
| vill 160374 | 22522** |  |  |  | $-17452 * *$ | 24302** |  |
| vill 160605 |  | 7898** |  |  |  |  |  |
| vill 160607 |  | 10227** |  |  |  |  |  |
| vill 620102 |  |  |  |  | $-17864 * *$ |  | -33886* |
| vill 620203 |  | 39783** | -17016* |  |  | 51725* |  |


|  | wages Ca | Regressio Categories other agriculture | Table 25 <br> Coefficie <br> a function food | cont.) <br> nts for Yar of the Sp tree crops | ious Income cified Uari nonagriculture | bles other | total income |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| vill 620401 |  | 6738* |  |  |  |  |  |
| vill 620413 |  |  |  |  |  |  | -43511* |
| vill 630210 |  | -3739* |  |  |  |  | -26041* |
| vill 630211 |  |  |  |  |  |  |  |
| vill 630403 |  |  | -19426* |  |  |  | . |
| vill 630408 |  |  |  |  |  |  |  |
| vill 640104 | 33365** |  |  |  | 30623** | 40910** | 51614* |
| vill 640109 | 38695** |  | 20816** |  |  | 37335** | 28670* |
| vill 640215 | 22115** | $-8005 * *$ | 74423** | 5990** | 18049* |  | 77213** |
| vill 647101 |  |  |  | -8220** |  |  |  |
| vill 720314 |  |  |  |  |  |  |  |
| vill 740314 |  |  |  |  | -10614* |  |  |
| male |  |  |  |  |  |  |  |
| no education |  |  |  |  |  |  |  |
| not compl prim |  |  |  |  |  |  |  |
| primary school |  |  |  |  |  |  |  |
| jr high school |  |  | 4 |  |  |  |  |
| high school |  |  |  |  |  |  |  |
| spons migrant |  |  |  |  |  |  |  |
| spont migrant |  |  |  |  |  |  |  |
| military |  |  |  |  | -12090* | 60222** | 35155** |
| food/orig | -4841** | $-1231 * *$ |  |  | -2924* | -8121**- | 11488** |
| trees/orig |  |  |  |  | -6984* |  | -12859 |
| stock/origin | $-13057 *$ |  |  |  |  |  | -14131 |
| fish/orig |  |  |  |  |  |  | -6192 |
| non-ag/orig |  |  |  |  |  | -6643* | -7300 |
| owned land/origin |  |  | 1873* |  |  |  | 8919** |
| from riau/sumatr |  |  |  |  |  |  |  |
| from java |  |  |  |  |  |  |  |
| from bali |  |  |  |  |  |  |  |
| from kalimintan |  |  |  |  |  |  |  |
| food sold market |  | 1147* | 4386** |  |  |  |  |
| food sold trader | -3125* | 1667** | 8038** | -672* |  |  |  |
| food sold co-op |  | 2557* |  | -2232** |  |  |  |
| tree sold market | -10739** |  | 8606** | 7275** |  |  | 22575** |
| tree sold trader |  | 4297** |  | 18352** |  |  | 20360* |
| tree sold 00-0p | $-14801 * *$ |  |  | 25670** |  |  | 24158* |
| R-squared | . 256 | . 311 | . 261 | . 668 | . 098 | . 198 | . 222 |

The next set of varisbles relate to land usage, amount of land opened, bunded paddy used in production, irrigated sawah used in production, and so an. As one might anticipate, this has little effect on wage, non agriculture and other income, but is a significant determinant of food income. The units of measurement are in hundreds (actually . 00 ha ). Hence, on average, a difference of .1 hectare opened makes a difference of 6800 rps to household income from food, if the land is tidal. The difference is slightly more for bunded land and much more for fish ponds.

Immediately below these continuous variables is the first of the dummy variables - Repelita 2. The effect of arrival in the second or third repelita is generally insignificant for most income categories. The one exception to this is the food group, where the results suggest a significantly lower food-incame performance for this group of transmigrants. The effect of being in the second or third repelita is insignificant on total income, suggesting (perhaps) that the transmigrants compensate by turning their efforts to ather activities.

The effect of settlement type on income is generally negligible, with the exception of the other agriculture category. In this case the tidal category experiences an income reduction of around 15000 rps , whilst the other three categories show average levels of household income of around 5000 rps . One notable figure here is the relatively high wage earnings of estate settlers, when other effects ore removed.

The next set of dummies account for the village layout; linear, nucleated or combination. The results point to wage incame of combination farmers being higher than thase on linear or nucleated settlements, whilst non-agricultural income is less. There is no significant variation in tatal income due to type of
village and no significant variation in food income. The outlier noticed in the tabular presentation is subsumed as part of the overall random variation.

Following the village layout dummy variables are 31 dummies for the actual villages themselves. These can be interpreted as "with effects such as age, sex of head, year of arrival, and so on removed, what is the average effect on income of a particular transmigrant household being in a given subdistrict. Some villages show up particularly well, others with negative total income dummies rather poorly. A pattern emerges of subdistricts in Riau and Sumatra deriving notable contributions to income from wages, other agriculture and the other income category. With the exception of subdistrict 640215 , elready commented on, there is a fair amount of variation in income derived from food production, so that subdistrict is not a significant determinant of food income.

The next results are slightly surprising, the presence or absence of a male as head of household is of no consequence to the various levels of income achieved. Education is unimportant. The migrant categories do not differ from each other in terms of income earning capacity, with the obvious exception of the income obtained by the military settlers from the other income (including
 from non-agriculture than the other categories of migrants, after adjustment for other influences.

The final set of variables were introduced to assess the importance of trading arrangements on income generation. In the case of wages the significant terms are negative for market, trader and co-op disposal of food and tree crops. This suggests that in the absence of such outlets it is mare profitable for migrants to seek wage generating employment. The other returns are generally significant and positive; a household disposing of food via
markets tends to receive 4386 rps per month on average, if done through a trader this figure becomes 8038 rps , and so on. The tree crop income result is interesting in that it demonstrates that thase farmers who use the co-op as their outlet receive, on average 25670 rps compared to 18352 rps via traders and 7275 rps via markets. Likewise the effect of access to commercial disposal of produce is extremely important in terms of its contribution to total income, of those who dispose of their produce in this way.

Finally, the measure of goodness of fit is given in the last row of Table 25; whilst these results indicate that relatively low proportions of the variation in the sources of income have been explained a number of individually significant influences have been discoyered. Furthermore, in each case the $F$ test on the overall relationship, calculated as $\left[r^{2} /(n-k)\right] /\left[\left(1-r^{2}\right) / k\right] \sim F_{n-k, k}$ would lead to rejection of the null hypothesis - indicating that the equations do, in fact, explain a significant proportion of the variation in the dependent variables.

One problem present in the treatment of the income equations used in Table 25 is that in many cases the fraction of the dependent variable observations which is non zero is relatively small. The appropriate estimator in this case is a Tobit model rather than least squares. The bias arises because the dependent variable follows the zero axis for some way before assuming positive values. The least squares model, fits the entire data set and the line will straddle both the zero observations and the positive income terms. What is needed is a regression model which predicts if the household will avail itself of a particular income source and, given that it does, how much the conditional response of income to the explanatory variables is. One way to produce an asymptatically unbiased estimator of the slope coefficients was rediscovered by Greene [1981] and is based on an earlier paper by Pearson and Lee
[1907]. Greene proves, under rather over-stringent conditions for our purposes, that all one need do is estimate the least squares regression using only the subsample of observations for which the dependent variable is non-zero. The resulting least squares slope coefficients are then scaled by the reciprocal of the non-limit sampling fraction to produce the asymptotically unbiased estimates. No standard error adjustments were given in that paper and the problem appears to be that the standard errors on the coefficients can be quite large if the proportion of non-zero dependent variables is low. In Tables 26 and 27 below, we have re-estimated the equations based on the subsample of observations for which the dependent variable is positive. The sample fraction can be calculated from the final row in each table. Thus, for wages in Table 26 We find that 1012 of the 2199 households obtain income from wages which means the slope coefficients must be multiplied by $2199 / 1012$ to be asymptotically unbiased. One problem, which occurs in the context of dummy variable regression, is that selection of a subsample can mean selection of all of one type of a given dummy variable. In other words what had been a dummy variable becomes a column of ones and one or more columns of zeros, leading to singularity of the moment matrix. We avert this by examination of the results and deletion of sets of regressors to which this happens. For one income source with a very small non-limit sampling fraction, rent and sharecropping income, this was a particular headache, and the equation was eventually completely eliminated.

Table 26
Regression Coefficients for Yarious Income Categories as aunction of Specified Variables

|  | wages | other agric | other non-agric | other income |
| :---: | :---: | :---: | :---: | :---: |
| constant | 286225** | -39845 | 79071 | -84199** |
| age head | -43 | -34 | -38 | 28 |
| number adults | 790 | 805** | 350 | 25 |
| year arrival | -3530** | 568* | -779 | 977** |
| land opened | -33 | -9 | -13 | 8 |
| irr sawah open | -90 | -57** | 33 | 24 |
| tidal open | -30 | -5 | -6 | 5 |
| bunded open | -57 | 3 | 42 | 8 |
| swamp open | 105 | -47 | 12 | -117 |
| dry field | 45* | 8 | 42 | -2 |
| fish pond | 136 | 14 | 8 | 12 |
| tree crop | -7 | 8 | 19 | -1 |
| other food | -151 | -195 | -867** | -57 |
| repelita 2 | -9308 | 4196** | -5560 | 862 |
| small dry | -2946 | 2882* | -33847** | 20270** |
| large dry | 7994 | 4150** | -26796* | 15251* |
| estate | 24677 | -1326 | -55148** | 32923** |
| linear | -5968 |  | 9129 | -12759* |
| nucleated | 746 |  | 10334 | -10611* |
| vill 140102 | 39450** |  | 7783 | 11307 |
| vill 140104 | 18305* |  | 2641 | 19623** |
| vill 140108 | 19817** |  | 11239* | 12573** |
| vill 140202 | 13861 |  |  | 8036 |
| vill 140205 | 21518 |  | -25265 | 18956 |
| vill 140404 | 30955* |  | 32745 |  |
| vill 160109 | 10076 |  | 8445 | -3638 |
| vill 160110 | 3399 |  | 12769. | 1963 |
| vill 160171 | 18208 |  | -11749 | 2220 |
| vill 160203 | -14854* |  | 6998 | 4915 |
| vill 160204 | 5920 |  | 4944 | -708 |
| vill 160205 | 5996 |  | 13900** | 1743 |
| vill 160212 | 17266 |  | -25690 | 15412* |
| vill 160374 | 11117 |  | 13798** | 1773 |
| vill 160605 | 6425 |  | -23727 | 17892* |
| vill 160607 | 22031 |  | -24658 |  |
| vill 620102 | -4364 |  | 1096 | -3747 |
| vill 620203 | 11693 |  | 12199 | -1482 |
| vill 620401 | 13162 |  | -23366 | 12450 |
| vill 620413 | 5562 |  | -22871 | 10364 |
| vill 630210 | 3558 |  | 20590** | 727 |
| vill 630211 | 20615 |  |  | 7138 |
| vill 630403 | 9716 |  |  | 17986* |
| vill 630408 | 16737 |  | -16216 | 15675 |

