

MEMO TO: Dr. Dae Woo Han, Health Sciences Division, IDRC
 FROM: Yuzuru J. Takeshita *Yuzuru J. Takeshita*
 SUBJECT: Report on Consultancy Assignment to China 3-A-88-4434
 DATE: February 4, 1989

This constitutes my report to you on the consultation you asked me to undertake as follows:

1) Terms of Reference

- a) Travel to Shanghai and Nanjing in China.
- b) In Shanghai, visit:

Dr. Shu-hua Lu
 Chief Director, Department of Obstetrics and
 Gynaecology
 Lu Wan Maternity and Child Health Hospital
 393 Yan An Zhong Road
 Shanghai

and assist her in finalizing the research proposal:

"Educational strategy to reduce contraceptive failure
 in urban China".

c) In Nanjing, visit:

Dr. Xie Xianfan, President
 Dr. Sun Fengmin, Associate Professor

Nanjing College for Family Planning Administrators
 10 Suojincun
 P.O. Box 4204
 Shaoshan Road
 Nanjing

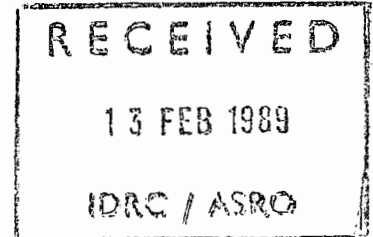
and assist them in finalizing the research
 proposal:

"Determinants of contraceptive use-effectiveness:
 the baseline survey on the program to reduce
 contraceptive failure rate".

- d) Submit a detailed and satisfactory report of the
 work accomplished to your office by 31 January
 1989.

2) Work accomplished in Shanghai

- a) I worked closely with Dr. Shu-hua Lu and the
 Director of the Lu Wan District Maternity and Child
 Health Hospital, Dr. Mei-rong Zhou, for 5 days from
 December 12 through 16 before departing for Nanjing
 and another full day on December 24 upon return



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from Nanjing and before departing for Hong Kong that evening. (The delay of this report is due to the fact that some of the details we worked out on the last day were to be typed up and a copy sent to me so that I could incorporate them into this report. They arrived here just last week, with their draft proposal on which they asked for further comments.)

- b) Given that Dr. Lu understands and speaks English well, I could discuss details of the project directly with her. Dr. Zhou also could understand English adequately to follow our discussion but her comments in parts had to be made in Chinese, the gist of which I could understand even with my limited Chinese. In short, I found no problem in communicating technical matters related to the project.
- c) The first task was to understand precisely what they had in mind to do and help them clarify their objectives with feasibility in mind. We identified two broad interrelated objectives:

- (1) Improve contraceptive choice and effective use so as to reduce failure and subsequent induced abortion.
- (2) Develop an effective health education program to facilitate the above.

- d) Two major research issues immediately suggested themselves from these broad objectives:

- (1) How to determine if improvement and reduction occur.

This led to the question of a quasi-experimental design of the study.

- (2) How to organize and focus the health education program.

This led to the question of what factors affect contraceptive behavior and which of these are amenable to health education intervention over a relatively short period of time.

- e) Quasi-experimental design

- (1) Who to study

Given the sponsorship of the study by the Lu Wan District Maternity and Child Health Hospital that serves the district in family planning, it is restricted to that district and, for ease of project administration,

in 21 medium sized factories and 6 middle schools where family planning records are well-kept and close working relations with the sponsors of the study exist. The target population is restricted in this way to permit undertaking a focused study on the basis of which expansion to other factories and schools and the district at large (or even Shanghai and other communities) may be seriously contemplated. (In order to get some ideas as to the nature of the target population and their work settings, I visited two textile factories to be included in the study, one identified as being a very successful one in terms of contraceptive prevalence and low abortion rate and the other, a less successful one in these terms.) The 21 factories range in size from 223 to 1,008 women in the childbearing ages and in abortion rate (for 1987), from 2.28 per 1,000 women to 7.61. The number of childbearing women in the 6 middle schools ranges from 50 to 88 and the abortion rate, from 0.00 to 3.23 per 1,000 women. The middle schools are included in the study to see the effect of higher education among the school teachers in contrast to the generally low education of the factory workers, and because of their potential long-term impact on the new generation of women that they come into close contact in the school settings.

