

ETHICAL REVIEW COMMITTEE, ICDDR,B.

Principal Investigator Chitra Kishor Trainee Investigator (if any) \_\_\_\_\_  
 Application No. 95-024 Supporting Agency (if Non-ICDDR,B) \_\_\_\_\_  
 Title of Study Mother-in-law's Influence Project status:  
on Egyptian-in-law's reproductive behavior ( ) New Study  
in Rural Bangladesh ( ) Continuation with change  
 ( ) No change (do not fill out rest of form)

Indicate the appropriate answer to each of the following (if Not Applicable write NA).

Source of Population:		5. Will signed consent form be required:	
(a) Ill subjects	Yes (No)	(a) From subjects	Yes (No)
(b) Non-ill subjects	(Yes) No	(b) From parent or guardian	(Yes) No
(c) Minors or persons under guardianship	Yes (No)	(if subjects are minors)	(Yes) No
Does the study involve:		6. Will precautions be taken to protect anonymity of subjects	(Yes) No
(a) Physical risks to the subjects	Yes (No)	7. Check documents being submitted herewith to Committee:	
(b) Social Risks	Yes (No)	<input checked="" type="checkbox"/> Umbrella proposal - Initially submit an overview (all other requirements will be submitted with individual studies).	
(c) Psychological risks to subjects	(Yes) No	<input checked="" type="checkbox"/> Protocol (Required)	
(d) Discomfort to subjects	(Yes) No	<input checked="" type="checkbox"/> Abstract Summary (Required)	
(e) Invasion of privacy	(Yes) No	<input checked="" type="checkbox"/> Statement given or read to subjects on nature of study, risks, types of questions to be asked, and right to refuse to participate or withdraw (Required)	
(f) Disclosure of information damaging to subject or others	Yes (No)	<input checked="" type="checkbox"/> Informed consent form for subjects	
Does the study involve:		<input checked="" type="checkbox"/> Informed consent form for parent or guardian	
(a) Use of records, (hospital, medical, death, birth or other)	(Yes) No	<input checked="" type="checkbox"/> Procedure for maintaining confidentiality	
(b) Use of fetal tissue or abortus	Yes (No)	<input checked="" type="checkbox"/> Questionnaire or interview schedule *	
(c) Use of organs or body fluids	Yes (No)	* If the final instrument is not completed prior to review, the following information should be included in the abstract summary:	
Are subjects clearly informed about:		1. A description of the areas to be covered in the questionnaire or interview which could be considered either sensitive or which would constitute an invasion of privacy.	
(a) Nature and purposes of study	(Yes) No	2. Examples of the type of specific questions to be asked in the sensitive areas.	
(b) Procedures to be followed including alternatives used	(Yes) No	3. An indication as to when the questionnaire will be presented to the Cttee. for review.	
(c) Physical risks	Yes (No)		
(d) Sensitive questions	(Yes) No		
(e) Benefits to be derived	Yes (No)		
(f) Right to refuse to participate or to withdraw from study	(Yes) No		
(g) Confidential handling of data	(Yes) No		
(h) Compensation &/or treatment where there are risks or privacy is involved in any particular procedure	(Yes) No		

I agree to obtain approval of the Ethical Review Committee for any changes involving the rights and welfare of subjects before making such change.

Principal Investigator K. S. Sengupta 30/9/95 Trainee \_\_\_\_\_

**CHECK-LIST FOR SUBMISSION OF PROPOSALS  
TO THE RESEARCH REVIEW COMMITTEE (RRC)**

[Please tick (✓) the appropriate box]

1. Has the proposal been reviewed, discussed and cleared at the Division level ?

Yes

No

If the answer is 'NO', please clarify the reasons: \_\_\_\_\_

2. Has the proposal been peer-reviewed externally ?

Yes

No

If the answer is 'NO', please explain the reasons: \_\_\_\_\_

Does the proposal address gender issues ?

Yes

No

If the answer is 'NO', Please give the reasons. \_\_\_\_\_

Has a funding source been identified ?

Yes

No

If the answer is 'YES', please indicate the name of the donor: \_\_\_\_\_

Mellon Foundation Dissertation Grant (approved)

Hill Foundation Dissertation Grant (approved)

Wenner - Gren Foundation (pending)

Contd.../

5. Whether the proposal is a collaborative one ?

Yes

No

If the answer is 'YES', the type of collaboration, name and address of the institution and name of the collaborating investigator be indicated:

*Yes, it is a collaborative work of The Pennsylvania State University and  
The ICDDR,B. Mr. Akiba Nosaka will collect the data for the study  
from MIT lab and do a part of analysis here and Dr. P. Banerji will work  
on her proposal.*

6. Has the budget been cleared by Finance Division ?

Yes

No

If the answer is 'NO', reasons thereof be indicated: *This proposal has  
been prepared outside Bangladesh.*

7. Does the study involve any procedure employing hazardous materials, or equipments ?

Yes

No

If the answer is 'YES', fill the necessary form.