Table 26(cont)
Regression Coefficients for Various Income Categories as a Function of Specified Yariables

|  | wages | other agriculture | other non-agric | other income |
| :---: | :---: | :---: | :---: | :---: |
| vill 640104 | 65407** |  |  | 118418** |
| vill 640109 | 54368** |  | 7491 | -3645 |
| vill 640215 | 87911** |  |  |  |
| vill 647101 | 1762 |  |  | 29842** |
| vill 720314 | 14204 |  | 37611** | 19892** |
| vill 740314 | 6662 |  | -3097 | -609 |
| mak | -988 | 756 | -735 | 1173 |
| no education | 12444 |  | -653 | -208 |
| not compl prim | 13173 |  | -985 | 43 |
| primary school | 15277 |  | -1401 | -320 |
| jr high school | 25172 |  | 2104 | 3810 |
| high school | 21572 |  | 2733 | 505 |
| spons migrant | 4221 | -319 | 7265 | -1420 |
| spont migrant | 9713 | -187 | 6078 | -2204 |
| military | 30361** | -527 | 8469 | 468 |
| food/orig | -5872** | -2031** | 1745 | 10 |
| trees/orig | -1036 | -2129 | 10851** | 1622 |
| stock/origin | -32390** | -6111 | 3179 | 155 |
| fish/orig | -2924 | -544 | 1408 | -861 |
| non-ag/orig | -809 | -386 | 3121 | -164 |
| owned land/orig | 2914* | 1558** | 483 | -452 |
| from riau/sumtr | 5166 |  | 5298 | 1771 |
| from jaya | -1072 |  | -4122 | 2660 |
| frombali | 8039 |  | -7243 | 5791 |
| from kalimintan | 20861** |  | 4509 | 664 |
| fod sold market | 1217 | 845 | 3663* | -139 |
| fd sold trader | -551 | 4785** | -991 | 460 |
| fo sold co-op | -8146 | 3921 | -2513 | 2089 |
| tr sold market | -1596 | -562 | 1777 | 729 |
| tr sold trader | 7514 | 17638** | -3580 | -8267 |
| tr sold co-op | 11 | 519 | 30284** | 2389 |
| R-squared | . 382 | . 153 | . 359 | . 538 |
| Sample | 1012 | 1246 | 509 | 790 |

Table 27

Regression Coefficients for Yarious Income Categories on Selected Regressor Variables

|  | food | treecrops | stock | other agriculture | other income | total income |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| constant | -10368 | 15976 | 24982 | 54688 | 263548** | 95979 |
| age head | -25 | -73 | 16 | -72 | -85 | -166 |
| number adults | 1064* | 1658* | 331 | 461 | 1749* | 5640** |
| year arrival | 53 | -187 | -208 | -459 | -2950** | -430 |
| land opened | -3 | -27 | 4 | -19 | -27 | -50 |
| Irr sawah open | 46 | 26 | -8 | -40 | -47 | -136 |
| tidal open | 69** | 31 | -16* | -28 | 0 | 57 |
| bunded open | 71** | 15 | -8 | 20 | -11 | 66 |
| swamp open | -17 | -72 | 45* | 1123** | 20 | 270 |
| dry field | 28* | 31 | 0 | -19 | 20 | 62 |
| fish pond | 124* | -224 | -194 | -702** | 79 | 283 |
| tree crop | 55** | 197** | -2 | 76** | -40 | 51 |
| other food | -106 | 69 | 18 | -326 | -113 | -303 |
| repelita 2 | -11606** | -30806 | -454 | 22239** | -6211 | -9552 |
| small dry | -535 | -15917 | -4761 | -12453* | -7811 | -946 |
| large dry | 1970 | -11266 | -2450 | -7344 | -4571 | 4206 |
| estate | 3640 | -26660 | -4692 | 30641* | -4567 | 9486 |
| linear | 4208 | 2503 | -605 | 248 | -11530 | -8013 |
| nucleated | -2340 | -2198 | 243 | 1472 | 6624 | -345 |
| vill 140102 | -5032 | 3448 | 5565* |  | 50232** | 21662 |
| vill 140104 | 6727 | 18536 | 2875 |  | 14669 | -738 |
| vill 140108 | -2050 | 22210* | 2752 |  | 13475 | -20461 |
| vill 140202 | 34774** | 21358 | 1156 |  | 771 | -1653 |
| vill 140205 | 15727 | 27631 | 144 |  | 1257 | -21610 |
| vill 140404 | -2128 |  | 5072 |  | 64579** | 21038 |
| vill 160109 | -722 | 68556** | 4819 |  | 23118* | -14605 |
| vill 160110 | -9256 | 31695 | 9386** |  | 24686* | -12230 |
| vill 160171 | -784 | 69804** | 3122 |  | 24058 | 2370 |
| vill 160203 | 7650 |  | 4172** |  | -13773 | -39885** |
| vill 160204 | 6216 | 39463** | 4036* |  | 14780 | -13468 |
| vill 160205 | 4654 |  | 2477 |  | 8612 | -22970 |
| vill 160212 | -6901 |  | 508 |  | 7968** | -27493 |
| vill 160374 | -748 | 18925 | 752 |  | 24196 | -13814 |
| vill 160605 | -6642 | -7911 | 8 |  | 19359 | -15773 |
| vill 160607 | -2326 | 27419 | -3934 |  | 6533 | -449 |
| vill 620102 | 8557 |  | 5496 |  | -6640 | -33886* |
| vill 620203 | -15683* |  |  |  | 51183** | -4202 |
| vill 620401 | -7826 |  | -1095 |  | -13105 | 36231 |
| vill 620413 | -7595 | 1909 | -1106 |  | -12747 | -43511* |
| vill 630210 | 13 | 8012 | 2304 |  | 13394 | -26042* |
| vill 630211 | 171 |  | 1174 |  | 10333 | -2941 |
| vill 630403 | -17565 |  | 394 |  | 6722 | -37553 |
| vill 630408 | -9190 |  | -1355 |  | -899 | -32479 |
| vill 640104 | 16375 | 22918 | 11694** |  | 62275** | 51614* |
| vill 640109 | 23023** | 40837** | 9361** |  | 50144** | 28671 |

Table 27(cont)

## Regression Coefficients for Various Income Categories on Selected Regressor Yariables

|  | food | treecrops | stock | other agriculture | other income | total income |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| vill 640215 | 85188** | 39461** | 7011** |  | 85486** | 77214** |
| vill 647101 | 13821 | 45866** | 2075 |  | 13284 | -1087 |
| vill 720314 | 12017* | 42472** | 3079 |  | 10523 | -8816 |
| vill 740314 | 2867 | 11715 | 1642 |  | 898 | 4234 |
| male | 703 | -5444 | 440 | -6056 | -2186 | 1230 |
| no education | 10226 | 4655 | -6777 |  | 3964 | 6842 |
| not compl prim | 8222 | 313 | -6808 |  | 4704 | 4691 |
| primary school | 8587 | 705 | -6350 |  | 6978 | 8653 |
| ir high school | 7573 | 7487 | -5358 |  | 14645 | 23632 |
| high school | 9130 | 8426 | -3460 |  | 15318 | 22676 |
| spons migrant | -1536 | -5943 | 688 | -6919 | -6089 | -12887 |
| spont migrant | -2141 | -6158 | 389 | -8691 | -2070 | -9189 |
| military | -1856 | -2526 | 674 | -24176 | 52249** | 35156** |
| food/orig | 25 | 3099 | 6 | 3140 | -8208** | -11488** |
| trees/orig | -7 | 1529 | 1341 | 157 | -2507 | -12859 |
| stock/origin | 7772 | 2038 | 4228** | 16403 | -16558 | -14191 |
| fish/orig | 573 | 5326 | 693 | 12183** | -7785 | -6192 |
| non-ag/orig | 783 | -1056 | 2478** | -598 | -5650 | -7300 |
| owned land/orig | 1954* | 876 | 497 | -547 | 3261 | 8919** |
| from riau/sumtr | -3570 | -11334 | 179 | 18938** | 11928 | 6258 |
| from java | 572 | 7617 | -104 | 15849 | 1715 | 7608 |
| from bali | 1830 | 8663 | 2098 | 13337 | 6666 | 9800 |
| from kalimintan | -1587 | 4003 | 925 | 5019 | 5555 | 17445 |
| fd sold market | 3703** | 2670 | 717 | 2578 | 1975 | 5488 |
| fd sold trader | 6808** | -3616 | -624 | -1369 | 1220 | 3959 |
| fo sold co-op | 3374 | -13399** | 151 |  | 663 | -8181 |
| tr sold market | 9766** | 2255 | 1128 | 9484 | -5557 | 22575** |
| tr sold trader | 5344 | -41 | 20 | 6119 | 5278 | 20361* |
| tr sold co-op | -1469 | 796 | 1406 | 10042 | -945 | 24159* |
| R-sqd | . 267 | . 806 | . 177 | . 700 | . 222 | . 222 |
| Sample | 2095 | 250 | 1100 | 237 | 1955 | 2199 |

As mentioned, to interpret the coefficients it is necessary to multiply the slope coefficients by the reciprocals of the sampling fractions. For wages, We note that year of arrival is again significant, and the interpretation is the same as before. Many of the previously significant variables, in the statistical sense, are no longer so. However, subdistricts 64104-64215 again show up as being different from the rest in relation to wage incame. The military transmigrants now appear as a group with o significantly higher wage income than other groups; whilst migrants who were invalved in food and stock production in their areas of origin do not tend to seek wage income in the new oreas.

Skipping to the variables explaining food income, in Toble 27, we note that 2095 of the 2199 households derive some revenue from food. Given the non-limit sampling fraction is so low it may be anticipated the results will be much the same as for Table 25, and this is indeed the case except that some previously insignificant variables now appear significant.

Proceeding to treecrops it is advisable to first note that the sompling fraction is small. Only 250 of the households derived income from treecropping. Of those households that do derive income from treecropping we note that the explanation provided by the regressor variables is very high; 80\% of the variation in the dependent variable has been explained. However, when one looks to the reasons we can explain this veriotion, it is rother disoppointing. The most significant set of explanotory variables ore the subdistricts (vill) themselves. All this means is that this group of househalds have a different pattern in relation to treecrop income than other hauseholds.

Proceeding quickly through the remaining columns in Table 27 note that the derivation of stack income in the transmigrant areas relates positively to that same activity being the primary source of income in the transmigrants area of origin. "Other agriculture" involves few transmigrants and there is little of significence in the results. The results for "non-egriculture" involved large and implausible coefficients, presumably due to a dummy variable problem as the non-limit sampling fraction was low. Hence the column was deleted. The remaining two columns of Table 27 are for "other income" and "total income" and the results in the former case are essentially the same as in Table 25 (with 1955 non-limit observations) while in the latter case they are exactly the same.

To summarise, regression analysis provides some pointers as to the factors influencing income determination; however, as with the tabular enalysis of the previous section the results tend to be inconclusive and should be interpreted with caution.