- (2) The factories and schools will be randomly allocated to three groups:

Experimental Group 1: To be exposed to health education involving both husband and wife

Experimental Group 2: To be exposed to health education involving wife only

Control Group: To be exposed to the routine family planning program currently offered

The allocation was done by first creating two strata (factories and middle schools) and within the former, by stratifying further by the 1987 abortion rate (less than 3.5% vs. 3.5% and higher) by size (large: 800 or more women in childbearing ages; medium: 500-799; and small: less than 500); and making random assignment within each stratum. Thus, the 13,285 MARRIED women in the childbearing ages, 15-49, working at the 21 factories or serving as teachers in the 6 middle schools are allocated to the above groups as follows:

Stratum	Size	Abortion rate	Unit number	Exp. 1	Exp. 2	Control
1	Large (800+)	Low (less than 3.5%)	#1		x	
			#2			x
			#3	x		
			#4		x	
2		High (more than 3.5%)	#5			x
			#6	x		
			#7		x	
3	Medium (500- 799)	Low (less than 3.5%)	#8	x		
			#9		x	
			#10			x
			#11	x		
4		High (more than 3.5%)	#12	x		
			#13		x	
			#14			x
5	Small (less than 500)	Low (less than 3.5%)	#15		x	
			#16			x
			#17	x		
			#18			x
6		High (more than 3.5%)	#19	x		
			#20		x	
			#21			x
7	Middle schools		#22	x		
			#23		x	
			#24			x
			#25	x		
			#26		x	
			#27			x
TOTAL UNITS:				9	9	9

As the above shows, each experimental groups/control group will contain 9 units. Since, however, the number of women in these units varies, the total number of women in these groups would inevitably vary. To the extent that the units and not the individual woman is randomly assigned to the different "treatments," this is a "QUASI-" rather than a "PURE" experimental design.

The treatments are divided into two: one with and the other without the husband being included in the intervention effort. This variation is deemed important as the input involving the husband is much greater than the one without him and the impact of that additional input on the couple's contraceptive success needs to be carefully assessed.

(3) Measuring the experimental effect

- (a) Health education input is to be made for a period of 18 months, based on the above design.
- (b) A before- and an after-survey will be administered to a sample of couples after at least 12 months of intervention.
- (c) The sample size is set MINIMALLY at 300 couples per group, or $300 \times 3 = 900$. Preferably a sample of 500 per group (or $500 \times 3 = 1,500$) is desired especially for estimating life-table continuation/termination rates (by reason), given the desirability of getting estimates for each group controlled for age and parity (at least). $n=300$ per group is adequate for measuring effect on contraceptive prevalence, one of the key dependent variables, based on a power of .80 and a Type I error of .05.
- (d) The sample will be selected using a systematic random sampling procedure applied to the list of cases from each group stratified as above.
- (e) Quality control of data collection

A great deal of effort was made to have various quality control measures incorporated into the data collection and data processing stages of the project.

-care in questionnaire design: wording, sequence, format, etc.

-pretest of questionnaires

-recruitment of qualified interviewers

-careful training of interviewers

-field supervision and field editing of interviews

-office-editing of interviews

-careful code construction

-coder training

-check coding

-computer processing of data

-etc.

- (f) Both the data from these surveys and the clinic records kept for each worker will be analyzed with the application of appropriate statistics such as ANOVA, ANCOVA, and multiple regression as well as the comparison of life-table use-effectiveness measures before and after the intervention. For the latter, the period of post-intervention observation poses a slight problem in terms of its limited length. One reason the after-survey is scheduled to be administered after at least 12 months of health education input is to provide an adequate period of observation to measure any effect. (See below for discussion of the items to be tapped in the data collection.)

f) Content of the health education program

- (1) It became clear early in the discussion that not much thought was put into defining what exactly would be addressed in the proposed health education program other than the broad notion that effort will be made to help women choose better contraception and to use it more effectively.
- (2) To address this lack of focus in the intervention itself, I offered a behavioral science framework in organizing the content of their health education effort (based on what I believe is the main current of thinking in the field linking health behavior and health education). Broadly, the framework suggested incorporates factors identified in the literature related to the Health Belief Model, Fishbein's theory of reasoned action (involving concepts of normative beliefs and subjective norms as predictors of intention to behave), Bandura's social learning theory (focused on "self-efficacy"), social support, provider-client interaction, and optimum clinic characteristics. What I consider to be the main leverages available for health education are summarized in the framework presented in Figure I, attached here. Several prototype questions that have been used in the U.S. to measure these factors were sent to Drs. Zhou and Lu, the principal investigators, upon my return. I also left with them several

articles discussing these concepts:

de Vries, H., Dijkstra, M., and Kuhlman, D.,
"Self-efficacy: the third factor besides
attitudes and subjective norm as a predictor
of behavioral intentions," HEALTH EDUCATION
RESEARCH: THEORY AND PRACTICE, Vol. 3, No. 3
(1988), 273-282.

