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IMPROVING THE COLLECTION OF VILLAGE LEVEL DATA : AN EXPERIENCE FROM THAILAND

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1 INTRODUCTION

It has been generally recognized that existing community level data and demographic research of contextual effects using such data still lag behind other areas of demographic research. Several explanations have been given as major reasons for the generally disappointing results of research utilizing community level data. The narrow focus of most community level questionnaires, inaccuracy of the data collected, the lack of appropriate data for index construction, the questionable validity of the constructed indexes and of the model specified for testing, and the inappropriateness of the methodologies of the data analysis are some examples of the difficulties. Some critics go further and question whether community level data relevant to demographic behaviour can be obtained at all from the approach usually employed, namely use of a community questionnaire administered during a brief visit to the village. They argue instead that the collection of information on the truly relevant parameters would require a far lengthier stay in the village to study the nature of the community and how it functions through participant observation and indepth interviewing of key informants. Satisfactory solutions to these problems have not yet been achieved.

This paper reports on our recent effort in Thailand to improve the quality of community level data including a special effort to improve the accuracy of data on availability and accessibility of modern contraceptive methods. We worked within the conventional community questionnaire framework but incorporated several innovative features designed to improve the quality of data

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yielded. The specific nature of our community level data collection effort is somewhat unusual in that it focused primarily on obtaining information about conditions in the past (as opposed to current conditions) to link to three individual level surveys which took place in 1969, 1972 and 1979 and because it emphasized determining availability of and accessibility to sources of contraception. Nevertheless, we believe a number of features of our approach are generally relevant for community level data collection efforts. Moreover, information on changes over time in community conditions is potentially useful even when the community level collection effort is linked to a simultaneously conducted individual level survey as is the usual case. Thus our experience with the attempt to obtain data on conditions in the past may also be of general interest. Likewise, detailed information on contraceptive availability and accessibility is often of interest to researchers conducting fertility surveys.

The specific features of our community level collection effort that we incorporated into our study design in order to improve data quality and which depart from the more usual approach are as follows:

- 1) Extensive pretesting of the community level questionnaire;
- 2) Use of a team of interviewers specifically trained for the purpose of administering the community questionnaire;
- 3) Administration of the community questionnaire through a group interview, generally with two interviewers and three or more respondents;
- 4) Visits to local family planning outlets identified in the group interview to confirm and collect information on methods distributed and duration of availability; and
- 5) Collection of community level data from external sources prior to the administration of the questionnaire to serve as aids for probing and cross-checking answers as well as to be incorporated into the data set.

Before we proceed to a discussion of the rationale behind and experience with each of these modifications, we review briefly the background of the recent Thai village-level data collection effort and discuss in more detail the content and construction of the questionnaire.

2 BACKGROUND

Thailand is unusual with respect to its demographic transition. The country has experienced a remarkable increase in contraceptive prevalence and a decline in fertility within a short period of time (Knodel et al., 1982). These demographic changes coincided with the development and expansion of the National Family Planning Program as well as changes in the nation's socio-economic conditions. Fortunately a series of national demographic surveys were conducted which capture much of the period of the fertility decline. These surveys include two rounds of the National Longitudinal Study of Social, Economic, and Demographic Change (LS1 and LS2) of which the rural phases took place in 1969 and 1972, the Survey of Fertility in Thailand (SOFT) in 1975 which was part of the World Fertility Survey, and the National Survey of Fertility, Mortality and Family Planning (NS) in 1979. The rural phase of each of these surveys except LS2 included collection of information on village profiles which could be used for cross-sectional analysis of the association between village characteristics and reproductive behaviour. An exercise employing SOFT individual-level data in combination with SOFT community-level data to examine the importance of a village's level of socio-economic development and family planning availability on reproductive-related behaviour of rural Thai women proved to be disappointing; one contributing factor was undoubtedly inadequacy and imprecision of the community level information which was probably attributable to poor questionnaire construction and methods of data collection (Chayovan, 1982). Since the village profile questionnaire and data collection approach of LS1 and NS do not differ much from the SOFT community survey, similar problems are likely to be encountered in analyses using the originally collected village level data for either survey.¹

¹ Note should be made that the SOFT community questionnaire was administered with relatively little guidance from the WFS. It is not known whether the Community Level Data Module was made available at the time of SOFT community questionnaire construction. While the SOFT fertility schedule seems to strictly follow the format of the WFS core questionnaire in terms of its content, structure, wordings, and question sequence, the SOFT community questionnaire departs from the WFS version in almost all those respects and follows, almost without change, the community questionnaire used in LS1.