## Section 5

## Comparison of Consumption Patterns

The transmigration survey tape includes a section drawn from a susenas style questionnaire. Consumption of 19 food items, in the last week, is recorded in quantity and expenditure terms. For non-food items the information is recorded on a monthly basis, for expenditure only. Collecting disparate commodities under a single label poses aggregation problems whether one is considering food or non-food items: the quantities in the food group are not particularly meaningful given the different items they represent and the different quality levels possible within those same items. Nevertheless, getting back to the quantity level enables us to make some comparisons of consumption between transmigrant households and other households in transmigrant areas or households in rural Jaya. Income comparisons would not be particularly useful in the absence of knowledge of the prices paid for commodities in the areas under comparison. One proposition to be examined below is whether price levels are generally higher in transmigrant areas.

The commodity classification used in the survey is listed on page 10 of the User Guide to the 1984 Transmigration Survey. There are 19 food and 19 non-food items. As mentioned, the food group are on a weekly basis and include quantities as well as expenditures. To form total monthly expenditure per household the weekly food figures are multiplied by 30/7. The results below have been converted to a per capita basis. Unfortunately, it was not possible to weight this "per capitaisation" by child-adult factors 8 as the only information on the extracts of the susenas tapes used related to total number of individuals in each household.

Three Susenas tapes were made available to the author. They were released very soon after the material was corrected and as a result still contain some discrepancies. When obvious inconsistencies were noticed the entire household record was removed from the sample. The result was that the samples for the respective groups were: dryland transmigrants - 1555, tidal transmigrants - 640, susenas (transmigrant areas) - 2755, susenas (rural Java 1) - 6490, susenas (rural Java 2) - 1593. We experienced a few minor problems in matching the 38 commodities used in the transmigration survey, in the absence of document translations. As will be noticed below, the consumption patterns for some items differ markedly between the transmigrant and non-transmigrant areas, and the worry is that this could in one or two cases by due to inappropriate aggregation.

Table 28 presents the quantities and expenditures on each item in the food and non-food categories. Obviously, qty refers to quantity whilst exp refers to expenditures. Standard errors are recorded in parenthesis and it will be noted they are almost invariably small relative to their group means.

The quantity of rice consumed per head is lower on dryland than tidal settlements but is slightly higher than in other areas, with the exception of Rural Java (2), which covers the provinces of ... and. The quantity of fresh (and dry) corn consumed per copita is much higher for dryland transmigrant families than any other in the samples. In the ground corn category it will be noticed that the quantity consumed is higher on dryland then tidal settlements, very low amongst non-transmigrants in transmigration areas but extremely high in the Java-2 areas. For cassava, sweet potatoes and "other starch" we notice very much higher consumption
levels amongst the transmigrants when compared with the remaining groups considered here.

Table 28
Weekly Food Consumption:
Quantities and Expenditures per Capita (standard errors in parenthesis)
transmig transmig non- rural rural dryland tidal transmig Java 1 Java 2

| rice qty | 235 | 255.3 | 220.7 | 221.2 | 145.0 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $(4.0)$ | $(7.7)$ | $(1.7)$ | $(1.3)$ | $(2.1)$ |
| rice exp | 739.2 | 785.7 | 817.4 | 697.4 | 432.8 |
|  | $(13.0)$ | $(24.3)$ | $(6.9)$ | $(4.3)$ | $(6.6)$ |
|  |  |  |  |  |  |
| fresh corn qty | 30.0 | 8.8 | 7.1 | 6.5 | 1.3 |
|  | $(2.6)$ | $(2.2)$ | $(0.6)$ | $(0.4)$ | $(0.3)$ |
| fresh corn exp | 30.3 | 11.8 | 9.6 | 5.9 | 1.5 |
|  | $(2.7)$ | $(3.9)$ | $(0.9)$ | $(0.4)$ | $(0.4)$ |


| dry corn qty | 6.4 | 3.18 | 0.8 | 0.85 | 4.8 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $(1.1)$ | $(1.0)$ | $(0.2)$ | $(0.1)$ | $(0.9)$ |
| dry corn $\exp$ | 7.9 | 4.0 | 1.23 | 0.96 | 5.1 |
|  | $(1.1)$ | $(1.1)$ | $(0.3)$ | $(0.1)$ | $(1.0)$ |


| ground corn aty | 21.9 | 14.0 | 4.8 | 29.3 | 92.3 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $(2.0)$ | $(1.7)$ | $(0.5)$ | $(1.0)$ | $(3.2)$ |
| ground corn exp | 28.3 | 16.2 | 7.2 | 33.3 | 114.5 |
|  | $(2.8)$ | $(2.1)$ | $(0.8)$ | $(1.1)$ | $(4.0)$ |


| cassave qty | 109.4 | 61.8 | 54.4 | 32.6 | 29.0 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $(6.0)$ | $(4.0)$ | $(1.7)$ | $(0.8)$ | $(1.7)$ |
| cossava exp | 35.3 | 24.5 | 38.2 | 17.2 | 16.2 |
|  | $(2.2)$ | $(2.0)$ | $(1.4)$ | $(0.4)$ | $(0.9)$ |


| ground cassave qty | 53.5 | 39.4 | 6.6 | 8.0 | 4.4 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $(3.4)$ | $(4.9)$ | $(0.7)$ | $(0.5)$ | $(0.7)$ |
| ground cassava exp | 26.7 | 36.0 | 6.5 | 6.9 | 2.5 |
|  | $(1.8)$ | $(3.7)$ | $(0.7)$ | $(0.4)$ | $(0.4)$ |


|  | ```Table 28(cont.) Weekly Food Consumption Quantities and Expenditures per Capita (standard errors in parenthesis)``` |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| sweet potato qty | $\begin{aligned} & 10.6 \\ & (1.4) \end{aligned}$ | $\begin{aligned} & 10.3 \\ & (1.8) \end{aligned}$ | $\begin{aligned} & 0.7 \\ & (0.1) \end{aligned}$ | $\begin{aligned} & 1.5 \\ & (0.1) \end{aligned}$ | $\begin{aligned} & 4.2 \\ & (0.5) \end{aligned}$ |
| sweet potato exp | $\begin{aligned} & 8.4 \\ & (1.1) \end{aligned}$ | $\begin{aligned} & 5.6 \\ & (1.0) \end{aligned}$ | $\begin{aligned} & 3.2 \\ & (0.4) \end{aligned}$ | $\begin{aligned} & 4.0 \\ & (0.3) \end{aligned}$ | $\begin{aligned} & 5.6 \\ & (0.6) \end{aligned}$ |
| other starch qty | $\begin{aligned} & 34.0 \\ & (2.9) \end{aligned}$ | $\begin{aligned} & 40.6 \\ & (3.8) \end{aligned}$ | $\begin{aligned} & 27.1 \\ & (1.4) \end{aligned}$ | $\begin{aligned} & 3.5 \\ & (0.2) \end{aligned}$ | $\begin{aligned} & 2.9 \\ & (0.4) \end{aligned}$ |
| other starch exp | $\begin{aligned} & 22.0 \\ & (1.9) \end{aligned}$ | $\begin{aligned} & 24.6 \\ & (2.2) \end{aligned}$ | $\begin{aligned} & 36.1 \\ & (1.8) \end{aligned}$ | $\begin{aligned} & 3.1 \\ & (0.2) \end{aligned}$ | $\begin{aligned} & 2.2 \\ & (0.3) \end{aligned}$ |
| fish qty | $\begin{aligned} & 153.9 \\ & (5.0) \end{aligned}$ | $\begin{aligned} & 134.4 \\ & (6.6) \end{aligned}$ | $\begin{aligned} & 80.1 \\ & (1.8) \end{aligned}$ | $\begin{aligned} & 54.3 \\ & (0.8) \end{aligned}$ | $\begin{aligned} & 39.8 \\ & (1.2) \end{aligned}$ |
| fish exp | $\begin{aligned} & 158.6 \\ & (5.3) \end{aligned}$ | $\begin{aligned} & 156.9 \\ & (9.4) \end{aligned}$ | $\begin{aligned} & 373.1 \\ & (6.2) \end{aligned}$ | $\begin{aligned} & 143.7 \\ & (2.5) \end{aligned}$ | $\begin{aligned} & 129.3 \\ & (3.3) \end{aligned}$ |
| meat qty | $\begin{aligned} & 13.3 \\ & (1.8) \end{aligned}$ | $\begin{aligned} & 4.3 \\ & (1.4) \end{aligned}$ | $\begin{aligned} & 6.3 \\ & (0.4) \end{aligned}$ | $\begin{aligned} & 3.3 \\ & (0.1) \end{aligned}$ | $\begin{aligned} & 1.7 \\ & (0.1) \end{aligned}$ |
| meat exp | $\begin{aligned} & 34.4 \\ & (1.8) \end{aligned}$ | $\begin{aligned} & 9.3 \\ & (2.5) \end{aligned}$ | $\begin{aligned} & 83.0 \\ & (4.4) \end{aligned}$ | $\begin{aligned} & 53.7 \\ & (2.1) \end{aligned}$ | $\begin{aligned} & 36.7 \\ & (3.0) \end{aligned}$ |
| eggs quty | $\begin{aligned} & 73.7 \\ & (3.5) \end{aligned}$ | $\begin{aligned} & 46.7 \\ & (4.4) \end{aligned}$ | $\begin{aligned} & 58.2 \\ & (1.9) \end{aligned}$ | $\begin{aligned} & 55.5 \\ & (1.2) \end{aligned}$ | $\begin{aligned} & 59.2 \\ & (2.6) \end{aligned}$ |
| eggs exp | $\begin{aligned} & 60.2 \\ & (4.1) \end{aligned}$ | $\begin{aligned} & 42.4 \\ & (3.8) \end{aligned}$ | $\begin{aligned} & 58.6 \\ & (1.9) \end{aligned}$ | $\begin{aligned} & 42.9 \\ & (1.0) \end{aligned}$ | $\begin{aligned} & 38.1 \\ & (1.8) \end{aligned}$ |
| milk qty | $\begin{aligned} & 27.7 \\ & (2.6) \end{aligned}$ | $\begin{aligned} & 8.8 \\ & (1.7) \end{aligned}$ | $\begin{aligned} & 2.5 \\ & (0.2) \end{aligned}$ | $\begin{aligned} & 1.0 \\ & (0.1) \end{aligned}$ | $\begin{aligned} & 0.7 \\ & (0.1) \end{aligned}$ |
| milk exp | $\begin{aligned} & 26.6 \\ & (4.5) \end{aligned}$ | $\begin{aligned} & 18.1 \\ & (3.0) \end{aligned}$ | $\begin{aligned} & 28.8 \\ & (1.6) \end{aligned}$ | $\begin{aligned} & 11.6 \\ & (0.7) \end{aligned}$ | $\begin{aligned} & 11.4 \\ & (1.7) \end{aligned}$ |

