Chapter V

IMPLICATIONS OF THE STATISTICAL ANALYSIS FOR THE INTERPRETATION OF THE LABOUR UTILIZATION DATA

The main purpose in studying the degree of representativeness of the sample in each of these villages was to aid in interpreting the labour utilization data collected for the sample in relation to the village as a whole. As Chapter III showed, there were sample biases in each of the five villages under discussion. However, the nature and degree of bias seem to be somewhat different for each village.

One set of data, that for Tambon Buak Khang, did not conform to the usual sample selection procedure, and the result is that the labour utilization data from the sample is of no relevance to the village of the socio-economic study. For that reason, Buak Khang will not be considered in the present discussion. In two more villages, Ban Chung and Thap Nam, the sample households with land holdings (9 in each) proved to be more representative of the land holding households in the village than the whole sample (10 households) was of the whole village. Samples of 1 household did not adequately represent the households without land holdings in these villages. Consequently, the discussion to follow will concern itself only with the land holding households in the sample and population in these two villages. In On Tai, no households without land were included in the sample.

For this reason, only the land holding population is to be considered. And finally, there is the instance of Khayai, where 44 % of population and 60 % of sample households had land holdings. As the samples of households with and without land holdings have been found to be more representative of their respective populations than the whole sample was of the whole village, the procedure here again will be to split Khayai into its two parts and discuss each separately.

It is not the purpose of this study to discuss the labour utilization data in their own right, as that has already been done very well for Ayutthaya (Fuhs, 1974) and is being done for the other Project Areas as well. However, what has been learned about the representativeness of the sample in each village on socio-economic variables can assist in interpreting the labour utilization data for the populations which they are intended to represent. A brief summary of the labour utilization data for the four villages Ban Chung, Khayai, Thap Nam, and On Tai, is to be found in Appendix E. (Tables 5.1 and 5.2.)

BAN CHUNG

In Ban Chung, the sample of land holding households had a higher mean number of persons taking part-time agricultural employment and full-time non-agricultural employment than the population. In addition to this, the variances for the second variable (the number taking full-time non-agricultural employment) and for the number taking part-time non-agricultural employment were significantly larger for the sample. This configuration suggests two things for the labour utilization data: first that the figures in the labour utilization

data for participation in off-farm work as an employee may be high; and second, that the sample data may be more evenly distributed among different types of activities than is true for the village. This is because the above types of employment are pursued mainly during the times of the year when there is not much agricultural work to be done, as an alternative to underemployment. The fact that the sample households had more members engaged in such employment suggests that they also spent more working hours per household in such employment, and if this is the case, the sample households should show less underemployment than the population during the agricultural slack season. Fuhs (1974), in discussing the three Ayutthaya villages says "The labour records for Ban Chung show the most accentuated ups and downs over the year." The suggestion being made here is that, in the village as a whole, the ups and downs may be even more accentuated than in the sample, with its higher rate of participation in both agricultural and non-agricultural employment. The fact that the sample households also had a higher mean number of persons taking subsidiary occupations strongly supports this suggestion.

In Chapter III it was suggested that the sample households may have been more involved than the population in the practice of selling buffalo at the end of one rice-growing season, and re-buying them the next, in order to save on labour for the care of buffalo. If this was the case, then the sample households may have spent less time on the care of animals than the land-holding households of the village did. However, to what extent this would affect the

labour utilization data is difficult to estimate.

The fact that the sample households had fewer children younger than eleven years (0.56 per household, as compared with 1.78 per household in the land-holding population) suggests that less time might have been spent on domestic work, as that is the category under which the raising of children fell.

How all of these factors affect the percent of available time spent working is a matter for conjecture. It is possible that if less time is spent on domestic work and caring for livestock, more time is available for other kinds of activities. But it is also possible that the sample households deliberately spent less time raising livestock because they already had these other activities to turn to. It would seem that members of the sample households probably spent more time working than villagers as a whole, especially during the agricultural slack season.

KHAYAI, Households with Land Holdings

Several variables for the land-holding households showed biases (as discussed in Chapter III), most of than being a significant difference in variances (χ^2 test). Only two quantitative variables, the number of children younger than 11 years, and the number of persons engaged in part-time non-agricultural employment, showed significant differences between sample and population means (Z test). In both cases, the sample had the higher mean. The larger number taking part-time non-agricultural employment in the sample suggests that the labour utilization data may show a higher proportion of

time in the category "Off-farm work, employee". As well, the much larger mean number of children younger than 11 years per sample household ($P < .002$) suggests that the sample may have spent more time than the population in caring for children (domestic work).

The effects of the other biases on the labour utilization data are difficult to determine, as they are biases in the dispersion of the distributions rather than biases of central tendency. This type of bias applied to the size of the labour force, one of the most fundamental variables in the utilization of labour. Two other variables with such biases, and which also proved to be related to the size of the labour force, were the number doing full-time own-account non-farm work and the percent unnecessary labour during the rice planting season. The two variables discussed briefly above, the number of children younger than eleven years, and the number taking part-time non-agricultural employment, also had biases with respect to variance.