Given the coincidence in timing of the development of the National Family Planning Program and the increase in contraceptive use, there is considerable interest in exploring the relationships between objective availability and accessibility to family planning services at the community level and contraceptive use at the individual level. Because of the problems discussed above, the community level data collected in connection with the surveys spanning the period of reproductive change are judged to be inadequate for the task and a new and independent community survey was undertaken to collect detailed and comprehensive information on availability and accessibility to various sources of contraceptive services as well as on socio-economic and cultural conditions of the sample villages in three related, successive surveys, namely LS1 (1969), LS2 (1972) and NS (1979). This set of three surveys was chosen both because it spans the period of major reproductive change and also because the three particular surveys have the unique advantage of including a number of the same villages. It is well suited as a basis to examine both cross-sectional relationships at three points in time as well as the impact of change in village level contraceptive availability and development on reproductive change. The project is being carried out by the Institute of Population Studies, Chulalongkorn University. Preparations and pretesting took place in September through December 1982 and fieldwork was carried out during January through March 1983.

3 QUESTIONNAIRE CONSTRUCTION AND CONTENT

The content of the questionnaire for the recent community survey was developed on the basis of the objectives of a larger project, of which it is a part, which focuses on the determinants of fertility levels and change during recent years in Thailand. The questionnaire has two unusual features: 1) it focuses on conditions at several different points of time in the past corresponding to the dates of the individual level surveys to which the data will be linked and 2) it attempts to get unusually extensive data on actual contraceptive availability and accessibility at those times. Indeed over a third of the questionnaire is devoted to obtaining information about potential sources of contraception with the remainder dealing with socio-economic conditions and cultural characteristics.

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Because of the need to obtain information on conditions during several points of time in the past, numerous retrospective questions are included requiring respondents to recall conditions during different years and to account for changes occurring in between. The original intention was to ask questions about conditions starting with the present and going progressing further back into the past dealing with each of the three years for which we had individual level survey data. More specifically we intended to ask first about 1983 and then successively about 1979, 1972 and 1969. Our pretests, however, indicated that such a procedure required too much time and more exact recall than was realistic to expect. In addition, it made the interview extremely tedious. We thus decided to try to ask about only two points in time (4-5 years ago for all questions and 11-12 years ago or 14-15 years ago depending on the particular question) and about the timing of changes that occurred in between. In practice, however, we usually still had to ask about the current situation before advancing to the periods on which the questionnaire focused since otherwise respondents tended to give answers in terms of the present if we started by asking about conditions several years ago.

We believe we had mixed success in our attempt to ask about the conditions in the past. Questions about distinct, major events, such as when electricity first came to the village or when a given road was built or paved appeared to be answered with considerably more confidence than questions about conditions that are more the result of a process than a single event, such as population size or the extent of use of fertilizer, or questions that involve more mundane changes, such as changes in bus fares. Indeed there were a number of items for which it seemed difficult to get accurate information even for the present and thus even more different for periods in the past. Nevertheless, we feel it is feasible to obtain retrospective information on at least some fairly important aspects of village conditions and that it is worth considering attempting to do when collecting village level data especially if the group interview approach is used as discussed below.