Sep. 20, 1995  
Date

*[Signature]*  
Signature of the  
Principal Investigator



Date: May 19, 1995

From: Candice A. Yekel, Compliance Coordinator  
*Candice A. Yekel*

To: Akiko Nosaka

Subject: Results of Review of Proposal - Expedited (#950764-00)

"Mothers-in-law Influence on Daughters-in-law Reproductive Behavior in Rural Bangladesh"

The Behavioral and Social Sciences Committee of the Institutional Review Board has reviewed and approved your proposal for use of human subjects in your research. This approval has been granted for a one-year period.

Approval for use of human subjects in this research is given for a period covering one year from today. If your study extends beyond this approval period, you must contact this office to request an annual review of this research.

Attached are mailing labels you can use to forward to 212 Kern Graduate Building the original, signed informed consent forms obtained from the subjects of your study. Contact this office if you need more labels.

Subjects must receive a copy of any informed consent documentation that was submitted to the Compliance Office for review.

By accepting this decision you agree to notify the Compliance Office of (1) any additions or procedural changes that modify the subjects' risks in any way and (2) any unanticipated subject events that are encountered during the conduct of this research. Prior approval must be obtained for any planned changes to the approved protocol. Unanticipated subject events must be reported in a timely fashion.

On behalf of the committee and the University, I thank you for your efforts to conduct your research in compliance with the federal regulations that have been established for the protection of human subjects.

CAY/slk

Attachments

cc: G. Milner  
R. Lombra

INFORMED CONSENT FORM

Title of project: Mother-in-law's Influence on Daughter-in-law's Reproductive Behavior

Person in Charge: Akiko Nosaka  
409 Carpenter Build.  
The Penn. State University  
University Park, PA 16802 U.S.A.

1. EXPLANATION OF THE STUDY

A. The study in which you will be participating is part of a research project intended to examine the influence of mothers-in-law on their daughters-in-law's acceptance of modern methods of contraception. By conducting this research, I hope to facilitate further development in Bangladesh and provide potentially valuable examples for other countries dealing with problems of high fertility.

B. If you agree to take part in this research, you will be asked to answer questions with regard to your behavior and opinions. For example, you will be asked if you support use of modern contraceptives. Your answer, together with those of approximately 650 other women, will be used to draw conclusions about if and how mothers-in-law influence their daughter-in-law's acceptance of modern contraceptives.

C. Your participation in this research will take a total of about two hours.

D. During your participation in this research, you may experience some minor embarrassment while responding to some of the questionnaire items. For example, you will be asked whether you have ever used modern contraceptives.

2. YOUR RIGHTS AS A RESEARCH PARTICIPANT

A. You may ask any questions about the research procedures, and these questions will be answered. Further questions should be directed to Akiko Nosaka.

B. Your participation in this research is confidential. Only the person in charge will have access to your identity and to information that can be associated with your identity. In the event of publication of this research, to make sure your participation remains confidential, no personally identifying information will be disclosed.

C. Your participation is voluntary. You are free to stop participating in the research at any time, or to decline to answer any specific questions without penalty.

3. INFORMED CONSENT TO PARTICIPATE

PARTICIPANT:

I agree to participate in a scientific investigation of "Mother-in-law's Influence on Daughter-in-law's Reproductive Behavior".

I understand the information given to me, and I have received answers to any questions I may have had about the research procedures. I understand and agree to the conditions of this study as described.

To the best of my knowledge and belief, I have no physical or mental illness or difficulties that would increase my risk because of participation in this study.

I understand that I will receive no compensation for my participation.

I understand that my participation in this research is voluntary, and that I may withdraw from this study at any time by notifying the person in charge.

I understand that I will receive a signed copy of this consent form.

Signature \_\_\_\_\_

Date \_\_\_\_\_

RESEARCHER:

I certify that the informed consent procedure has been followed, and that I have answered any questions from the participant above as fully as possible.

Signature \_\_\_\_\_

Date \_\_\_\_\_

\* This informed consent form will be translated into Bengali by an interpreter whom I will hire in Bangladesh. At this point, there is no person available who can translate this form into Bengali.

13 September, 1995

1. PRINCIPAL INVESTIGATOR:

Akiko Nosaka, Department of Anthropology, The Pennsylvania State University, University Park, PA 16802, Office: (814) 865-1231, Fax: (814)863-1474

2. OTHER INVESTIGATOR: Dr. R. Bairagi  
Senior Scientist  
Population Science & Extension Division  
ICDDR,B

3. TITLE OF PROJECT:

Mother-in-law's Influence on Daughter-in-law's Reproductive Behavior in Rural Bangladesh

4. STARTING DATE:

October 1995

5. DATE OF COMPLETION:

May 1996 or September 1996

\* Two foundations have approved and committed support for my project. I am currently waiting for additional support from the Wenner-Gren Foundation. If Wenner-Gren approves my project, it will be extended to September 1996.