It would be wise, in the light of these variance biases, to interpret all the labour utilization data for the land holding households in Khayai as merely indicative of the general situation in the village. The real labour utilization situation may vary considerably from the picture derived from the sample households.

It should also be noted that the only population household hiring permanent employees was in the sample, and that in the socio-economic data for this household, the employees were not included in the labour

force. In the labour utilization data, their labour input must have been included, thus increasing the effective size of the labour force in this household, and increasing the uncertainty as to whether the sample data presents a picture representative of the population.

KHAYAI, Households Without Land Holdings

The situation with respect to the representativeness of the sample for the households without land holdings in Khayai is even worse than that for land-holding households. The mean size of the sample labour force was larger than that of the population, bringing into play the very availability of labour. In addition, the sample households hired more casual labour, further increasing the availability of labour.

As was discovered in Chapter IV, the sample bias for all household heads to be self-employed in main occupation was clearly related to the larger sample labour force, the larger sample number engaged only in non-agricultural work, and the larger sample number doing full-time own-account non-farm work. Thus the sample had more labour available per household than the population, had more participation in non-agricultural work (or proportionataly less participation in agricultural work), and had more participation in cottage industry (own-account non-farm work in this village consisting mainly of the cottage industry of brick-making).

In addition, the sample had variance biases for the number of children younger than eleven years, indicating that the data for domestic work may be of questionable reliability. Then too, the

larger mean number of children eleven years or older engaged in full-time study or training in the sample may have served to increase the amount of domestic work necessary, or to increase the labour input into some or all activities. In short, it seems the sample for the landless households in Khayai does not give a very good picture of the utilization of labour by the population.

THAP NAM

In Chapter III it became clear that while the sample in Thap Nam was badly biased with respect to the whole village, the sample of land-holding households was fairly representative of land-holding households in the village. Still, there were biases on several quantitative variables, all of them towards larger sample means, and with one exception, all significant at $P < .10$. These variables were the size of the operational holding, the number of children eleven or older studying full-time, the number of labour force members engaged only in agriculture, the number taking full-time non-agricultural employment, and the size of the labour force (for which $P < .05$).

When these variables were cross-tabulated in Chapter IV, only one of them showed a relationship to Farm-Size Group, the number engaged only in agricultural work. The number of children eleven years or older engaged in full-time study or training, and the number of persons engaged in full-time non-agricultural employment, were related to the size of the labour force.

The larger labour force means there were more persons available and therefore was more working time available in the sample households. The slightly larger sample farm sizes, and the slightly larger number engaged only in agricultural work suggest that the agricultural sector may have received a heavier labour input than the non-agricultural sector. However, not only were there more sample labour force members engaged only in agriculture, there were also more engaged in full-time non-agricultural employment. This would suggest that the effect of the larger labour force on the labour utilization data is not concentrated in either the agricultural or non-agricultural sectors, but is divided between the two of them. However, the second variable suggests that the additional non-agricultural work is employment (falling in the category "off-farm work, employee" in the labour utilization data) rather than non-agricultural work at which the individual is self-employed, or an unpaid family worker.

Several other variables suggest a different participation pattern in agricultural work by the sample households. More sample household heads were self-employed farmers, and the sample households hired more casual labour. More important is the fact that the sample households owned many more buffalo and hogs, and that they sold more buffalo, cattle, and hogs in the year preceding the fieldwork. However, the sample households owned and sold fewer poultry. Thus, as was suggested in Chapter III, the sample households undoubtedly put more time into the raising of buffalo and hogs, but they put somewhat less time into the raising of ducks. Whether these two balance each other out is an open question. It may be that the additional labour

put into agricultural work in the sample households went into the raising of livestock as much as, if not more than, the production of crops.

The possible effects of the higher number of children eleven years or older engaged in full-time study or training on labour utilization is also an open question. It is likely that these children studying add to the need for domestic work done by labour force members. However, they probably contribute a certain amount of domestic work (possibly more than they cause), as well as additional labour at peak periods of the agricultural year, thus further increasing the availability of labour in the sample households.

In summary, it would seem that for Thap Nam, the major sample bias affecting the labour utilization data is the slightly greater availability of labour, with the result that the total time available and probably the total time spent on various activities is somewhat higher for the sample. There may be slight biases in the proportion of time spent on agricultural work, especially livestock raising, and the proportion spent on non-agricultural employment. Not withstanding the above reservations, it would seem that the sample labour utilization data are a fairly good indicator of the situation in the households with land holdings in Thap Nam.

ON TAI

The only variables with sample biases which might have affected the labour utilization data for On Tai are the ownership of buffalo

and cattle. The largest herds of both were owned by sample households, and proportionately more sample households owned cattle. This suggests that the sample households put more labour into livestock raising than did the population. As there is no indication in the socio-economic data that they put less time into other activities, this would suggest that they might use a higher percent of their available working time. Raising livestock also tends to round out the yearly fluctuations in the utilization of labour for agriculture. Apart from this matter of livestock raising, the data for On Tai suggest that this sample may be the least biased with respect to village labour utilization of all the villages considered in this study.