Information about the number of population and households in the village are necessary for computation of rates or proportions of various measures which could then be used for comparison across villages. Unfortunately, accurate data on these were difficult to obtain. The main problem was the lack of a good record system. The problem is particularly serious

for obtaining retrospective estimates if there is a change in the village headman. In general the village headman, was able to give only rough or rounded figures of the population and household sizes of the village, usually in terms of de jure instead de facto figures. Although some information was available from other sources for cross checking, data on the number of population and households in the past appears to be rather imprecise. This problem is all the more serious because of the difficulty of obtaining information directly in the form of "proportion" or "percent". Informants seem to be more familiar with absolute numbers and have difficulty translating these into rates or proportions. The most desirable information for comparative purpose is in the form of percent or having the numerator and the relevant denominator but as noted above these may not be easy to obtain accurately. An alternative that we attempted to use was to have closed questions with scaled answers such as (1) all or almost all (2) more than half (3) about half (4) less than half (5) very few (6) none (7) other (specify). Such a scale is necessarily arbitrary and subjective but may be better than having no information at all.

The project placed considerable emphasis on obtaining accurate and detailed data on family planning availability and accessibility. We are interested in determining not only the conditions at the time of each survey but also how long various methods were available and under what conditions of accessibility. It should be noted that we are concerned with objective (actual) rather than subjective (perceived) availability and accessibility. Although there were limited activities of family planning services prior to the official date of the National Family Planning Program in March 1970, there is little point to ask about activities prior to 1970 for most villages. Moreover, once the date of establishment of a particular outlet for a family planning source is determined, we are generally able to know with reasonable accuracy which methods were available from the outlet and when the method was first available since this has been pretty much determined by national policy by the Ministry of Public Health. There is apparently little local variation in actual timing of implementation of these policies. For example, a national directive to permit midwives and nurses to distribute the pill was generally implemented in 1971 throughout the country (Rosenfield, et al., 1982). Thus if a midwifery center or township health center was established prior to 1971, we can fairly safely

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assume that pills were available through it since some time during 1971.

Our strategy for obtaining the detailed data on contraceptive availability and accessibility was to ask systematically about each potential government and private source: midwifery center, township (tambol) health center, district (amphur) health center, hospital (district, provincial, other governmental and private), private clinic, mobile health units, community based volunteer depot and first class drugstore.

Questions on the location and date of establishment of the nearest source of each type together with questions on methods provided yield information on actual, method specific availability of services. Distance, travel time, means of transportation and travel cost to each type of health outlet elicit the degree of accessibility to the services.

The major sources of contraception in rural Thailand are outlets of the Ministry of Public Health which function as sources of health care generally and not just as sources for family planning. Villagers almost always know the location of the nearest health service outlet of each major type. Occasionally, however, they may report about the health center which most villagers patronize even though it might not be strictly the nearest in terms of distance. Thus there is a slight element of subjectivity even in our attempt to get objective availability and accessibility data. They may not know the location of the nearest private clinic, private hospital, drugstore or community based volunteer depot if such sources are not near or rarely used. They may also not know the specific methods available, especially when informants are male or elderly person. The exact year of first establishment of each type of outlet was also clearly a problem because it relied on the informants' memories about an event typically some years ago.

One common problem with the questions on cost of travel and usual mode of transportation to the nearest health outlet of each type was that the informants frequently gave as their initial response the mode of transportation they take when there is a serious illness because they associate patronage of such places more in terms of health care, particularly as a place for emergency care than as an outlet for contraception. It was thus essential to probe for the usual mode and cost of transportation. If different people use different modes, e.g. some walk while some take bicycle, it is necessary to probe further as to which mode is more commonly used. In

many cases more than one mode of transportation is required to travel to the health outlet and the particular combination of those modes needs to be ascertained as well as the combined travel fares and travel time.

Distance and particularly travel time can change over time as new roads are constructed and more efficient modes of transport are available. Thus questions about such changes need to be asked if any time perspective is desired on contraceptive accessibility. To be able to measure more precisely the level of difficulty in accessing the health outlet using travel time, travel time should include waiting time in cases where a combination of transport modes is needed to reach the destination. Other dimensions of accessibility for which some information was obtained were road conditions and frequency of transportation. As responses to our questions clearly indicated, accessibility is a complex, multidimensional concept and not easily reduced to a simple measure. Moreover, it clearly has been changing rapidly in recent years in Thailand.