6. TOTAL BUDGET:

US \$10,140 --currently  
US \$25,089 --with the approval from the Wenner-Gren Foundation

7. FUNDING SOURCES:

Mellon Foundation Dissertation Grant  
Hill Foundation Dissertation Grant  
Wenner-Gren Foundation Predoctoral Grant (pending)

8. HEAD OF THE PROGRAMME: PFPD

*R. Bairagi*

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## CONTENTS

ABSTRACT SUMMARY	1
9. PROJECT AIMS	2
a. General Aim	2
b. Specific Aims	2
c. Significance	2
10. ETHICAL IMPLICATIONS	4
11. BACKGROUND	5
Methods	6
a. Location of Research	6
b. Population Survey	7
c. Sample Size	8
Field Protocols	8
Analyses	10
BIBLIOGRAPHY	11
12. PUBLICATIONS	15
13. SCHEDULE OF TASKS	16
14. SPECIFIC TASKS	16
15. BUDGET	17
16. BUDGET NOTES	18
Appendix 1	19
Appendix 2	21
Appendix 3	22
Appendix 4	25
Questionnaires	27



## ABSTRACT SUMMARY

While rural Bangladesh is still distinguished by many traditional socio-economic characteristics, modern contraceptives have been widely accepted by women of reproductive age for two decades. Particularly, in Matlab, a rural district in which an intensive family planning program has been highly successful since the late 1970s, contraceptive use-prevalence is significantly high. This research examines how a mother-in-law, who traditionally influences her daughter-in-law's behavior, affects her daughter-in-law's acceptance of modern contraceptives in Matlab. Seven variables are expected to affect mother-in-law's influence on her daughter-in-law's contraceptive use. Those variables are the extent of mother-in-law's social network, her functional capacity, her preference of the number of children, her preference of the number of additional children, her experience of modern contraceptives, her attitude toward modern contraceptives, and her residence. Confounders are carefully considered. Intensive interviews and observation will be used to collect new data, supplemented by ICDDR,B's existing data. Statistical analyses will be conducted to test hypotheses.

## 9. PROJECT AIMS

### a. General Aim

This research project will examine inter-generational relationships and their effects on reproductive behavior in rural Bangladesh.

It will evaluate the influence older women have on their daughters-in-law's acceptance of modern methods of contraception. Influence is defined as the ability to manipulate other people and to place them in a dependent position (Bourque and Warren 1981:55; Dubisch 1988:16). The central aim of this research project is to examine how older women are involved in recent changes in younger women's behavior in rural Bangladesh. It will examine the relationship between the influence of older women and characteristics of those women.

### b. Specific Aims

The specific objectives of this research are to examine the relationship between characteristics of a mother-in-law and acceptance of modern contraceptives by her daughter-in-law. This project will examine seven independent variables that may affect the influence a mother-in-law has on her daughter-in-law's acceptance of modern contraceptives. Those variables are:

- 1) Mother-In-Law's Social Network.
- 2) Mother-In-Law's Functional Capacity.
- 3) Mother-In-Law's Preference for the Number of Children.
- 4) Mother-in-law's Preference for the Number of Additional Children.
- 5) Mother-In-Law's Experience of Contraception.
- 6) Mother-In-Law's Attitude toward Contraception..
- 7) Mother-In-Law's Residence.

Appendix 1 explains hypotheses with regard to those variables.

### c. Significance

Fertility in rural Bangladesh has declined drastically since the 1970s. The shift in fertility is often called "a reproductive revolution," and is distinguished from "a demographic transition" (Caldwell 1978, 1982; Coale 1973; Notestein 1953; Robey et al. 1993:65). Demographic transition theory has traditionally posited that large scale socio-economic changes are necessary to reduce fertility. However, the reproductive revolution in Bangladesh has occurred without such transformations (Freedman 1995; Cleland et al. 1994). People in Bangladesh are choosing to have fewer children while "social and economic development is at a very low level and not improving much" (Freedman 1995:13).

Despite the persistence of traditional socio-economic

characteristics, family planning projects have been unexpectedly successful in gaining the acceptance. Prevalence of modern contraceptives in Bangladesh as a whole increased from less than five percent in 1975 to about 30 percent in 1991 (Cleland et al. 1994:33). The total fertility rate (TFR), the expected number of children a woman will produce during her reproductive span under current age-specific fertility rates (Wood 1994:34), reflects this rapid increase in contraceptive use. Between the 1970s and the early 1990s, TFR in Bangladesh fell from 7 to below 5. There has been a 40 percent decline in TFR and 55 percent reduction toward the replacement rate of 2.1 (Cleland et al. 1994; Freedman 1995).

An unexplored question in this fertility decline is how the older generation has influenced the recent shift towards limiting the number of children. In Bangladesh households, mothers-in-law, because they possess such power resources as authoritative position and knowledge, have traditionally been in more powerful positions than daughters-in-law. A mother-in-law, who is in control of domestic management, has the right to supervise and command her daughter-in-law's behavior (Aziz 1979:52). A woman who has produced and nurtured adult sons has established a strong position in her husband's and/or son's household (Foner 1984:77). At marriage, a woman usually moves to her husband's house or community. She is initially surrounded by strangers and may not know how the household works. The mother-in-law instructs the daughter-in-law in how to behave in the household and community while the latter resides with her husband's parent(s) (Ellickson 1988:56-57; Feldman and McCarthy 1983:952). Thus, a married woman's behavior can be greatly determined by her mother-in-law.