Nathanson, C. A. and Becker, M. C.,
"Contraceptive Behavior Among Unmarried Young
Women: A Theoretical Framework for Research,"
POPULATION AND ENVIRONMENT, Vol. 6, no. 7
(Spring 1983), 39-59.

Takeshita, Yuzuru J., "Shakaigaku no naka no
hoken kodoron (Health Behavior: A Sociological
Perspective)", KWANSEI GAKUIN SHAKAIGAKU KIYO,
no. 55 (July 20, 1987), 21-31.

- (3) The health education program is to be organized with emphasis on proper knowledge of contraceptives, perception of benefits and minimization of barriers, enhancement and perception of social support (including husband involvement), and strengthening of confidence about effective use of contraception (i.e., self-efficacy).
- (4) The health education activities, to be conducted in group sessions at the work sites and in follow-up home visits for those who fail in contraception and/or have abortion, are to be scheduled in decreasing frequency over the 2-year period of the intervention program.
- g) The following types of data, guided in part by the foregoing framework identifying the major factors affecting contraceptive adoption and effective use, are to be collected in the before- and after-survey (starred items are for wife interviews only):
 - knowledge of contraceptive physiology
 - knowledge of contraceptive methods: how each works and side effects, if any
 - marital history: dates
 - *complete pregnancy history: outcome (live birth, stillbirth, miscarriage, induced abortion, still pregnant), date of outcome, no. of gestation months, etc.
 - *complete contraceptive history: methods, date of use, relationship to pregnancy and outcome, specific reasons for discontinuation (making sure data needed for life table analysis are collected):

- method
- date of initial use
- date of termination of use (or date of interview, if still using)
- reasons for termination (in detail)

For IUD: pregnancy in situ
spontaneous expulsion
removal (by reasons)

- method preference and reasons
- attitude toward abortion
- one-child certification or not
- attitude about "one-child" policy: generally and for themselves
- client-staff interaction: actual and preferred

- amount of autonomy
- scope of concern
- amount of trust
- amount of affective expression

- perception of:
 - threats of unwanted pregnancy
 - benefits of contraception
 - barriers to continued use
 - spouse, relatives, friends, and neighbors' views and use of contraception and abortion
 - self-efficacy (confidence about using method continuously and/or adhering to follow-up regimen, etc.)

- husband-wife communication about family planning, contraception, and abortion
- background characteristics:
 - age (exact date of birth)
 - place of birth
 - education
 - work history: when, where, what

NOTE: I have sent them a copy of the World Fertility Survey Core Questionnaire and a contraceptive prevalence survey questionnaire used in Korea as well as the questionnaires used by Nathanson and Becker in their teenager study tapping role expectations between clients and providers.

h) Other data to be collected

(1) Clinic characteristics

- staffing: number and qualifications,
staff-client ratio
- facilities and space
- no. of persons served per month: overall
and for family planning specifically
- availability of supplies
- support of cadres, etc.

(2) Health workers (about 80 at the 21 factories
and the 6 middle schools): before and after
(same items as for clients)

- staff-client interaction: actual and
preferred
- amount of autonomy
- scope of concern
- amount of trust
- amount of affective expression

(The hypothesis is that the greater the consistency of actual with preferred role behavior along these dimensions between the providers and the clients the more likely the desired behavior in terms of what is being promoted.)

- i) We reviewed each budget item both in terms of justification and amount. I impressed upon them the need for the utmost care in finalizing the budget. They tried to keep the total close to CAD \$100,000. (I am not sure whether they succeeded. In any case, I hope they got the message about providing careful justification for each item.)
- j) I also asked them to prepare a detailed Gantt chart to get a better sense of when to plan and implement their project activities. By so doing they were able to reschedule their project into a 36-month time frame (12 months less than what they had originally proposed).
- k) The morning of the 17th before leaving for Nanjing, I typed up a draft of the proposal as it stood at that point and left it with them, indicating gaps to be filled by the time I returned on December 23. Then, on the 23rd, I reviewed what they had done and suggested further revisions to be completed before submitting the proposal to you. They sent me their "final" draft last week and I sent it back with further comments and suggestions for revision.