4 DATA COLLECTION PROCEDURES •

The collection of community level data, including in the World Fertility Survey, is usually a supplemental activity during the main individual level survey carried out by a supervisor or an interviewer who is assigned the extra task of interviewing a village headman or leader about village conditions using a pre-designed questionnaire. As such, it is likely to be poorly implemented because of insufficient emphasis on the significance of village level data and inadequate preparations with respect to questionnaire construction, pretesting of the questionnaire and procedures, and training of interviewers on how to administer the questionnaire. Thus the usual approach frequently results in data of questionable validity, a fair number of "don't know" responses, and possible failure to administer the questionnaire at all in some villages.

In the recent village level data collection effort, we consciously tried to overcome the usual shortcomings of village level surveys and to introduce several new features in the data collection procedures to improve the quality of data yielded. We felt this was particularly important in our current survey given the greater probability than usual of obtaining inaccurate data because most questions relied on informant's memories. Since our present effort was done independent of the fieldwork of the

individual level surveys, all of which took place years earlier, we had an unusual opportunity to concentrate on ways of improving community level data collection and to experiment with new procedures. We believe our experience has considerable general applicability. Each of the five new features mentioned in the introduction are discussed in more detail below.

4.1 Extensive pretesting of the questionnaire. In the usual survey which includes a supplemental village level data collection effort, the village level questionnaire is likely to be pretested, if at all, only in the one or two villages where the individual questionnaire is being pretested. The result is that many ambiguities and problems with the village questionnaire are usually not obvious until fieldwork is well underway making modification of the questionnaire awkward. We originally anticipated one pretest on several villages but eventually conducted three series of pretests. We found that after each pretest series we needed to substantially modify the questionnaire the light of problems that became apparent during the pretest. Moreover, as a result of our pretest experiences we made modifications in the procedure for administering the questionnaire, the most important being the use of the group interview as described in detail below. Despite the fairly extensive pretesting, problems with our questionnaire continued to surface as we carried out the actual survey and now as we carry out analysis indicating that even more pretesting would have been useful. Nevertheless our questionnaire and procedures are clear superior to what would have been the case had we done no pretesting or pretested only once.

4.2 Use of a specially trained team for village level data collection.

The usual situation for collecting village level data in connection with an individual level survey is to assign responsibility for administering the village level questionnaire to the supervisor of the interview team. The supervisor may conduct the interview himself or assign it to some interviewer in the team. In either case, it is often squeezed into an already hectic schedule with the result that there may be no serious attempt to follow up an interview in the case that the initial attempt is not successful or efforts to administer the village questionnaire may even be skipped altogether because the supervisor had other field work activities to fulfill which he considered as more important. Moreover, since there are usually several interview teams and since there is often

no special training concerning village level data collection, different people with different understandings of what the village questionnaire is attempting to get at or with different skills or determination in carrying out this aspect of the survey end up administering the questionnaire. The problem is often made worse by the fact that any given survey includes only a limited number of villages and thus no one interviewer may accumulate more than fairly limited experience in administering the village level questionnaire.

Our experience indicates that administration of the community questionnaire requires considerable skill on the part of the interviewers and that the types of problems encountered may be quite different from those characterizing the main survey interviews. This is especially true if the group interview approach described below is adopted but is also due to the quite different nature of questions being asked. We believe the collection of village level data is best assigned to a small team of interviewers specifically trained for the purpose and whose main responsibility is precisely this task. It is important in our experience to ensure that the interviewers fully understand the purpose of each question as often considerable probing was necessary to obtain the desired information. Use of a special team not only minimizes variation among interviewers but also allows the interviewers to increase their skill and experience as the survey proceeds thereby improving the accuracy of the data collected. Unlike the usual survey of individual level data, in which the interviewers become familiar with the questionnaires within a few days because they interview several respondents per day, the interviewers of the community surveys have far fewer opportunities to practice as the number of villages involved is not large and a lot of time is spent travelling from one village to another. In our recent project, we employed four interviewers forming two teams to interview village-level information. Generally the project leader or a senior colleague was in attendance at each interview as well. Depending on the complexity of the questionnaire it may be necessary for senior staff to accompany the interview teams at least initially. This has the added advantage of giving more prestige to the team and thus aiding in getting cooperation from village leaders.