Recently, a new reproductive pattern has emerged among a younger generation still living under traditional household conditions, in which mothers-in-law continue to hold power, at least in terms of traditional behavior. There are three important questions to ask regarding the influence of mothers-in-law. First, does the mother-in-law manipulate her daughter-in-law's behavior with respect to the production of children? Second, if so, how does the mother-in-law influence her daughter-in-law's behavior? Third, how is a daughter-in-law's behavior influenced by a mother-in-law's characteristics, such as her functional capacity and her preference for number of children? Examination of these issues will enable us to understand the extent to which the reproductive behavior of daughters-in-law is determined by the influence of mothers-in-law.

An understanding of the mechanisms through which the older generation influences the younger generation's fertility behavior can provide valuable insights for the formulation of effective policies. Conducting effective family planning programs is costly (Nag 1992), and many developing countries cannot support the expense of such programs. Even where sufficient capital exists to conduct an expensive program, there is no guarantee that a program successful in one area will be successful elsewhere. This research

will enable us to examine the variation of inter-generational relationships associated with fertility behavior in the context of an established and successful family planning program. From these results, it should be possible to identify paths through which inter-generational relationships could be incorporated into formulating less costly and more successful family planning programs. This research project can make a special contribution to understanding the mechanisms behind fertility behavior in regions where mothers-in-law maintain traditional influence over daughters-in-law.

Moreover, this research project could contribute to a further reduction of the TFR in Matlab. Even with the successful family planning program, the TFR in the area has hardly dropped below 4 (Rahman et al 1992:231). Nag (1992:19) argues that one factor limiting higher contraceptive use is opposition from husbands. In some areas, well-trained Community Health Workers successfully lessened the opposition of husbands (Nag 1992:19). However, there has been no report that it leads to a considerable increase in contraceptive use and a noticeable reduction in the fertility rate. Inter-generational relationships, especially those between mother-in-law and daughter-in-law, may provide a more useful focus for attempts at further reductions in fertility.

#### 10. ETHICAL IMPLICATIONS

This research will address questions about the influence of mothers-in-law on their daughter-in-law's reproductive behavior. This research has importance to the field of inter-generational interaction with regard to reproductive behavior. Also, this project can contribute to the formulation of effective policies and to a further reduction of the TFR.

The data to be gathered in this study come from three sources: (1) interviews, (2) observations, and (3) socio-economic and demographic data previously collected by ICDDR,B. All interviews will be conducted either by me with a female interpreter or by female Bangladeshi field assistants, who will be instructed in the interview protocol. None of the questions asked will place the subjects at legal or financial risk. Some of questions are potentially sensitive or embarrassing and may be considered an invasion of privacy (e.g. question of using any contraceptive methods). However, answers of a subject will not be made available to anybody. Only the field assistant who has interviewed the subject, data-entry person, interpreter who has helped me interview with the subject, and myself will have an access to the answers.

Observations will be conducted by myself. I will observe daily behavior of household members and their interaction, especially interactions between a mother-in-law and her daughter-in-law in the household. Mother-in-law/Daughter-in-law couples that I will

observe may or may not be subjects in the interview portion of the project. I will observe their interaction outside, inside, and/or in the vicinity of their *bari*. In order to observe people inside their *bari*, I will ask permission that I can be inside the *bari*. My observation will be limited to the area of common space among family members.

The following procedure will be used to acquire informed consent for interviews: upon first contact with the subject, the Bangladeshi female field assistant, or I with an interpreter, will describe the study, purpose, and the procedures for interviews. A Bangla copy of EXPLANATION OF THE STUDY and YOUR RIGHTS AS A RESEARCH PARTICIPANT (see attached Informed Consent Form) will be offered and provided to each subject. The assistant, or I with an interpreter, will then ask the subject to indicate her consent by signing. All consent forms will be returned to the Pennsylvania State University and stored at the Office of Compliance.

Besides myself, the only individuals who will have access to the questionnaires will be the field assistant who collected the information, data entry personnel, and interpreter who helped me interview the subject. I will instruct all of my field assistants, interpreters, and data entry specialists not to discuss the content of my interviews nor display the results to anybody besides myself. I will instruct my assistants to bring all collected data to me at the end of each day. A data entry specialist will work in a designated area to which outsiders do not have access. To ensure that field workers properly identify subjects, names and/or ICDDR,B Registration ID numbers will be used on the questionnaires. A subset of the data without the subjects name will be used to for analyses.

The questionnaires will be secured by storing them in a locked room or file drawer while in the field. After questionnaires are returned to the US, they will not be released to other researchers and will be protected as confidential documents (i.e. not left in an unlocked or unsupervised setting).