3) Work accomplished in Nanjing

- a) I worked closely with Dr. Fengmin Sun and three of her colleagues for 4 full days from December 18 through 22 before returning to Shanghai on the 23rd. December 18, a Sunday, was devoted to reading the materials Dr. Sun left with me when she met me on my arrival the day before. This day in between Shanghai and Nanjing gave me a chance to put the two into a larger perspective vis-a-vis China's current population policy and its impact, leading to concerns about the high rate of induced abortion which apparently motivate both projects.
- b) Given Dr. Sun's limited English, a Mr. Hu Hongtao who spent a year in the School of Public Health at UCLA served as the primary interpreter. He was very effective because of his familiarity with behavioral science concepts. In fact, there apparently are several others on the staff who had been trained at UCLA, giving strength to this group for undertaking the proposed project.
- c) Unlike the Shanghai project, the aim of the Nanjing project is to undertake a baseline survey to serve as a basis for planning an intervention program as the next step. The major aim is to assess the use-effectiveness of the various methods of contraception in use for both urban and rural populations and to discover the extent to which effective use is a function of method-, user-, and provider-related factors. It is hoped that, based on this study, a viable intervention program focused on both provider and client education regarding delivery and choice of methods can be formulated.
- d) The study site is to be in three townships of Yangzhou City to the northeast of Nanjing. The city has a population of 8.8 million with only one million living in the central city proper. The rest live in rural areas, though administratively within Yangzhou. This place was selected for several reasons: (1) The Nanjing College of Family Planning Administrators has had a long-standing working relationship with the city's Family Planning Commission. Students are regularly sent there for field experience. (2) Method choice and problems of delivery vary between rural and urban areas, and therefore it was desirable to go out of Nanjing to a place containing both types of areas. (3) Since 80 percent of the population of China live in rural areas, it is important to find ways to improve programs based on a study at sites with a heavy rural composition such as in Yangzhou.

Three townships were selected for the study jointly by the City's Family Planning Commission and the

study team from Nanjing. They represent roughly three levels of performance, based on such criteria as the contraceptive prevalence rate, the birth rate, the contraceptive failure rate, and the abortion rate.

- e) All new acceptors of contraception during 1985-88, approximately 1,500 in number, will be followed up as a basis for measuring use-effectiveness of whatever methods they accepted (IUD, pill, condom, and others). In addition, all family planning workers at the township and village levels (about 490 workers) and all professional health workers at the township hospitals and village clinics (about 209) will be interviewed to find out about their backgrounds, training, working conditions, etc. The total number of study subjects thus comes to about 2,200. Individual acceptors in the years 1985-88 are identified through the records kept by the local family planning workers at the township level. Since there is no sampling involved, it is a matter simply of getting the complete roster of eligible women from the family planning workers.

f) Data collection

- (1) Interview survey with a fixed schedule of questions will be the basic mode of data collection. Two separate schedules of questions will be prepared, one for the family planning providers (that is, the family planning administrative personnel and the professional health workers) and the other for the acceptors.

(a) Questionnaire items for family planning providers

-Personal characteristics: age, sex, marital status, no. of living children, education, position in the family planning program, level (township, administrative village, or natural village)

-Training in family planning: type, year, duration, content (list categories)

-Contraceptive experience: method currently using

-Abortion experience: how often?

-Preferred contraceptive method: method and reasons

- Family planning services provided:
each type of workers at each level will be asked to indicate how much of their working time is spent on each of the following categories of activities:
- Promotion and education (list specific activities)
- Contraceptive delivery (list specific activities)
- Service and counselling (list specific activities)
- Each worker will be asked to identify problems, if any, in the way the program operates. (In the pretest, an open-ended question might be asked and responses examined to see if salient categories can be identified to develop closed questions for the final questionnaire.)
- How each worker sees his/her role in relation to the clients along the dimensions of autonomy, scope, trust, and affectivity (as in 2-h-(2) above for the Shanghai project).

(b) Questionnaire items for the acceptors

- Background characteristics: exact date of birth, place of birth (urban or rural), education, occupation, family income (annual), household composition
- Husband's background characteristics: age, place of birth (urban or rural), education, occupation, income (annual)
- Exact age at first marriage and duration of marriage
- Summary data on pregnancies prior to acceptance: no. of live births by sex, no. of living children by sex, no. of stillbirths, no. of miscarriages, and no. of induced abortions
- Timing of acceptance in relation to: marriage (how many months after married); after first live birth (how many months after); after first abortion (how many months after); etc. (This is expected to affect strength of motivation

to avoid an unwanted pregnancy.)

-Breastfeeding or not at time of acceptance: For how many months before acceptance and subsequent to acceptance?