Another advantage of assigning a special team the sole responsibility of village level data collection is that it ensures that attempts will be made to collect such data in all villages. For example our current village level data project, carried out as a completely independent survey, resulted in 100% response in terms of village coverage.

4.3 Conducting a group interview. The conventional approach to rely on a single informant, usually a village headman or leader, can also be a serious limitation for the collection of community level data. The method assumes that the village headman or leader is the person who knows all information about the village. This may not be true especially if the informant is very old, only a recent resident, uneducated, or uncooperative. In the case that the preferred informant is not available, the selection of a substitute informant in most community level data collection efforts is generally left to the interviewer's judgment. As a result, the quality of data collected may vary greatly depending on who serves as informant.

In our first few pretests of the questionnaire, we conducted separate interviews with two leaders of the same village. As expected, a number of answers disagreed and it was awkward to try to reconcile the discrepancies by returning to confront the informants with their disagreements. Our experience also indicated that it is not always the case that the village headman or the selected informant is knowledgeable about all aspects of the village, asked about in the questionnaire. Thus a group interview approach was substituted and has proven to be a reasonable strategy for improving quality of data and response rate per question. Instead of relying on one informant as has generally been the case in obtaining village-level data in past studies, two interviewers interviewed several informants (usually at least 3 and sometimes more than 10) as group. The qualified informants generally included the current village headman, a former or assistant village headman, a teacher, and village council members. In view of retrospective questions in our survey a major additional criteria was the duration of village residence, preferably 10 years or more. In fact, this criteria could well be applied to other community surveys particularly if questions about change in the past are asked. Within limits the longer the informant is a member of the village, the more he will know about the village.

The main advantage of the group interview is that several informants are likely to serve as a better source of information than one informant. This is so for two main reasons. First, different questions require different areas of familiarity and having a group of informants increases the chance that at least one will know the answer. It was evident from our experience that the village headman, the conventional choice for a single informant, was not necessarily knowledgeable about all matters in our questionnaire, particular if he was newly appointed. Having a group of informants meant we were likely to get respondents who know about different aspects of the village. We also found that selecting informants of different generations helps in getting information about changes. Second, informants can and do help each other out when answering questions. Frequently, several informants will respond to a given question and when they disagree initially a discussion typically ensues leading to some consensus which we believe is usually the most accurate answer. A typical example of the process of reaching a consensus is as follows (based on tape recordings of a group interview with about 10 informants):

Interviewer: How long did it take to travel from the village to the hospital 4-5 years ago that is in 1979?
Informant: About 2 hours.
Informant: Less than two hours.
Other informants: Less than two hours.
Informant: One hour.
Informant: No.
Informant: Of course one hour.
Informant: Believe him he was a bus conductor before.
Informant: Two hours.
Informant: If we started from our village it took more than two hours.
Informant: More than two hours.
Informant: Now it takes 30 minutes.
Informant: It takes 30 minutes by bus now.
Informant: All right, it was two hours because the bus had to stop.
Interviewer: Yes, you should count the time the bus stopped to pick up passengers in 1979.
Informant: About 2 hours.
Interviewer: Is it two hours then?
Several informants: Yes.

We originally attempted to include the wife of the village headman or some other woman as an informant because several of our questions were about family planning services and we expected women to be more knowledgeable in this area. In implementation it proved difficult to get a woman to actively participate in the discussion with a group dominated by males and finally we abandoned this attempt. Another problem that arose was that very elderly informants sometimes appeared to have impaired memories due to advanced age.