To ensure confidentiality of the subjects, results of this study will be published in such a way that individuals will not be personally identifiable; names and ID numbers will never be used.

## 11. BACKGROUND

Among the many studies that have tried to examine inter-generational relationships, some have focused on the influence of the older generation on the younger generation in societies characterized by changing cultural conditions (Adams 1972; Amoss 1978; Goldstein et al. 1983; Knodel et al. 1984; Nahemow 1984; Nason 1981).

Stark (1993) has evaluated who are more likely to make reproductive decisions in Matlab, a rural area in Bangladesh. With regard to treatment of pregnancy, labor, and postpartum complications, older women, mothers-in-law and/or mothers, are the main decision makers. Particularly, mothers-in-law often determine what should be done for pregnancy and labor complications.

In the fourth month of her last pregnancy, Nurjahan developed diarrhea and when a kobiraj [who practice a combination of folk medicine and spiritual cures] came to the bari (homestead) to visit another family, her mother-in-law went to him and requested medicine (Stark 1993:61, 227).

Josna's pain began on Tuesday at noon in her husband's bari ....[T]he mother-in-law gave Josna pani pora [, water or oil over which Koranic scriptures are recited,] to drink and later a gol pora (particular amulet). She did jharpuk [, recitation of scripture followed by blowing or spitting on the affected area,] and had a relative bring a tabij (amulet) from the kobiraj in the homestead (Stark 1993:61, 236).

Interestingly, although those decisions above are largely made by their mother-in-law, the majority of younger women (43.4%) say that decisions to use contraceptives are made independently by themselves (Stark 1993:210-211).

It must be true that younger women are likely to make the final decision. However, I think that mothers-in-law may involve the process of the decision-making and influence their daughters-in-law's use of contraceptives. Even if younger women do not consciously think that their use of contraceptives is influenced by their mother-in-law, mothers-in-law may still exert influence on a behavioral level. This research project focuses on the mother-in-law's influence on her daughter-in-law's acceptance of modern contraceptives. I carefully design this project based on previous works.

## Methods

### a) Location of Research

This project examines how older women influence their daughter-in-law's reproductive behavior in a population adopting a major cultural innovation while maintaining traditional socio-economic systems. Matlab provides an excellent setting for this research.

Matlab is a subdistrict located about 35 miles south of Dhaka, the capital of Bangladesh. The area is relatively isolated and inaccessible. Transportation is primarily on foot and by boat. The dry season comes between December and February; during the monsoon

season (May to September), water inundates most non-residential areas.

While the socio-economic conditions in Matlab are not radically different from those in other rural areas in Bangladesh, an intensive family planning project conducted in Matlab (the Matlab Project) has successfully introduced modern contraceptives. The Matlab Project was initiated in 1977 by the International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B) (Nag 1992:2). A primary goal was "to test whether an intensive family planning programme could succeed in the absence of extensive socio-economic development" (Salway et al. 1993:4). Under the project, Matlab is divided into a treatment and a comparison area. In the comparison area, only general governmental services are available. In the treatment area, modern contraceptives have been intensively promoted by village-level female workers under the supervision of ICDDR,B. The Matlab Project has made modern contraceptives widely available particularly in the treatment area.

This research project will be conducted in both the treatment and comparison areas. The comparison area has not experienced the intensive family planning program that characterizes the treatment area. Therefore, the comparison area will provide data on women who are less likely to use modern contraceptives and to have fewer children. Since the treatment and comparison areas have similar socio-economic backgrounds, the data should be comparable. By contrasting data from both areas, the influence of mothers-in-law on the recently emerging fertility behavior of daughters-in-law should become clear.

#### b) Population Survey

The target population consists of married women less than 40 years old. I will not include women who are incapable of producing children since those women do not need to use contraceptives. I have attached Appendix 2, which explains the procedure of selecting the target population.

In my sample, there will be some women who do not live with their mother-in-law in the same *bari*. Although information of those women will be collected, their mothers-in-law's information will not be collected. Having those women in my sample enables me to see the effect of mother-in-law living in the same *bari* and to compare contraceptive use between women with mother-in-law and those without. Therefore, I will include a small subsample of those women as a control group.

I have requested affiliation with the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) and have requested permission to use their data. Because of the Demographic Surveillance System (DSS), which originally started in 1966, the ICDDR,B keeps reliable household and *bari* data. Under the DSS,

every household in Matlab is visited by a CHW every 15 days, and the CHW updates detailed information about births, deaths, marriage, divorce, and migration (Bhuiya 1990:1). In addition, a CHW collects maternal reproductive information including menstrual status in the treatment area. Based on those ICDDR,B's data, I will be able to construct two kinds of comprehensive, unbiased and accurate sample frames. One consists of women who live with their mother-in-law in the same bari. The other consists of women whose mothers-in-law are not available for interview because they are either not alive or are not living in the same bari. I will sample women from each sample frame, separately.

### c) Sample Size

This project is small scale with a short duration of no more than one year. Over one year, the number of people I can collect data from is strictly limited. Therefore, this project should be considered as the initial phase of a longer term project, and one of its purposes is to determine how the future phases can be successfully conducted.