-Ideal family size and no. of children expect to have altogether

-Degree of commitment to no. of children expect to have (Likert scale)

-Knowledge of contraceptive methods: effectiveness, mode of action, side effects, where learned about the methods and their characteristics, where they can be obtained, etc.

-Contraceptive experience prior to acceptance: methods ever used; timing of first method used (what method, parity, age, calendar year); any contraceptive failure? (which method?); was a method being used at acceptance? (what method?)

-Complete contraceptive history following acceptance in 1985-88: (For each method used in chronological order, ask:) date of acceptance (month and year); date of termination, if terminated (month and year); reasons for termination (if IUD: expulsion and removal by specific reasons; all contraception: pregnancy while using, side effects (specify), prefer another method (why?), want to get pregnant, others (specify)*)

*The specific details must permit classification of reasons as to method-, user-, and provider-related. (If more than one reason is given, ask to indicate the most important especially among user- and provider-related reasons.)

In addition, for each method: source of information, source of method, reason for choice of method, information and instruction regarding method from type of provider, any follow-up visits (when?), side effects and how treated, any advice from someone else about termination (from whom?), regularity of use (for non-IUD methods), etc.

-For any accidental pregnancy while using a method: Was abortion performed? At what month of gestation? Why? Who recommended (about having an abortion and timing)?, where was abortion done?

-Attitudes about abortion: Do they fear it? Do they prefer it to contraception?

-Accessibility of each type of provider at township, administrative village, and natural village level: time-distance to provider, convenience of time available for visits and consultation, satisfaction with nature and frequency of guidance and support, etc.

-Social support: Is husband cooperative? Other relatives supportive? How many of closest friends and neighbors are using contraception (what methods? Same as respondent or not? Satisfied or not?)

-Self-efficacy: How confident in following regimen (Likert scale)? For IUD: keep to schedule of follow-up examination, other instructions; for pill: to take regularly without missing; for condom: to have husband use if properly every time, etc.

-Strength of motivation: How important it was to avoid an unwanted pregnancy when took up method (Likert scale); also, timing of acceptance in relation to marriage, first live birth, first abortion, etc. (as above).

-How they want the various family planning and health workers to relate to them along the dimensions of autonomy, scope, trust, and affectivity (as for the providers above).

- (2) In addition to the survey of family planning workers and acceptors, data will be collected on the structure of family planning services available in the three townships. Items will include, among others:

-no. and type of service units: hospital (one in each township) and clinics (at the administrative village level)

- no. of workers by type at each level and provider-client ratio (all eligible women or acceptors only)
- frequency of referrals between family planning administrative personnel and professional health workers
- frequency of contact between levels by who initiates contact (top-down vs. bottom up)
- etc.

NOTE: The selection of items to be included in the data collection is based on the same framework as used in the Shanghai project (see Figure 1 attached to this report). The aim is to include all the important factors expected to influence contraceptive use-effectiveness in addition to measuring use-effectiveness as such.

(3) Survey operation and quality control

- Questionnaire design: The above items are to be carefully operationalized into question form. (Prototype questions for the major items were sent to Nanjing at the same time as they were sent to Shanghai.)
- Pretest: The draft questionnaire will be pretested with respondents similar to those to be included in the survey as often as needed to develop a viable set of instruments in terms of length, wording, question sequence, etc. for comprehensibility and ease of administration.
- Recruitment of interviewers: About 35 students of the 2-year program of the Nanjing College for Family Planning Administrators will be mobilized in conjunction with their required field experience.
- Training of interviewers: They will be trained for a two-week period by the principal investigator and research staff, number of whom have had survey experience and/or taken courses at UCLA. The training will include: orientation to family planning programs and methods, general principles of interviewing, question-by-question learning of specific objectives and potential response errors, role playing with each other under supervision by the trainers, field trial in Yangzhou in

townships other than those included in the study, review of interviews completed, practice field editing, detailed feedback on interview quality, and overall review of training topics.

-Field work: 3 teams, one for each township, will be formed, each team being supervised by one of the research assistants. One of the interviewers will assist the supervisor in field editing the completed interviews so that errors can be detected quickly and corrected while still in the field.

-Office editing: One of the research assistants will be responsible for editing for completeness each completed interview returned to the office. If necessary, revisits and reinterviews may be requested of the field team.