A primary reason of having two interviewers conduct the group interview was to minimize errors due to failure to ask a question, insufficient probing, and recording errors. The procedure followed was to have the two conduct the interview interactively, taking turns asking questions but each recording the answers in separate questionnaire booklets. The approach requires an interviewer with note taking skills in addition to interviewing skills. In the course of the interview each could help the other out when a difficult situation was encountered. They can also help ease the atmosphere of the interview. Rather than relying on only one interviewer to record the information, by having both do so permits the two completed questionnaires to be compared for consistency. This has proven to be a good strategy particularly when a question does not elicit an immediately agreed upon answer. The discussion among informants may confuse the interviewers and an answer may be prematurely recorded before consensus occurs. Having both interviewers fill out the questionnaire and then compare answers at the conclusion of the interview before departing helped reduce this problem.

Another procedure we followed in the group interview was to tape record the entire session to help in recording answers accurately and completely. Although having two interviewers also helps in this respect, tape recording can supplement and clarify some conflicting answers recorded by the two interviewers that are not noticed at the time of interview.

Despite the above mentioned advantages, there are some disadvantages to the group interview approach. First, there is the problem of waiting time. Unlike the individual interview, a group interview requires time to recruit the informants. In our experience, the waiting time ranged from about half an hour to over one hour. Second, there is variation in the qualification of the informants which in turn affects the quality of

data. Although we have criteria for the eligible informants, the actual recruitment is generally done by the village headman or his assistant. The selection is generally based upon availability at the time of interview. Both of these problems can be minimized by making advance appointments and explaining to the village headman or his assistant the type of informants needed. We frequently were able to do this and found it facilitated recruitment of informants considerably. In general, we got well qualified informants and the discussion usually went smoothly. A third problem is that a group interview extends the time of the interview since questions often elicit discussions among informants. Indeed this is one of the main reasons for the group interview as it is the way more accurate information is obtained.

4.4 Visits to local health centers. As indicated above, a major concern of our recent village level data collection effort was to obtain accurate and extensive information on availability of and accessibility to contraception. We were reasonably confident that we could identify the major local sources of contraception through the group interview but were less hopeful that we could obtain accurate information in this way on the date each source was established, which methods were available, and when they became available. Indeed, we generally found that village leaders had quite limited information on these matters (no doubt in part because they were older males). We therefore decided to collect information on the history of the outlet and contraceptive methods available directly through each local outlet. In addition, the visit was used to verify the distance to the outlet, one critical aspect of accessibility. We chose out of practical reasons to visit only local outlets, primarily the nearest midwifery center, township health center and district level source. Visits to provincial hospitals would have been too time consuming and were deemed unnecessary since virtually all provincial hospitals were established prior to the start of the Family Planning Program and are known to distribute all major methods. Private clinics and drugstores were also not visited but they are known to be unimportant sources of contraception for the rural population (Kamnuansilpa and Chamrathirong, 1982).

Some problems were encountered at the visits to the specified outlets. The first problem was the unavailability of the personnel at the time of visit despite several attempts to contact them. Unlike the village interviews,

appointments cannot be made in advance because the specific outlets are identified only at the time of the village interview. Second, the information we needed also depended on the informant's memories, unless adequate records were available at the health outlet which was not always the case. This becomes a problem especially if the informant is new at the health center. He or she is not likely to be able to give information about the past particularly if records for more extended periods in the past are not retained. Visits to several district chief medical offices to clarify uncertain information was not very useful usually. In general record keeping is inadequate for our purposes. The specified health outlets which were not successfully interviewed at the time of field work were followed up by mailed questionnaires with a returned prepaid envelope. The final response rate is not yet known at the time this paper is being written but the responses already received indicate that some but not all the desired information can be obtained through mail follow up.

These problems are not as serious in our case as they might be for two reasons. First, the Ministry of Public Health has published a directory of all health centers with either the date the center was established or the date it was upgraded to its present level. This has helped us in determining the date of establishment and in cross checking responses. Some errors and omissions in the data are evident but generally the directory has been very useful. A problem occurs, however, when the date of upgrading rather than date of establishment is given since it is the latter which interests us most. From our point of view, if the upgrading occurred prior to the start of the National Family Planning Program, this is also not a problem as we are chiefly interested in how long contraceptive services have been available. Knowing that the center existed at the start of the program is sufficient for our purposes. Second, as mentioned above, national policy pretty much determined what methods were distributed at what types of outlets as well as when they were first available. Thus by knowing the type of outlet and the date of establishment, we generally have a good idea of what methods have been available and for how long.