My sample will be selected from the treatment and comparison area, separately. Based on the formula to estimate a sample size for the logistic regression model by Whittemore (1981) and Hsieh (1989), I have determined my sample size as below:

#### Treatment area

Daughters-in-law who live with their mother-in-law: 204

Daughters-in-law who live without their mother-in-law: 50

#### Comparison area

Daughters-in-law who live with their mother-in-law: 71

Daughters-in-law who live without their mother-in-law: 50

The process to determine my sample size above is described in Appendix 3.

If the Wenner-Gren Foundation refuses to provide additional funds for this project, my sample will include only those women living with their mother-in-law. In this case, women will be selected only from treatment area.

### Field Protocols

After I select my sample from my sample frame, a field assistant or myself, along with a female interpreter, will visit each subject at their home. A field assistant or myself, along with



a female interpreter, will explain the study and request permission to interview the subjects. In households where a daughter-in-law resides with her mother-in-law, both will have to agree to participation. If any subjects do not agree to participate, I will select a new subject from my sample frame.

After a subject has agreed to participate, a field assistant or myself, along with a female interpreter, will begin interviewing with my questionnaire (attached at the end of this proposal). The interviewer will try to separate a subject from other people during the interview. This is necessary because subject responses may be skewed in the presence of other people. If a subject is not able to finish an interview on a given day (because of meal time or any other household duties), the subject will be asked to finish it at a later date.

At the end of each day, all completed questionnaires will be brought to me. These will be number coded. A daughter-in-law who uses modern contraceptives will have number 1 coded on her questionnaire. If she does not, there will be a 0 coded on her questionnaire. All responses regarding the functional capacity of a mother-in-law will be number coded. This data will be used to determine the over-all functional capacity of the mother-in-law. A data-entry person will input this information into my computer. Even though all data will be input into my computer, I will keep all questionnaires and bring them to the US.

I will also conduct observation. The main purpose of observation is to evaluate how a mother-in-law and her daughter-in-law interact with each other in their daily life. I will observe their interaction outside, inside, and/or in the vicinity of their bari. During observation, I may occasionally take notes: Observation inside the bari will be limited to the area of common space among family members. Although I may have some conversation with a family member, it will not be an interview based on questionnaires.

Data on some of the confounding variables will be collected for each subject by consulting the DSS demographic database at ICDDR,B. Variables of interest concern data on religion of the household, existence of a father-in-law in the household, the number of daughters-in-law in the household and in the bari, age of the daughter-in-law, the number of children in the household, gender composition of children in the household, daughter-in-law's menstrual status, daughter-in-law's pregnancy status, and daughter-in-law's breast-feeding behavior. Those variables are expected to influence daughter-in-law's acceptance of contraceptives. Therefore, all of these data are vital information. On Appendix 4, all confounders are explained.

### Analyses

A linear logistic model will be used to test my hypotheses. A woman's acceptance of contraceptive is expected to be a function of her mother-in-law's social network, functional capacity, preference for the number of children, preference for the number of additional children, experience of modern contraceptives, attitude toward modern contraceptives, and residence. Because both the dependent variable and independent variables are categorical, the function tends to show an S-shape. In this kind of situation, conducting a logistic model is most appropriate (Wrigley 1985). A logistic model will enable me to determine whether each independent variable shows significant influence on a daughter-in-law's use of modern contraceptives and which independent variable(s) exerts a strong influence.

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12.PUBLICATIONS -Akiko Nosaka

N/A

## 13. SCHEDULE OF TASKS

Oct 9, 1995	Arrival in Bangladesh
Oct 1995-[May]* Aug 1996	Field work in Bangladesh
Oct 1995	Pilot Study
Oct 1995	Train field assistants
Oct 1995	Select and recruit sample
Nov 1995-[Mar]* Jun 1996	Conduct interviews and observations
Jun-Aug [Mar-May]* 1996	Collect DSS data
Aug 1996-Dec 1997	Analysis and writing
Dec 1997	Dissertation defense

[\*] If the Wenner-Gren Foundation refuses support for this research project, my fieldwork will be shortened.

## 14. SPECIFIC TASKS

Essentially, I will coordinate the field work, organize answers from interviews and observation, and do the statistical analysis for this project.