Table 28(cont.)
Weekly Food Consumption: Quantities and Expenditures per Capita (standard errors in parenthesis) $\begin{array}{llll}\text { transmig transmig non- } & \text { rural } & \text { rural } \\ \text { dryland } & \text { tidal } & \text { transmig } & \text { Java } 1\end{array}$ Java 2

| vegetables qty | 195.3 | 170.0 | 37.4 | 40.8 | 36.1 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| vegetables exp | $(6.2)$ | $(6.4)$ | $(0.7)$ | $(0.5)$ | $(0.8)$ |
|  | 203.7 | 178.4 | 250.0 | 194.3 | 157.2 |
|  | $(4.7)$ | $(8.2)$ | $(4.0)$ | $(1.8)$ | $(2.5)$ |
| beans qty | 132.6 | 80.9 | 6.1 | 12.0 | 12.0 |
|  | $(5.0)$ | $(5.4)$ | $(0.2)$ | $(0.2)$ | $(0.3)$ |
| beans exp | 99.5 | 56.5 | 43.5 | 97.8 | 107.8 |
|  | $(3.2)$ | $(4.0)$ | $(1.7)$ | $(1.4)$ | $(2.7)$ |
|  |  |  |  |  |  |
| fruit qty | 148.4 | 105.4 | 44.7 | 26.0 | 14.1 |
|  | $(5.6)$ | $(5.7)$ | $(1.1)$ | $(0.5)$ | $(0.6)$ |
| fruit exp | 98.0 | 80.1 | 143.1 | 87.8 | 52.2 |
|  | $(3.4)$ | $(5.1)$ | $(4.1)$ | $(2.1)$ | $(3.4)$ |
|  |  |  |  |  |  |
|  | 195.3 | 174.8 | 26.4 | 14.8 | 14.3 |
| other qty | $(6.1)$ | $(6.6)$ | $(1.1)$ | $(0.4)$ | $(0.8)$ |
|  | 405.5 | 356.9 | 518.8 | 322.7 | 341.6 |
| other exp | $(9.1)$ | $(13.5)$ | $(6.3)$ | $(2.7)$ | $(5.0)$ |
|  |  |  |  |  |  |
|  | 48.3 | 35.0 | 22.1 | 16.7 | 13.2 |
|  | $(3.2)$ | $(4.2)$ | $(0.8)$ | $(0.5)$ | $(0.8)$ |
| proc food qty | 38.3 | 30.0 | 165.6 | 218.3 | 213.1 |
|  | $(3.0)$ | $(3.9)$ | $(11.9)$ | $(5.3)$ | $(10.8)$ |
| proc food exp |  |  |  |  |  |
|  | 177.9 | 151.9 | 143.9 | 66.9 | 89.9 |
|  | $(6.1)$ | $(6.4)$ | $(8.9)$ | $(1.0)$ | $(2.5)$ |
| tobac \& alcohol qty | 196.6 | 199.3 | 291.4 | 167.6 | 180.1 |
| tobsc \& alcohol exp | $(8.4)$ | $(7.5)$ | $(2.8)$ | $(5.7)$ |  |
| (6.0) |  |  |  |  |  |

## Table 29

Monthly Per Capita Expenditures on Non-Food Items (standard errors in parenthesis) transmig transmig non- rural rural dryland tidal transmig Java 1 Java 2

| energy/ fuel | $\begin{aligned} & 696.0 \\ & (19.5) \end{aligned}$ | $\begin{aligned} & 738.1 \\ & (23.8) \end{aligned}$ | $\begin{aligned} & 1002.2 \\ & (21.4) \end{aligned}$ | $\begin{aligned} & 1464.0 \\ & (13.6) \end{aligned}$ | $\begin{aligned} & 1516.1 \\ & (26.3) \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| housing | $\begin{aligned} & 354.8 \\ & (32.5) \end{aligned}$ | $\begin{aligned} & 238.9 \\ & (36.4) \end{aligned}$ | $\begin{aligned} & 1327.5 \\ & (37.8) \end{aligned}$ | $\begin{aligned} & 908.8 \\ & (13.4) \end{aligned}$ | $\begin{aligned} & 745.8 \\ & (34.7) \end{aligned}$ |
| $\begin{aligned} & \text { personal } \\ & \text { effects } \end{aligned}$ | $\begin{aligned} & 317.7 \\ & (9.1) \end{aligned}$ | $\begin{aligned} & 242.1 \\ & (10.4) \end{aligned}$ | $\begin{aligned} & 267.1 \\ & (11.6) \end{aligned}$ | $\begin{aligned} & 163.8 \\ & (6.6) \end{aligned}$ | $\begin{aligned} & 208.5 \\ & (18.2) \end{aligned}$ |
| cosmetics | $\begin{aligned} & 143.2 \\ & (5.6) \end{aligned}$ | $\begin{aligned} & 104.0 \\ & (5.9) \end{aligned}$ | $\begin{aligned} & 337.8 \\ & (17.3) \end{aligned}$ | $\begin{aligned} & 190.4 \\ & (6.8) \end{aligned}$ | $\begin{array}{r} 222.6 \\ -\quad(20.0) \end{array}$ |
| medical | $\begin{aligned} & 189.2 \\ & (12.8) \end{aligned}$ | $\begin{aligned} & 120.3 \\ & (16.3) \end{aligned}$ | $\begin{aligned} & 376.9 \\ & (18.8) \end{aligned}$ | $\begin{aligned} & 398.5 \\ & (40.1) \end{aligned}$ | $\begin{aligned} & 339.1 \\ & (24.9) \end{aligned}$ |
| schooling | $\begin{aligned} & 198.1 \\ & (12.2) \end{aligned}$ | $\begin{aligned} & 140.7 \\ & (13.0) \end{aligned}$ | $\begin{aligned} & 225.4 \\ & (12.5) \end{aligned}$ | $\begin{aligned} & 244.1 \\ & (11.2) \end{aligned}$ | $\begin{aligned} & 216.7 \\ & (19.3) \end{aligned}$ |
| $\begin{aligned} & \text { local } \\ & \text { tronsport } \end{aligned}$ | $\begin{aligned} & 158.2 \\ & (12.3) \end{aligned}$ | $\begin{aligned} & 124.1 \\ & (18.4) \end{aligned}$ | $\begin{aligned} & 48.1 \\ & (9.3) \end{aligned}$ | $\begin{aligned} & 67.8 \\ & (6.6) \end{aligned}$ | $\begin{aligned} & 85.0 \\ & (13.1) \end{aligned}$ |
| other transport | $\begin{aligned} & 270.9 \\ & (66.1) \end{aligned}$ | $\begin{gathered} 198.2 \\ (73.7) \end{gathered}$ | $\begin{aligned} & 208.7 \\ & (26.2) \end{aligned}$ | $\begin{aligned} & 207.5 \\ & (8.8) \end{aligned}$ | $\begin{aligned} & 180.4 \\ & (16.7) \end{aligned}$ |
| recreation | $\begin{aligned} & 62.4 \\ & (16.0) \end{aligned}$ | $\begin{aligned} & 54.8 \\ & (31.5) \end{aligned}$ | $\begin{aligned} & 16.2 \\ & (3.1) \end{aligned}$ | $\begin{aligned} & 23.8 \\ & (2.4) \end{aligned}$ | $\begin{aligned} & 35.6 \\ & (6.9) \end{aligned}$ |
| material (cloth) | $\begin{aligned} & 248.6 \\ & (23.6) \end{aligned}$ | $\begin{aligned} & 177.7 \\ & (31.5) \end{aligned}$ | $\begin{aligned} & 288.2 \\ & (17.6) \end{aligned}$ | $\begin{aligned} & 628.1 \\ & (24.9) \end{aligned}$ | $\begin{aligned} & 914.0 \\ & (77.2) \end{aligned}$ |
| readymade clathes | $\begin{aligned} & 558.0 \\ & (46.6) \end{aligned}$ | $\begin{aligned} & 452.5 \\ & (49.1) \end{aligned}$ | $\begin{aligned} & 1705.8 \\ & (65.3) \end{aligned}$ | $\begin{aligned} & 2181.9 \\ & (450.3) \end{aligned}$ | $\begin{aligned} & 1613.4 \\ & (78.0) \end{aligned}$ |
| hats, shoes socks | $\begin{aligned} & 402.7 \\ & (42.9) \end{aligned}$ | $\begin{aligned} & 302.5 \\ & (41.9) \end{aligned}$ | $\begin{aligned} & 1002.5 \\ & (59.2) \end{aligned}$ | $\begin{aligned} & 1483.0 \\ & (243.0) \end{aligned}$ | $\begin{aligned} & 1388.4 \\ & (80.7) \end{aligned}$ |

Table 29(cont)
Monthly Per Capita Expenditures on Non-Food Items
(standard errors in parenthesis)
transmig transmig non- rural rural
dryland tidal transmig Jove 1 Java 2

| furniture | 101.8 | 16.3 | 187.7 | 136.7 | 132.5 |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $(16.5)$ | $(5.9)$ | $(17.5)$ | $(12.9)$ | $(22.2)$ |

$\begin{array}{ccllll}\text { matress \& } & 184.7 & 69.8 & 285.3 & 157.9 & 125.8 \\ \text { bedding } & (20.9) & (11.8) & (18.2) & (10.8) & (14.7)\end{array}$

| Kitchen | 370.3 | 238.2 | 370.1 | 248.2 | 245.2 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| utensils | $(40.6)$ | $(35.8)$ | $(18.2)$ | $(10.9)$ | $(29.5)$ |


| household | 129.4 | 64.9 | 168.0 | 142.8 | 184.9 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| items | $(15.1)$ | $(9.5)$ | $(11.2)$ | $(7.2)$ | $(14.9)$ |


| durable <br> goods | 310.7 <br> $(45.9)$ | 186.4 <br> $(57.8)$ | 400.7 <br> $(42.2)$ | 626.5 <br> $(62.0)$ | 604.5 <br> $(70.6)$ |
| :---: | :--- | :--- | :--- | :--- | :--- |
| taxes \& |  |  |  |  |  |
| insurance | 26.8 | 40.3 | 104.5 | 122.8 | 207.0 |
|  | $(4.9)$ | $(10.2)$ | $(9.4)$ | $(6.9)$ | $(23.7)$ |
| ceremonial | 571.9 | 349.5 | 419.0 | 299.3 | 339.5 |
| costs | $(61.4)$ | $(65.3)$ | $(43.2)$ | $(26.9)$ | $(30.4)$ |

note: totals are preliminary figures

```
total non-
    food
```

total food
(monthly)
total
expenditure

| somple | 1555 | 640 | 2755 | 6490 | 1593 |
| :--- | :--- | :--- | :--- | :--- | :--- |

Next, turning to fish, it will again be noticed that the quantities consumed per capita are much higher in the transmigrant areas (dry and tital); expenditures however, are at similar or lower levels than for non-transmigrant households. For meat it will be noticed that the quentities consumed tend to be higher (much higher in the case of dryland farmers), whilst the expenditures are much lower. Egg consumption is roughly the same accross all groups with the dryland transmigrants again recording the greatest per capita consumption figures. The same is true of milk (and vegetable) quantities, but is not so marked in the comparison of milk expenditures. For beans, enormous differences will be noticed. Dryland transmigrants consume over 20 times the quantity of beans of their non-transmigrant compatriots in transmigrant areas and 10 times the quantity of Javanese rural households. Again, expenditure levels are relatively similar. The same could be said of fruit, processed foods and the "other category. The impression is of higher consumption levels and lower unit values (prices). The final food item is tobacco and alcohol. We again note higher consumption levels, this time in all transmigrant areas, than in rural Java. Per capita expenditure levels; however, are about the same.