-Code construction: Codes will be prepared by the principal investigator and her assistants as the interviews start coming back from the field. Two types of codes require special attention:

- (1) Items required for the life table analysis of contraceptive use-effectiveness: dates of acceptance, dates of termination, reasons for termination, for each type of method
- (2) For a multivariate analysis with continuation of use as a dependent variable, it is necessary to code at end of 1, 2, 3, etc. year, whether still using (code 1) or not (code 0).
(Unfortunately, life table rates are not easily amenable to the application of multivariate analysis. Hazards model is a viable alternative but the lack of statistical software in Nanjing precludes its application in this study).

-Coding: Coders will be selected from among the best interviewers (about 15) and trained. Production coding will be checked for reliability, 100% at the beginning and gradually reduced to a minimum of 10% depending on the reliability achieved. Special coders may be assigned to do the more difficult coding such as those mentioned above.

-Data processing: Several minicomputers are available at the Nanjing College for Family Planning Administrators, with support by a competent programmer, who is a member of the project team. He will organize and supervise the operation to format data entry in such a way as to facilitate the planned data analysis, including the application of life table use-effectiveness measures.

g) Data analysis

Three general classes of analysis were recommended:

- (1) Analysis of individual acceptor data separately for each township and all townships combined
 - (a) Contraceptive prevalence level among all married women in the childbearing ages (to be obtained from the local units) by method, by parity and age.
 - (b) Contraceptive use-effectiveness by the life table method: continuation rates and termination rates (gross and net) by specific reasons classified by broad categories of method-, user-, and provider-related causes, with special attention to unintended pregnancy rate.

The classification by these broad categories is as follows:

Method-related: expulsion of IUD, accidental pregnancy while using the method, side effects, interference with lactation, etc.

User-related: inconvenient, no need (husband is away), objection by husband and/or other relatives, want to become pregnant, etc.

Clinic-related: poor management of side effects, lack of information about the method, lack of backstop, attitude of staff, etc.

The analysis will be done for first method (for IUD: first segment), all contraception (for IUD: all segments if had reinsertion), and extended (i.e., post-acceptance pregnancy rate) use-effectiveness.

- (c) Comparison of continuation/termination rates by personal characteristics: age, parity, number of pregnancies, education, urban-rural, by method (For this analysis, life table rates can be used in making comparisons for each characteristic one by one or by at least standardizing on age and parity.)
 - (d) Comparison of women whose pregnancies are terminated by induced abortion and those not, by age, parity, education, occupation, income, age of last child, method used, family size preference, etc.
 - (e) Multivariate analysis of continuation at end of specified year (1, 2, 3, etc.) by strength of motivation, degree of self-efficacy, amount of social support, and amount of family planning worker support, controlled for age and parity (for each method separately and for all methods combined).
- (2) Analysis of data from family planning and health workers for each township separately and all townships combined.
- (a) Profile of workers by type and level: age, sex, parity, education, contraception and abortion experience, preferred method, etc.
 - (b) Training: type, year, content, etc.
 - (c) Distribution patterns of major activities by type of worker and level
 - (d) Types of problems identified in delivery of service
 - (e) Role expectations in relation to clients: autonomy, scope, trust, and affectivity (for each type of worker and level)

(3) Multivariate analysis of cross-level data from acceptors, family planning and health workers, and township and village provider structure

- (a) Degree of agreement in role expectation between acceptors and family planning and health workers (for each type and level) along dimensions of autonomy, scope, trust, and affectivity and effect on continuation of use to end of specified number of years (1, 2, 3, etc.)
- (b) Stepwise multivariate analysis of continuation of use at end of specified year with predictors selected in groups from acceptors, family planning and health workers, and township/village provider structure (such as client-provider ratios at different levels, etc.)

For example, they can examine whether continuation of use is affected by how the family planning worker activities are distributed by type of activities (promotion, delivery, counselling, etc.) and the client-provider ratios at the different levels (especially at the natural village level where client contact is most frequent), above and beyond what influence individual factors have.

NOTE: I emphasized in the choice of items for inclusion in the schedules of questions and in the data analysis that the aim is to identify factors that influence contraceptive use-effectiveness that are amenable to intervention such as, for the workers, type of training, task distribution, role expectation, etc, and, for the acceptors, knowledge level, choice of method, motivation, self-efficacy, social support, quality of interaction with provider, etc. It is this kind of focus that would facilitate their formulating a viable intervention program based on the results from this study.

h) In Nanjing, too, strong recommendations were made on getting a detailed Gantt chart made for the proper scheduling of necessary activities and on justifying every item of the budget. (They did not send me these for final review and so all I can do is to assume that they followed my recommendations.)

*** End of Report ***