## 15. BUDGET

## SUPPORT ALREADY COMMITTED

Travel		
*Round-trip between State College, PA and Dhaka		00.00 <sup>a</sup>
*Matlab-Dhaka, 7 round-trips @ 120.00		840.00
Personnel		
*Lodging, food in ICDDR,B guest house, Dhaka		
27 days @ 30.00		810.00
*Lodging, food in ICDDR,B hospital house, Matlab		
15 days @ 10.00		150.00
*Lodging, Matlab, 6 months @ 150.00		900.00
*Field Assistants 5 months @ 450.00		2250.00
*Interpreters, 6 months @ 125.00		1500.00
*Cook, 5 months @ 100.00		500.00
Other		
*Supplies: pens, pencils, erasers, clipboards		50.00
Total		7000.00

## SUPPORT CURRENTLY PENDING

Travel		
*Matlab-Dhaka, 11 round-trips @ 120.00		1320.00
Personnel		
*Lodging, food in ICDDR,B guest house, Dhaka		
60 days @ 30.00		1800.00
*Lodging, Matlab, 5 months @ 150.00		750.00
*Food, 320 days @ 10.00		3200.00
*Field Assistants, 5 months @ 450.00		2250.00
*Interpreter, 6 months @ 125.00		750.00
*Data entry specialist, 9 months @ 125.00		1125.00
*Gifts to informants		250.00
Supply		
*Printing costs, questionnaire 6000 @ 0.10		600.00
*Computer diskettes, 20 @ 2.00		40.00
*Lap-top computer, EPSON 886C		2394.00
*Step-down transformers, Plug adapters		120.00
*Camera, OLYMPUS Stylus Zoom-		240.00
*Film		110.00
Total		14949.00

## 16. BUDGET NOTES

\* Airfare to and from Bangladesh will be paid by a grant from the Hill Foundation.

**Travel.**

Travel to Dhaka is necessary to obtain supplies not available in Matlab. Particularly, in the first month of the project, several trips to Dhaka from Matlab are expected because the pilot study will be conducted in Matlab and questionnaires have to be printed out in Dhaka.

**Personnel**

I will spend about a week in Dhaka following my initial arrival. I will have somebody translate my preliminary questionnaire into Bengali and will make several copies. Then, I will arrange to go to Matlab. In addition, I will use the guest house for 2 or 3 days when I return to Dhaka.

For about 15 days after I arrive in Matlab, I will stay at the ICDDR,B's hospital guest house. During that time, I will arrange to rent an apartment or a house.

In order to collect high quality data, I will hire three experienced Community Health Workers (CHW) or field supervisors. This will cost \$150/person/month.

I will possibly hire two interpreters. At the beginning of my project, an interpreter will translate my questionnaire and consent forms into Bengali. Also, when I instruct assistants and when I interview a woman and her mother-in-law, a female interpreter will be needed. Moreover, in order to translate questionnaire responses into English, an interpreter will be hired. The cost is estimated at \$125/person/month.

*Funding*

The total cost of the field project will be shared among a few sources of funding. Currently, I have commitment of funds from the Hill Foundation (\$2,640) and Mellon Foundation (\$7,500). A part of those funds (\$3,140) has already been spent for immunization, a summer language course, and air fare.

Additional funding has been sought from the Wenner-Gren Foundation for Anthropological Research (\$14,949).

## Appendix 1

This project will examine seven independent variables that may affect the influence a mother-in-law has on her daughter-in-law's acceptance of modern contraceptives. Independent variables include the extent of her social network, her functional capacity, the number of children she thinks is "desirable," the number of additional children she wants her daughter-in-law to have, her experience of modern contraceptives, and her attitude towards modern contraceptives, and her residence. Hypotheses for each independent variable follow.

**Mother-In-Law's Social Network:** A mother-in-law's broader social network is related to her daughter-in-law's acceptance of contraceptive. It is expected that the broader a mother-in-law's social network is, the more likely she will be to promote her daughter-in-law's use of contraceptives. A social network refers to transactions with other people. Compared to men, women in all ages are confined to the *bari* because of a strict division of labor between sexes and the institution of *purdah* (the seclusion of women) (Cain et al. 1979:407-408, 413). A *bari* is a homestead that typically consists of a patrilineally extended household and embodies "an open compound surrounded and shielded by huts, foliage, and fencing" (Cain et al. 1979:408). Relative to a daughter-in-law, a mother-in-law is free to interact outside the *bari* and is probably likely to receive guests from the outside of the *bari* (Balk 1994:27; Feldman and McCarthy 1983:952). A woman's exposure to different ideas and her interaction with people in other villages may introduce her to modern values concerning fertility (Kabir et al. 1988:94; Mahmud 1988:108).

**Mother-In-Law's Functional Capacity:** When a mother-in-law has good functional capacity, her daughter-in-law is less likely to accept contraceptives. Functional capacity is defined as the physical and mental ability to take care of oneself and to perform routine tasks on a daily basis. Mothers-in-law prefer to remain active partly because it brings them self-esteem. Also, strength and good health are desirable and necessary in order for them to fulfill their authoritative role (Cain 1991:194). Compared to a household with a frail mother-in-law, a household with a mother-in-law who has good functional capacity has an extra laborer to take care of an infant and household activities. Consequently, a daughter-in-law does not have to postpone having another child because of a shortage household labor.

**Mother-In-Law's Preference for the Number of Children:** A mother-in-law's preference for the number of children is likely to be negatively related to the daughter-in-law's acceptance of contraception. When a mother-in-law wants her daughter-in-law to have many children, she may bring psychological pressure to bear upon her daughter-in-law not to use contraceptives.