Next, turn to monthly expenditures on non-food items. The transmigrants pay far less for housing, energy and fuel than do households in the three ather groups. Expenditure on the medical and schooling categories is lower for transmigrant households then the other three groups. Expenditure on lacal transport is considerably higher, expenditure on "other transport" about the same. There are some marked differences in the clothin category. The rural Javanese spend far more on material, readymade clothes and the "hats, shoes and sacks" categary than do the transmigrants. In addition, the nontransmigrants in the transmigration areas also outspend the transmigrants in those categories. For durable items like furniture, mattresses and bedding,
kitchen utensils and household items the expenditure levels are about the same. The lowest spending group in each case being the tidal transmigrants. Finally, in the case of durable goods, the expenditure of the transmigrants is quite restrained relative to the three non-transmigrant categories.

The last two categories relate to services; "taxes and insurance" and "ceremonial costs". In the former case the transmigrants expenses are considerably lower than non-transmigrant households; in the latter they are about the same for the tidal farmers, but the dryland transmigrants outspend the next closest group by 130 rps per capita per month.

Total per capita expenditure on non-food is considerably lower for the transmigrant households, but the most significant part of this saving is derived from housing and energy (say a saving of 1500 rps per month). Lower expenditures on the clothing group contribute a further 2200 rps per capita per month. There may be sacial reasons for this particular expenditure difference.

The upshot is that one cannot base a welfare comparison of transmigrant versus non-transmigrant households on simple expenditure levels. By that criterion it would appear that non-transmigrant households in the transmigrant areas are better off than any other group, with rural Javanese households next and the transmigrants a poor third. Whilst it may be true that the nontransmigrant/transmigrant area households are better off than any other group the relative price effects which show up in food consumption and the higher expenditures of the Javanese on housing and energy point to a reversal of the above ordering. As the survey questions on welfare compared to area of origin indicate, the transmigrants appear better off than their counterparts in rural Java.

## 6. Preliminary Conclusions

The first part of the analysis was a simple collection of tables, or a two way classification of variables which might be related to income determination. One minor embellishment over usual reports of this kind was that standard errors were calculated and included. The result of this inclusion was that most trends in the tables were, in fact, an illusion. At first glance this seems disappointing; however, the presence of predominantly negative results indicates how complicated are the factors in determining which transmigrants will be successful in an income generation sense.

Many of the results in Section 3 are important in their own right. Duration of time since transmigration appeared unimportant (Table 8); however, this could be a counfounding of a number of other effects. For example, a better selection of sites in later years. Education, appeared important, if the standard errors are ignored; yet, a closer examination of the results reveals that it is wage, not farm income, which is driving this result.

Tidal farmers are pretty conclusively shown as being worse off than any other group - something which was known already. Settlement type, per se, makes very little difference. It also appears to make very little difference which type of transmigrant is being considered, once the persions of the military settlers are removed. One exception to this is the local transmigrants, who do oppear to fare better, and this could be attributed to greater participation in sharecropping and other activities. There is a slight upward trend by age of head of household, but this is
probably a reflection of the number of adults in the household increasing with the age of its head.

A collection of detailed responses to the questionaire, by subdistrict, are presented in Section 3.3. It is difficult for the non-specialist to appraise these, and they are left to the reader. In passing one can note that the response to the health question by the tidal farmers is much the same as that of the dryland farmers. Further detailed results are given in Appendix $B$ and the reader is referred to pages 41 and 42 for a discussion.

Because of the problems of separating all possible influences on income, regression analysis was tried in Section 4. The complications casued by the Tobit nature of the problem for income subcategories, meaning that one needs to forecase whether a household will avail itself of an income source and then how much it will earn, led to the use of least squares and then adjusted least squares estimation. Neither was particularly successful and more work needs to be done to explain subcategory income. As all households earn some income these problems do not relate to the total category. The results in Tables 25 and 27 indicate that very few of the explanatory variables are statistically significant. Number of adults is important (age of head is not). The amount of land oned is not significant; however, the presence of a fish pond is. Some subdistricts show significant positive influences, some negative; more detailed knowledge could make sense of this. Education shows up as an unimportant factor in determining total income. However, being a military transmigrant results in a statistically significant income boost of 35155 rps. On the other hand, if the household head was a farmer in his area of origin, all other influences removed, he (or she) will tend to have a lower income (and that result is statistically significant). Finally, four factors
which significantly and positively affect total household income: land ownership in area of origin and marketing arrangements for cash income from tree crops. Despite the multitude of explanatory variables used, the regression equation only accounts for $22 \%$ of the variation in total income. In itself that is quite enlightening and could be interpreted as, (i) an indication of a need for further work or, (ii) an indication of the essential randomness of the data.

Section 4 considers the well-being of the transmigrants by looking at consumption rather than income data. This was an obvious strategy in the absence of price information enabling inter-spatial comparisons. Unfortunately, the absence of detailed household information on the extracts of the Susenas tapes made ayailable to the author made comparison of equivalent households impossible. The results below are just a comparison of household consumption in the transmigrant areas with those in rural Java. It would be possible to select a subdistrict in rural Java for further comparisons, but the results on food consumption, in particular, strongly suggest the transmigrants are much better off than their compatriots in rural Java. The quantity comparisons indicate per capita consumption levels so much higher that one is left with doubts about the quality and cleanlieness of the data. The results are given in Tables 28 and 29 and discussed in the adjacent pages.

This represents a preliminary report, there is clearly a need for a great deal of further work, in collaboration with an Indonesian specialist, if one is to be able to extract a more positive story on the income determination side.

USER GUIDE TO 1984 TRANSMIGRATION DATA

## FILENAME: TRANSDAT

LOCATION: Bocked up on TSR tape 600142
FORMAT: Free formot variable length integer records (locked)

## RECORD DESCRIPTION:

There are 13 record types identified by the first digits. Types 1, 12 and 13 relate to the original type 01 records in the raw transmigration data tapes.

## Record Type 1 Location and Basic Information

```
Item 1 record type
    2 Repelita (2 or 3)
    3. type of settlement (for Rep 21=dry land, 2=estate, 3=tidal)
        but ( for Rep 3, 1=small dry, 2=large dry, 3=estate, 4=tidal)
    4 Province-district-subdistrict; }6\mathrm{ digit record
    5 sample number
    6 family number.
    7 number of fomily members
```


## Record Type 12 <br> Family member information

Item 1 record type (12)
2 number of family member
3 relation to head (1=head, 2=wife, husband, $3=$ child, 4=nephew,niece, 5=grandchild, 6=grandparent, 7=relative, $6=8 e r v a n t, 9=0$ ther)
$4 \operatorname{sex}$ (1=male, 2=female)
5 age
6 education $1=$ no 8 chool, $2=$ not compl. primary, $3=$ primary, 4=not compl high 8chool, 5=high school, 6=college, $7=$ university)

## Household Activities

| Item 1 | record type (13) |
| :---: | :---: |
| 2 | year of arrival |
| 3 | province of origin |
| 4 | Kobupaten of origin |
| 5 | type of transmigrant (1=sponsored, 2= spontaneous, $3=$ military, 4= local) |
| 6 | income source food crops labourer |
| 7 | self empl |
| 8 | total |
| 9 | estate labourer |
| 10 | self employed |
| 11 | total |
| 12 | livestock labourer |
| - 13 | self employed |
| 14 | total |
| 15 | other agric labourer |
| 16 | self employed |
| 17 | total |
| 18 | indust/crafts labourer |
| 19 | self employed |
| 20 | total |
| 21 | trade-hotels labourer |
| 22 | self employed |
| 23 | total |
| 24 | other(const-transport) |
|  | labourer |
| 25 | self employed |
| 26 | total |
| 27 | received income |
| 28 | main source of income ( 3 digits) |
| 29 | comparison of current income to income two years ago ( $1=$ more, 2=less, $3=$ same, 4=0ther) |

## Record Type 2

Item 1

Land Information
wetland (hectare - 3digits
0.00)
dryland
total
wetland
dryland
total
wetland
dryland
total
wetland dryland
total
wetland
dryland
total
wetland
dryland
total
wetland
dryland
total
wetlond
dryland
total
wetland dryland
total
wetland
dryland
total

## 4

Record Type 3 Land Use

| Item 1 | Record type (3) |
| ---: | :--- |
| 2 | Irrig sowah (0,00 ho) |
| 3 | tidal |
| 4 | bunded |
| 5 | other (eg swamp) |
| 6 | dry fields |
| 7 | fish ponds |
| 8 | smallhold tree crops |
| 9 | other |
| 10 | sub-total |

Non-agricultural land
11 business yord
12 unused sawor
13 dryfields
14 other
15 . subtotal
16 total
17 more or less land cultivated than two years ago ( $1=$ more, 2=less, 3=same, 4=other)
16 If less, why? (1=doesn't pay, 2=no time, 3=not enough labour, 4=other)

## Record Type 4

Yields, Expenses and Income from Food Crops
Item 1 record type(4)
2 type of crop
3 harvested areo
4 production
5
6 7 8 9 10
11
12
13
14
15
16
manure
labour payment
taxes
other expenses
payment in kind
value
kilos
value
27
subtotal
income
28
29
30
kilos
value
place sold ( $1=$ market, $2=$ tengkulak, $3=c 0-0 p, 4=0$ ther)

## Record Type 5

## Yield, Expenses and Income from Estate Crops

| - Item 1 | record type(5) |  |  |
| :---: | :---: | :---: | :---: |
| 2 | type of crop |  |  |
| 3 | harvested areo |  |  |
| 4 | production |  | kilos |
| 5 |  |  | value |
| 6 | seed | prod sendiri | kilos |
| 7 |  |  | value |
| 8 |  | pembelion | kilos |
| 9 |  |  | value |
| 10 |  | pembagian | kilos |
| 11 |  |  | value |
| 12 | fertilizer | pembelian | kilos |
| 13 | . . |  | value |
| 14 |  | pembagion | kilos |
| 15 |  |  | value |
| 16 | pesticide | pembelian | kilos |
| 17 | . |  | value |
| 18 |  | pembagion | kilos |
| 19 |  |  | value |
| 20 | manure |  | volue |
| 21 | labour payment |  | value |
| 22 | taxes |  | value |
| 23 | other expenses |  | value |
| 24 | payment in kind |  | kilos |
| 25 |  |  | volue |
| 26 | subtotal |  |  |
| 27 | income |  |  |
| 28 | amount sold |  | kilos |
| 29 |  |  | value |
| 30 | place sold (1)=mer | arket, 2=teng | lok, 3=c |

## Income from Other Activities

```
Item 1 record type(6)
    2 source(11=cottle,12=poultry, 13=oth livestock, 14=other,
        milk eggs, 19=sub-total, 20=fish, 30=forestry labour,
        41=industry/handcrafts,42=trade, 43=0ther construction)
        production(value)
    4 soles(value)
    5 consumed or given away
    sub total
    cost of production
    8 income
```

Record Type 7 Other Income last Manth
Item 1 record type
2 wages received by hh members
3 pensions
4 rent \& share cropping
5 other agricultural income
6 other non-agricultural income
7 other income
8 total
9 money received
10 inheritance
11 gifts
12 total in
13 money sent
14 gifts given
15 total out