4.5 Use of external sources of village level data. As a method to increase the chance of obtaining reasonably accurate data, we have also exploited some external sources of village-level data both to help crosscheck answers in the interviews and to serve as a source of probing and a source of

information to be incorporated directly into the village level data set. The use of the directory of health centers from the Ministry of Public Health was already discussed in connection with the visit to health centers. We also obtained in advance, information from the head organization of community based contraceptive distributors on which sample villages were supposed to have village distributors and when village level distribution began.

Other sources used include 1974 and 1979 versions of unpublished village level data collected yearly by the National Statistical Office and village level data recorded by the Community Development Office of the Ministry of Interior for 1979. Unfortunately, data from the latter source are only available at the local office, which meant that we had to collect these data at the time of the field work. It was disappointing to find out that we were able to obtain this information from this latter source for only 15 of our 64 sample villages and there was reason to doubt the accuracy of some data. In the course of our data collection, we have also utilized our own village level data collected in 1969 and 1979.

Data from these sources not only can be integrated with the new information collected but can also be used as a cross check at the time of the group interview. To facilitate this, we pre-recorded all applicable information from these sources in the current village interview schedule in coloured pencil to distinguish it from actual responses. When the informants gave answers at odds with the prerecorded information, we tried to probe the inconsistency although in practice this proved to be less effective than originally anticipated largely because interviewers were too caught up in the normal course of the interview and often forgot to notice if the responses agreed with the previous pre-recorded information. Better training in this regard would probably largely eliminate this problem.

5 CONCLUSIONS AND RECOMMENDATIONS

We feel we learned a great deal about the problems of collecting community level data during our recent survey and believe that some of the modifications we have made to the more conventional approach have general relevance for future efforts in Thailand and elsewhere. In particular we believe careful questionnaire construction and thorough pretesting are essential, that the village level study is best conducted by a specially trained team of

interviewers who have this as their major task, and that a group interview approach enhances chances of obtaining more accurate information. When possible village level information from external sources should be gathered in advance of the survey for use as a source for checking responses and probing as well as for integration into the final data set. Moreover, if data on contraceptive availability and accessibility are sought, efforts should be made to verify or supplement information from the village interview by directly contacting the major local sources.

Several other miscellaneous points stemming from our experience are also worth mentioning. a) Some thought needs to be given to how villages are defined. In our survey, we defined villages in terms of legal administrative boundaries since this corresponded to the definition used to drawing the original samples. However, in Thailand at least, the legal boundaries do not necessarily correspond to the boundaries of what would sociologically be considered the community within which most socially meaningful local interactions take place. b) Familiarity with a rural setting is an asset for an interviewer as it enables him to probe questionnaire more intelligently and to comprehend responses more fully. In any event, the interviewers should be astute observers and able to obtain rapport easily with the informants. c) It is useful to draw a map of the way to the village during the visit. Having a map helps in terms of obtaining information about distance, date of road construction, and routing of travel to major centers.

As we carried out our survey, we never failed to be impressed with how much more complicated the actual conditions of village life were compared to the images we had in mind when constructing the questionnaire. Observation of villages during the field work suggest that there are multiple dimensions to most of the village conditions we were attempting to measure and that the development of meaningful summary indexes for such crucial characteristics as contraceptive availability and accessibility or degree of isolation will be a difficult and complicated task. This combined with the fact that the accuracy of information obtained even on many current conditions, not to mention past conditions, appears to be far from perfect lead us to conclude that researchers should remain quite modest in terms of their expectations and claims for analysis involving village level variables. We believe improvements to the present approach are possible and hope our recent experience will contribute to that end. Even with the best data collection

procedures, however, we strongly suspect that substantial limitations on what can be justifiably done with the data will remain.

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