## Record Type 8

Other Financial Items last Month

| Item 1 | record type (8) |
| ---: | :--- |
| 2 | Incoming |

3
4
5
6
7
8
9
10
11
12

13
14
15
16
17
18
19
20
sole of valuables
sale of non-portable assets
sole of possessions
savings withdrawls
insurance
repayment of loans
pawning
lottery
other
total incoming
Outgoing
purchase of valuables
purchase of non-portable goods
ossurance premitums
sovings
paying off loans
recovery from powning
lottery payments
other outgoings
total outgoings

## Record Type 9

Assistance from Government

## Item 1 record type (9)

2 agricultural input 3
4
5
6
7
6 agricultural implements
9
10
11
12
13
14
15
16
17
18
19
20
21
22
cottle
other assistance
Receiving subsistence support ( $Y=1, N=2$ )
If yes, since when (4 digits)
Value of subsistenc payments
Value of total assistance in last year Income
incoming transfer payments outgoing transfer payments other funds coming in
other funds going out
government support
total income
cost value cost value cost
value
value
cost
value
volue
food crops
estate crops
livestock
other ag.
non-ag
other inc


## Record Type 11 Family Welfare



## 12

## possessions (cont.)

27
28
29
30
31
32
33
34
35
36
37
38


40
41
42
43
44
45
46
47
48
49
rodio, recorder
T.V.
cort
bicycle
motor bike
boat
gold(gram)
cattle(number)
did you own land before moving ( $1=Y, 2=N$ )
how much land do you still own in your area of origin (00,00ha)
still own land in area of origin ( $1=Y, 2=N$ )
if 80 , how much ( 4 digits)
when in area of origin did you own a house (Y/N)
if yes, area (sq metres)
do you still have a house in areo of origin (Y/N)
before
ofter
before
ofter
before
ofter
before
after
before
ofter
before
ofter
before
ofter
before
ofter

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \& cort suis \& food crops \& istate chof \& ivestuck \& other agric \& , \& other \\
\hline  \&  \& 16006.96 \& \({ }^{13659} 369\) \&  \&  \& 7827:068 \& 588885959 \\
\hline Cicte ac \& \(\cdots\), 39 \& 163.46 .75 \& 3000.:37 \& 5756.92 \& 5087:27 \& 37578.77 \& 39040.03 3740.18 \\
\hline  \& 32136.26 \&  \& 1389:9\% \&  \& 988:80 \& 139363:38 \& 398935:98 \\
\hline 5si \({ }^{\text {che }}\) \& 3c120:66 \& 565.36 \& 387 \& 223.18 \& \& \& \\
\hline \[
19
\] \& -7.37 \& 18890.54
2564.18 \& 50.80 \& 6536:26 \& 27.37 \& \$5667:97 \& \({ }_{14636936}\) \\
\hline \({ }_{\text {RS }}{ }^{0}\) \& \({ }^{36} 909\) \& 2432980 : \({ }^{\text {\% }}\) \& 19793: 59 \& 8118\%:75 \& 2:83 \& 96074: 58 \& 2 26959595 \\
\hline  \& 51:90 \&  \& 3:00 \& 3800:cis \& 29001:097 \& \({ }_{\text {25 }}^{522} 52.40\) \& 71563.00 \({ }^{2688}\) \\
\hline  \& 25\%:81 \&  \& 79990:64 \& 989:06 \& 425:87 \&  \& 2¢7569:98 \\
\hline Sticter \& 299:30 \& 12219:92\% \& 158190.30 \& 465\% 3 \% 32 \& 12923:2\% \& \({ }_{2}^{25580} 162463\) \& 37177.25 \\
\hline  \& 170:98 \& 96850:76 \& 38012:88 \& 2987:25 \&  \& 2\} \(6698: 88\) \& \(31181730{ }^{3}\) \\
\hline  \& ¢:30 \& 14525 910.078 \& 3.00 \& \({ }^{6227} 906.64\) \& \({ }^{196} 3.88\) \& 38291.50
\(1619: 05\)
2959 \& \({ }^{8598} 750.25\) \\
\hline ER \& \({ }_{6}^{6}: 6.6\) \&  \& 2f5\%:75 \& \(2687808 \%\) \& 126:88 \({ }^{81}\) \& \({ }^{2} 17953.35\) \& 36122.31
\(2016: 96\)
24093 \\
\hline  \& 6575.50 \&  \& \({ }^{2}: 288\) \& 31787:98 \& 372:45 \& \({ }^{116463: 597}\) \& \({ }^{262038.57}\) \\
\hline SAMP STH \& 6249:6\% \&  \& 1:87 \& \({ }^{25} 5119\) \& 1 \(335: 8 \%\) \& 42885:38 \&  \\
\hline sanples sp \& \({ }^{36311} 6627.2{ }^{2}\) \& 95296:92 \& 2568.36 \& 5 58.95 \& 80:51 \& 173893:31 \& \({ }^{48015} 412.25\) \\
\hline  \& 8158:36 \& \({ }^{12503} 123768\) \& \(\frac{88}{582}\) \& 1268:00 \& \(\begin{array}{r}2505 \\ 785 \\ \hline 8.85\end{array}\) \& 15st3:00 \& 32078:32 \\
\hline  \& 17s:0¢ \& 1 c \& 631848.708 \& 40984.95 \& 31:43 \& 21890:48 \& 295627:25 \\
\hline  \&  \& 17825 \& ':4\% \& \%055:10 \& 6650802 \& 9260:88 \& \({ }^{18671729} 8\) \\
\hline  \& 780 \& 8799:68 \& 2:9? \& 75:88 \& ¢ 2173 : 98 \& 26067:48 \& 48542.59
66650 \\
\hline  \& 191.68 \& \({ }^{4986.787}\) \& 1:97 \& 1671:71 \&  \&  \& \({ }^{13019} 20978\) \\
\hline \begin{tabular}{l}
SATPLE \(=140\) \\
thtiks
\end{tabular} \& 3¢9999:3\% \& :1127.36 \& 590:78 \& 22255 : 36 \& 1299:96 \& 1369\%:86 \& \(\left.{ }^{1} 13166: 8\right\}\) \\
\hline SSM sitemer ins \& 60:83 2.26 \&  \& 206.20 \& 3212.96
610 \& \({ }^{383} 78.808\) \& \({ }^{28846} 1765\) \&  \\
\hline  \& 77:508 \& 1426.36 \({ }^{3}\) \&  \& 3659.55 \& \({ }^{29953} 358\) \& 13333:88 \& 27869.25 \\
\hline \[
20
\] \& \({ }^{105}\) \& 7807785
677 \& \({ }^{2} \cdot 8.05\) \& 24.88: 180 \& \({ }^{88}\) 8:75 \&  \& 1292.75 \\
\hline  stidekions \& 200:88 \& 19\%96:15 \& \({ }^{1}: 89\) \&  \& 3影:88 \& 22 \(2968: 98\) \&  \\
\hline SAMPE \& 23:25 \& \({ }_{4}^{22547} 6\) \& \$80.7.96 \& \({ }^{1068989595}\) \& 8000:00 \& 8615350.75 \& 488888.785 \\
\hline SAMPEES 6 STh therops \& 92?:3\% \& 36888: 9 ¢ \&  \& 95311:95 \& 189:36 \& \({ }^{11380} 28.85\) \&  \\
\hline  \& 80.50 \& 965597:00 \& \({ }^{16231595}\) \& 21541:35 \& 1695:9? \({ }^{\text {62 }}\) \& 78787.90 \& 40528.75 \\
\hline  \& 13:99 \& 20036:85 \& 79565:38 \& 2099\%3 3 \% \& 41786 \& 11959:38 \& 33688:98 \\
\hline  sIf froors \& 2e:p:\% \% \& 19.412 .97

1067
1967 \& $8880: 11^{5}$ \&  \&  \& ${ }^{16754} 2958.81$ \& 32967.588
2306.32 <br>
\hline Sirpter ${ }^{\text {Ste }}$ \& 59.3\% \&  \& ¢05\% ${ }^{\text {\% \% }}$ \& ${ }^{510} 783.68$ \&  \& ${ }^{275451.508}$ \& 293859:88 <br>
\hline  \& 69:38 \&  \& 38: 39 \& 2¢ 28.79 \& 308: 36 \& ${ }^{2} 5959.9$ \& 2¢5¢57: 93 <br>
\hline
\end{tabular}

Iable BI continued

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline weot coss \& teais t : \& thans out \& ano incone \& other out \& covt oric \& total \\
\hline atice \& 14.505 .58 \& \(1420 \cdot 6\) \& 17972.05 \&  \& 行 \& 17 \\
\hline  \& 50:5:52 \& 169.5 \& 3972.92 \& 2004.36 \& 1022.06 \& \\
\hline 6 \& 80470:30 \& 37125:28 \& 2068.75 \& 20979:37 \& \({ }_{4}^{9} 9213.78\) \& 78011:25 338 \\
\hline \& 2065 205 \& 2568:275 \& \({ }^{16390} 278009\) \& 2859:79 \& \({ }^{11880} 96.87^{7}\) \& 5¢658:89 \\
\hline  \& 30.05 \& S313:16 \& 113:37 \& 7770: 718 \& 28995.58 \& 67530.53
2186.14 \\
\hline \[
\begin{gathered}
\text { ors } \\
\text { on }
\end{gathered}
\] \& 5929:80 \& \(\begin{array}{r}19855.00 \\ \hline 958.98\end{array}\) \& 15925:59 \& 199753:90 \& \({ }^{110} 0.71\) \&  \\
\hline  \& 13968:89 \& 1933:39 \&  \& 3123: 59 \& 3333:88 \& 99853.88 \\
\hline  \& \({ }^{1511515: 37}\) \& \({ }^{4} 8398.78\) \& 28022:86:40 \& \({ }^{11} 3695: 63\) \& 385:97 \& 517711:20 \\
\hline \[
\begin{aligned}
\& \text { Sosple } \\
\& \text { Sit } \\
\& \text { STO }
\end{aligned}
\] \& 13709\%7\% \& 8331:28 \& \(20000: 885\) \& \({ }^{2} 718808886\) \& 8159:42 \& 62700 5488.53 \\
\hline  \& 126 3858.88 \&  \& 260850:77 \& 225968:30 \& 3256:90 \& \({ }^{86030} 535018\) \\
\hline  \& ¢0610:97 \& \({ }^{23} 2220: 50\) \& 5675980 \&  \& \({ }^{1869: 37}\) \& 3516:85 36 \\
\hline SAYPLEE 209 Ste ins \& 7901:93 \& 34659737 \& 71818:39 \& 6696:76 \& 20886.83 \& 5¢106.08 \\
\hline \& 67999.59 \& 5090:48 \& 89092: 69 \& 38990:30 \& \begin{tabular}{l}
823.45 \\
126.37 \\
\hline 188.
\end{tabular} \& \({ }^{462} 90.07\) \\
\hline  \& 10878.26

2959 \& 13904:07 \& 12092.92
806.92 \& 17978:26 \& 2325017 \& 35976\% 175.65 <br>
\hline  \& ${ }^{1641784: 80}$ \& 70196.883 \& 21068.61 \& 88515:88 \& 46212.73 \& 92189:85 <br>
\hline  \& 8320:31 \& 1670:30 \& 28838.238 \& ${ }^{89999.53}$ \& 34997:03 \& \$55885:98 <br>
\hline  \& ${ }^{138893} 69: 93$ \& 2¢ 26 :9\% \& 95963:88 \& 27\%22:4\% \& 185:59 \& 768588:82 <br>
\hline  \&  \& 1570:93 \& 26637:30 \& \$85.39 \& 11995 \& 5125880.05 <br>

\hline $$
20
$$ \& 596.:90 \& ²:88 \& 4550:88 \& 5:88 \& 042:88 \& 71382.68888 <br>

\hline  \& 15623 5is \& 1950.37
3892 \& ${ }^{10216: 789}$ \& 23990: 542 \& ${ }^{2} 27275.313$ \& 36717:11 <br>
\hline  \& 1989\%:80 \& 3571:989 \& 12378:8929 \& 3629.03 \& 79538 \& ${ }_{3}^{9}$ <br>
\hline \& 1¢¢¢: ${ }^{\text {¢ }}$ \& 2¢61:36 \& \{it $3: 17$ \& 24ie: 2\% $^{\text {a }}$ \& ${ }^{6} 199$ :3? \& 2985:088 <br>
\hline  \& 35750:80 \& 2680.00
343
40 \& ${ }^{12438} 773830$ \& ${ }_{2}^{53085} 28.85$ \& 6883.65
29722 \& 59851:30 <br>
\hline 20 \& 3890:90 \& 400:80 \& $811: 37$ \& $811: 37$ \& ${ }^{5515} 8.75$ \& 313979.75 <br>

\hline $$
\begin{gathered}
20 \\
\text { ORS }
\end{gathered}
$$ \& 21616:60 \& 2819, 817 \&  \& 5607:590 \& ${ }^{4} 863.485$ \& 457532:48 <br>

\hline  \& 98:50 \& 52.75 \& 2376181:07 \& \$1590:75 \& 137.25
56.85 \& ${ }^{111602033535}$ <br>
\hline  \& \{56\}:17 \& \{ 986$\}$ : 59 \& ${ }^{5648} 8.36$ \&  \& ${ }^{5} 918.59$ \& 93356: 3 \% <br>
\hline  \& ¢2¢ $2 ¢ 5.50$ \& 23>70.40 \& 3565:35 \& \{271:32 ${ }^{2}$ \& 22778 \& $161321: 40$
$43678: 80$ <br>
\hline  \& 15888:35 \& 2720¢:68 \& 10778: 298 \& ¢88:90 \& 295:85 \& 7568\%9:3 <br>

\hline | SAPREXES 100 |
| :--- |
|  | \& 17173:39 \&  \& ${ }^{125} 3545: 67$ \&  \& 33:57 \& - ${ }^{1 / 5198}$ <br>

\hline  \& 1343:17 \& 1798:12 \&  \& 2¢03:9\% \& ${ }^{2} 788^{89} 9$ \& 87796: 94.0 <br>
\hline  \& ¢¢¢58: 50 \& 2196:00 \& 16312.32 \& 177839:\% \& 1:467:97 \& -9310:60 <br>
\hline
\end{tabular}

## Table B2




|  | AG | tree | Stock | FISH | NON AG | other |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FREQUENCIES | 15 | 0 | 0 | 1 | 0 | 4 |
| FREQUENCIES | 23 | 0 | 0 | 7 | 0 | 10 |
| freguencies | 156 | 2 | 2 | 0 | 4 | 15 |
| FREQUENCIES | 19 | 0 | 0 | 0 | 0 | 0 |
| FREQUENCIES | 18 | 1 | 1 | 0 | 0 | 0 |
| FREEQUENCIES | 0 |  |  | 0 | 0 | 19 |
| FREGUENCIES | 78 | 1 | 0 | 0 | 0 | 1 |
| FRERUENCIES | 56 | 1 | 0 | 0 | 0 | 3 |
| frequencies | 23 | 16 | 0 | 0 | 0 | 1 |
| FREQUENCIES | 39 | $\bigcirc$ | 1 | 0 | 0 | 0 |
| FREQUENCIES | 184 | 1 | 0 | 0 | 2 | 14 |
|  |  | 0 |  |  |  |  |
| FREQUENCIES | 201 | 0 | 0 | 0 | 0 | 20 |
| FREQUENCIES | 118 | 2 | 0 | 0 | 0 | 0 |
| FREQUENCIES | 51 | 2 | 0 | 0 | 0 | 6 |
| frequencies | 97 | 1 | 2 | 0 | 0 | 0 |
| FREQUENCIES | 35 | 0 | 0 | 0 | 1 | 4 |
|  | 38 | 0 | 0 | 0 | 1 | 1 |
| 623203 |  |  |  |  |  |  |
| FREOUENCIES | 19 | 0 | 0 | 1 | 0 | 0 |
| FREQUENCIES | 107 | 0 | 1 | 11 | 1 | 0 |
| fREQUENCIES | 137 | 0 | 0 | 0 | 0 | 3 |
| FREQUENCIES | 135 | 3 | 0 | 2 | 6 | 30 |
| 030211 |  |  |  |  |  |  |
| FREQUENCIES | 19 | 0 | 0 | 0 | 0 | 1 |
| FREQUENCIES | 20 | 0 | 0 | 0 | 0 | 0 |
| FREQUENCIES | 18 | 0 | 0 | 0 | 1 | 1 |
| FREOUENCIES | 13 | 1 | 0 | 1 | 0 | 5 |
| FREQUENCIES | 28 | 0 | 0 | 0 | 2 | 10 |
| GREQUENCIES | 19 | 0 | 0 | 0 | 0 | 1 |
| th7101 |  |  |  |  |  |  |
| FRE ZUFNCIES | 9 | 7 | 0 | 1 | 1 | 1 |
| FREOUENCIES | 73 | 4 | 1 | 3 | 3 | 10 |
| FREOUFNCITS | 80 | 1 | 3 | 5 | 16 | 14 |
| FRȨUENCIFS | 24 | 1 | 0 | ¢ | 1 | 4 |

## Table B5



Table B8

RESPONSE TO ARE YOU STILL RECEIVING SUBSISTENCE SUPPORT - BY VILLAGE


Table B9


Table B10




|  | better | WORSE | AS GOOD | AS EAD |
| :---: | :---: | :---: | :---: | :---: |
| 14310? <br> fREQUENCIES | 7 | 8 | 5 | 0 |
| 140104 FREQUENCIES | 5 | 29 | 6 | 0 |
| 140108 |  |  |  |  |
| ${ }_{14}{ }^{\text {FREQUESESCIES }}$ | 51 | 84 | 35 | 10 |
| FRERUENCIES | 0 | 17 | 2 | 0 |
| frequencies | 1 | 19 | 0 | 0 |
| 140404 |  |  | 0 | 0 |
| FREQUENCIES | 1 | 19 | O |  |
| FREQUENCIES | 30 | 36 | 14 | 0 |
| FREQUENCIES | 8 | 51 | 1 | 0 |
| 160171 CRCIES | 25 | 10 | 5 | 0 |
| 16020 NCIES | 4 | 35 | 1 | 0 |
| 160204 NCIES |  | 153 | 4 | 10 |
| FREQUENCIES | 34 | 153 |  |  |
| FREQUENCIES | 14 | 220 | 5 | 2 |
| 160212 CREIES | 25 | 86 | 9 | 0 |
| 160374 | 2 | 24 | 25 | 8 |
| 165605 CIES |  |  |  |  |
| FREQUENCIES | 8 | 90 | 2 | 1 |
| 160607 FREQUENCIES | 10 | 7 | 23 | 0 |
| 620102 CIES | 0 | 39 | 1 | 0 |
| C20203 | 4 | 14 | 2 | 0 |
| 623401 N |  |  |  | 3 |
| FREGUENCIES | 23 | 80 | 14 | 3 |
| FREQUENCIES | ¢ | 76 | 48 | 8 |
| FREQUENCIES | 28 | 119 | 22 | 9 |
| 6RO211 FREQUENCIES | 2 | 18 | 0 | 0 |
| CRO403 | 1 | 19 | 0 | 0 |
| 630408 \% |  | 19 | $\checkmark$ | c |
| FREQUENCIFS | 1 | 19 |  |  |
| FREQUENCIES | 11 | c | と | 0 |
| FREQUENCIES | 10 | 17 | 7 | 0 |
| CREQUENCIES | 4 | 4 | 11 | 1 |
|  | 10 | $\checkmark$ | 2 | $\bigcirc$ |
| 72-314 | 21 | 79 | 0 | 0 |
| FRERUENCIES | 21 |  | 13 | 3 |
| FRERUENCIES | 15 | عと | 15 | 3 |
| frequencifs | 1 | 30 | C | ? |


| $14 J 102$ | ЗETTER | WORSE | AS GOOD | AS | GAD |
| :---: | :---: | :---: | :---: | :---: | :---: |
| FREQUENCIES $145104$ | 4 | 3 | 13 |  | 0 |
| FREQUENCIES | 21 | 1 | 18 |  | 0 |
| FREQUENCIES | 64 | 23 | 92 |  | 1 |
| 140202 |  |  |  |  |  |
| $\begin{aligned} & \text { FREQUENCIES } \\ & -140205 \end{aligned}$ | 1 | 4 | 14 |  | 0 |
| FREQUENCIES | 5 | 0 | 15 |  | 0 |
| FREQUENCIES | 8 | 2 | 10 |  | 0 |
| FREQUENCIES | 31 | 6 | 43 |  | 0 |
| 165110 | 31 | 6 | 43 |  | 0 |
| FREQUENCIES | 27 | 8 | 25 |  | 0 |
| 16.J171 <br> FREQUENCIES | 26 | 3 | 10 |  | 0 |
| 16020 N | 26 | 3 | 10 |  | 0 |
| FREQUENCIES | 15 | 4 | 21 |  | 0 |
| 163204 <br> FREQUENCIES | 66 | 58 | 76 |  | 1 |
| 160205 |  | 5 | 76 |  | 1 |
| FREQUENCIES | 58 | 32 | 149 |  | 2 |
| FREQUENCIES | 83 | 7 | 30 |  | 0 |
| 160374 |  |  |  |  |  |
| FREQUFNCIES | 11 | 6 | 42 |  | 0 |
| FREQUENCIES | 36. | 8 | 57 |  | 0 |
| 160607 |  |  |  |  |  |
| FREQUENCIES | 21 | 0 | 19 |  | 0 |
| FREQUENCIES | 6 | 4 | 30 |  | 0 |
| FREQUENCIES | 3 | 0 | 17 |  | 0 |
| 62.301 |  |  |  |  |  |
| FREQUENCIES | 70 | 10 | 40 |  | 0 |
| FREQUENCIES | 37 | 9 | 90 |  | 4 |
| FREQUENCIES | 70 | $1 \varepsilon$ | 90 |  | 0 |
| FREQUENCIES | $\delta$ | 1 | 11 |  | 0 |
| $63 J 403$ |  |  |  |  |  |
| FREQUENCIES | 11 | 3 | c |  | 0 |
| $630408$ | 11 | 1 | 8 |  |  |
| 643904 CIES | 11 | 1 | $\varepsilon$ |  | 0 |
| FREQUFNCIES | 7 | 1 | 10 |  | 1 |
| FREQUENCIES | 20 | 2 | 17 |  | 1 |
| C4J215 |  |  |  |  |  |
| FRCRUENCIES | $\varepsilon$ | 1 | 11 |  | 0 |
| FREQUENCIES | 16 | 0 | 4 |  | C |
| 72Jマ14 |  |  |  |  |  |
| FREGUENCIES | 67 | 9 | 24 |  | 0 |
| FREOUENCIES | 52 | 1 1 | 54 |  | C |
| 74)?14 |  |  |  |  |  |
| FREQJENCIES | 20 | 6 | 14 |  | 0 |




## Table B17

| WHAT HAVE YOU | done to | IMPROVE EXPAND | EOTH | NEITH |
| :---: | :---: | :---: | :---: | :---: |
| $143102$ | 1 | $\varepsilon$ | 4 | 7 |
| 140104 | 1 | 14 | 4 | 21 |
| FREGUENCIES 140108 |  |  |  |  |
| FREQUENCIES | 53 | 30 | 21 | 76 |
| FREQUENCIES | 12 | 1 | 0 | 6 |
| 140205 ${ }^{\text {FREGENCIES }}$ | 11 | 0 | 2 | 7 |
| 140404 NCIES | 7 | 6 | 1 | 6 |
| 165109 |  |  |  |  |
| FREQUENCIES | 10 | 9 | 24 | 37 |
| frequencies | 0 | 19 | 11 | 30 |
| fREQUENCIES | 7 | 27 | 0 | 6 |
| FREQUENCIES | 17 | 2 | 1 | 20 |
| 160204 CREIES | 42 | 32 | 41 | 36 |
| 160205 |  |  | 15 | 95 |
| FREQUENCIES | 41 | 90 |  |  |
| FREQUENCIES | 35 | 39 | 5 | 41 |
|  | 16 | 8 | 3 | 32 |
| 160605 CIES | 19 | 12 | 5 | 65 |
| . 160607. |  |  |  |  |
| FREQUENCIES $620102$ | . 11 | 9 | 14 | 6 |
| FREGUENCIES | 1 | 1 | 1 | 37 |
| FREQUENCIES | 1 | 0 | 0 | 19 |
| FREQUENCIES | 1 | 1 | 11 | 107 |
| 020413 |  |  |  | 118 |
| FREQUENCIES | 13 | 7 | 2 | 118 |
| fREQUENCIES | 43 | 39 | 40 | 50 |
| FREQUENCIES | 0 | 1 | 12 | 7 |
| FREQUENCIES | 3 | 0 | 3 | 14 |
| fREQUENCIES | 3 | 3 | 7 | 7 |
| FREQUENCIES | 1 | 2 | 7 | 9 |
| -40109 |  |  |  |  |
| FREQUENCIFS | 2 | 6 | 3 | 29 |
| FREQUENCIES | 0 | 5 | 0 | 14 |
| FREQUENCIES | 0 | 7 | 9 | 4 |
| 725314 |  |  | 14 | 53 |
| FREOUENCIES | 21 | 15 |  | 53 |
| FREQUE:NCIES | 34 | 20 | 34 | 31 |
| frequencies | 5 | 4 | 14 | 17 |


|  | yes | No |
| :---: | :---: | :---: |
| FREQUENCIES | 15 | 5 |
| 143104 CIES |  |  |
| FREQUENCIES | 16 | 24 |
| FREQUENCIES | 88 | 92 |
| FREQUENCIES | 17 | 2 |
| frequencies | 10 | 10 |
| FREQUENCIES | 14 | 6 |
| $16010{ }^{\circ}$ |  |  |
| FREQUENCIES | 29 | 51 |
| FREQUENCIES | 23 | 37 |
| FREQUENCIES | 18 | 22 |
| 160203 I |  |  |
| FREQUENCIES 165204 | 1 | 39 |
| FREQUENCIES | 108 | 93 |
| frequencies | 85 | 156 |
| $16021 ?$ |  |  |
| FREQUENCIES | 26 | 94 |
| frequencies | 20 | 39 |
| FREQUENCIES | 54 | 47 |
| 16 des |  |  |
| FREQUENCIES | 18 | 22 |
| FREQUENCIES | 15 | 25 |
| FREGUENCIES | 5 | 15 |
| FREQUENCIES | 55 | 65 |
| FREQUENCIES | 38 | 102 |
| freaurincies | 76 | 102 |
| FRESUENCIES | 9 | 11 |
| C? 3403 |  |  |
| FREQUFNCIES | 13 | 7 |
| FRERUENCIFS | 10 | 10 |
| FREGUENCIES | 11 | 9 |


|  | IRR SAW | TIDAL | Bunde | Swarp | ORY fLO | CISN PD | treg | jtmer |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1431C2 20 |  |  |  |  |  |  |  |  |
| MEANS | 8 | 8 | 59 | ¢ | 55 | 8 | $\frac{4}{2}$ | 9 |
| 143104 |  |  |  |  |  |  |  |  |
| SAMPLEE 40 | 0 | 0 | 0 | 0 | 100 | 0 | 0 | 3 |
| 1 SJPOGRERS 0 |  |  |  |  |  |  |  |  |
| SAMPLEE 18C MEÃS STD FRRORS | 0 | 0 0 | 30 | 4 | 62 | ${ }_{0}^{C}$ | 1 | 0 |
|  |  |  |  |  |  |  |  |  |
| SAMPLEE MEANS STDERRORS | 0 | 0 | ${ }^{9} 9$ | 8 | 82 | 8 | 18 | 8 |
|  |  |  |  |  |  |  |  |  |
| $\text { SAMPLEES } 20$ STOERRORS | 8 | 17 | 59 | 8 | 88 | 8 | 18 | 8 |
| 149606 chens |  |  |  |  |  |  |  |  |
| MEANS <br> STD ERRORS | 0 | 8 | 0 | 8 | 21 | 1 | 8 | 8 |
| 16 10ntors |  |  |  |  |  |  |  |  |
| SAYPLEE EO | 8 | 8 | 5 | 8 | 94 | 1 | 46 | 8 |
|  |  |  |  |  |  |  |  |  |
| SAYPLE = 6C MEANS SIP ERRORS | 0 | 0 | ? | 0 | 138 | 8 | 15 | 0 |
|  |  |  |  |  |  |  |  |  |
| MEANS <br> STD ERRORS | 8 | 8 | 8 | 8 | 172 | 8 | 88 | 8 |
| $\begin{array}{ccccccl}\text { STOERRORS } & 0 & 0 & 0 & 0 & 12 & 0\end{array}$ |  |  |  |  |  |  |  |  |
|  | 8 | 8 | 8 | 8 | $10 \%$ | 8 | 8 | 8 |
| $163206$ |  |  |  |  |  |  |  |  |
| SAMPLF= 201 | 8 | 8 | 1 | 8 | $17 \%$ | \% | , | 8 |
|  |  |  |  |  | 5 | 1 | 1 |  |
| SAMPLE= 241 MEAMS | 0 | 0 | 8 | 8 | 108 | 8 | 8 | 8 |
| STD ERRORS | 0 | 0 | 0 |  |  |  |  |  |
| $\begin{array}{ll} 163272 & 120 \\ \text { SAMPLEE } \end{array}$ <br> MEANS | 8 | 89 | 20 | 8 | 19 | 8 | 8 | 8 |
| STİ374RRORS |  |  |  |  |  |  |  |  |
| SAMPLE 59 | 0 | ¢ | 0 | 0 | 98 | 8 | 16 | ? |
| STo ERRORS ${ }^{\text {S }}$ |  |  |  |  |  |  |  |  |
| SAMPLEE 1C1 | 8 | 68 | 20 | 8 | 21 | 8 | 8 | 8 |
|  |  |  |  |  |  |  |  |  |
| SAMPLFES 40 | 0 | 170 | 0 | 8 | 3 | 0 0 | 18 | 0 |
| STSOERRORS ${ }_{\text {STO }}$ | 0 | 6 | 0 |  |  |  |  |  |
| $\begin{aligned} & 623102 \\ & \text { SAYPLE } \quad 40 \\ & \text { MEAHS } \end{aligned}$ | 0 | $\varepsilon$ | 9 | 8 | 70 | 2 | 8 | 8 |
|  |  |  |  |  |  |  |  |  |
| SAMPLEE $=20$ | 8 | 0 | 28 | 8 | 64 | 3 | 33 | 8 |
| $\begin{aligned} & \text { STD ERPCRS } \\ & 02 J 601 \end{aligned}$ |  |  |  |  |  |  |  |  |
| $\text { SAYFLE }=120$ | $?$ | 143 | 6 | 8 | 13 | 8 | 8 | 8 |
|  | 2 | 5 | 2 | 8 | \% | 0 | $\text { c } 23413$ |  |
|  |  | 80 | c4 | 0 | 17 | 8 | 0 | 8 |
|  |  |  |  |  |  |  |  |  |
| SAMPLE = 178 <br> MCANS | 8 | 8 | 12 | $\delta$ | 97 | 8 | ${ }_{6}^{6}$ | $\}$ |
|  |  |  |  |  |  |  |  |  |
| SAMPLEE 20 | 0 | 0 | 0 | 0 | 97 | 8 | 8 | 26 |
|  |  |  |  |  |  |  |  |  |
| SAMPLE = 2C <br> MEANS | 8 | $17 \%$ | 8 | 8 | 16 | 8 | 1 | 8 |
| C3 540 ER |  |  |  |  |  |  |  |  |
| SAMPLE 20 MEANS | 8 | 191 | 8 | 8 | 18 | 8 | 0 | 8 |
|  |  |  |  |  |  |  |  |  |
| SAMPLE 20 <br> MEANS | 8 | 62 | 9 | 8 | 45 | 8 | 12 | 8 |
|  |  |  |  |  |  |  |  |  |
| SAMPLE 40 MEANS | 17 | 2 | 70 | 0 | 83 | 0 | 10 | 0 |
| OLJOEERRORS | 6 |  |  |  |  |  |  |  |
| SAMPLEE 20 |  |  |  |  |  |  |  |  |
| STOEANS | 8 | 8 | 98 | 8 | 17 | 8 | 11 | 8 |
| 6471090 |  |  |  |  |  |  |  |  |
| MEANS | 8 | 8 | 2 | 8 | 98 | 8 | 30 | 8 |
| $735\}_{1}$ <br> SAMPLEE 100 |  |  |  |  |  |  |  |  |
| SAMPLE 100 MEANS STO ERROOS | 8 | 8 | 21 | 8 | 66 | 8 | \} | 8 |
| 743307 \% |  |  |  |  |  |  |  |  |
| SAMPLEEES 119 | 6 | 0 |  | 6 |  | 0 | 4 |  |
| 7\{Jfitarors | 1 | 0 | 3 | 2 | 4 | 0 | 1 | 0 |
| SAMPLE 40 MEANS STO ERRORS | 59 | ${ }_{0}$ | 21 | 8 | 39 | 8 | 1 | 8 |






Table B24


Reiationship between Subdistricts and Settlements
Each line below gives the subdistrict followed by settlement and number of househoids in that settlement (in poirs).


720314, 21-20, 22-20, 23-20, 24-20, 25-20 Malonas
740307, $127-1,128-20,129-20,130-20,131-20,132-19,133-19$ Lahumbuti
740314, 134-20, 135-20 Lanumbuti (?)