**Mother-in-law's Preference for the Number of Additional Children:** Like her preference for the number of children, a mother-in-law's preferred number of additional children is negatively related to contraceptive acceptance of the daughter-in-law.

**Mother-In-Law's Experience of Contraception:** It is expected that when a mother-in-law was exposed to modern contraceptives during her reproductive years, her daughter-in-law's acceptance of contraceptives is likely to be promoted. It is because mother-in-law's experience of using modern contraceptives and modern values positively affect her understanding of her daughter-in-law using them.

**Mother-In-Law's Attitude toward Contraception:** A mother-in-law's positive attitude toward modern contraception may be reflected in her daughter-in-law's acceptance of contraceptives. When a mother-in-law supports the use of modern contraceptives, her daughter-in-law at least does not have to deal with opposition from her to using contraceptives.

**Mother-In-Law's Residence:** When a mother-in-law is not present in the same *bari*, the probability of a daughter-in-law's acceptance of contraceptive is expected to be high. A young woman is traditionally expected not to make a decision according to her own desire. Compared to a daughter-in-law who has her mother-in-law living in the same *bari*, a daughter-in-law who does not have to deal with the traditional expectation at least from her mother-in-law. Whether she is going to use contraceptives is eventually decided by her. Therefore, she is more likely to use contraceptives when her mother-in-law is not present around her.

## Appendix 2

The target population consists of married women less than 40 years old. The majority of the women are expected to have a mother-in-law. The reason for choosing this target population relates to their reproductive capability. Since this research project will collect prospective data on the use of contraceptives, sampled women should have reproductive potential which may make them use contraceptives. A study conducted in Matlab revealed that the average age for a woman to experience menopause is 43.6, and most women experience their last birth at around 40 years (Karim et al 1985:499). Therefore, age 40 has been determined as a conservative upper limit for my sample.

For the same reason, I will not include women who are incapable of producing children even if they are under 40 years old since those women do not need to use contraceptives. Women who have not menstruated for one year in the absence of a known pregnancy are considered sterile. No literature has convincingly argued that a woman's sterility is not a random occurrence (Wood 1993:402, 434-436). Therefore, elimination of those women is not expected to bias my sample.

## Appendix 3

I will collect data from the sampled women and their mothers-in-law. My sample will be selected from the treatment and comparison area, separately. To estimate a sample size for the logistic regression model, Whittemore (1981) and Hsieh (1989) have introduced the formula below.

$N = [(1 + 2P\delta)/PA^2](Z_\alpha + Z_\beta e^{-.25A^2})$  --A sample size when there is only one independent variable.

$N_m = N/(1-\rho^2)$  --A sample size when there are multiple independent and confounding variables.

Where

$\delta = [1 + (1+A^2)e^{1.25A^2}]/(1 + e^{-.25A^2})$

$Z_\alpha = \theta(1-\alpha)$  --the area to the left of  $(1-\alpha)$  in a standard normal variate

$\alpha =$  Type I error (the significance level)

$Z_\beta = \theta(1-\beta)$  --the area to the left of  $(1-\beta)$  in a standard normal variate

$\beta =$  Type II error,  $1-\beta$  is the power of the test

P: The probability that a certain event occurs.

$A = \log [P/(1-P)]$

$\rho$ : Multiple correlation coefficient among all the independent and confounding variables

There are some assumptions that must be made for the formulae for N and  $N_m$  to be applicable. First, P must be less than 0.1 or greater than 0.9. Second, the distribution of independent variables is expected to be normal, exponential, or Poisson. Third, the result of a sample size should be greater than 50. Finally, the formulae apply only to one-tailed tests. Moreover, in order to calculate  $N_m$ ,  $\rho$  has to be known.

However, it is highly likely that the first assumption is violated because recent contraceptive use-prevalence has been neither higher than 90% nor lower than 10% in the Matlab area. An estimate of 1990 contraceptive use-prevalence in the treatment area was about 60%, and that in the comparison area was about 30% (Cleland et al. 1994). Also, in my research, there are more than 20 independent and confounding variables, some of which have never been investigated previously. There are no existing data sets from which to calculate  $\rho$  for the full set of those variables.

In general, the best suggestion is that the researcher obtain as much data as possible, but limited resources may make this difficult. To obtain an estimate of the minimum informative sample size needed, the formulae are used here as if there were no violation of assumptions. In order to calculate the sample size of women who live with their mother-in-law, P is set 0.6 for the

treatment area and 0.3 for the comparison area. Those numbers are 1990 estimates of contraceptive use-prevalence in the treatment area and the comparison area, respectively. Also,  $\alpha$  is set as 0.05, and power, 0.8. The resulting sample sizes for  $N$  are 195 and 68 in the treatment and the comparison area, respectively. Since  $\rho$  is impossible to estimate, I have calculated  $Nm$  for various values of  $\rho$  between zero and one, as shown below.

$\rho$	Treatment area	Comparison area
0.1	197	69
0.2	204	71
0.3	215	75
0.4	233	81
0.5	260	91
0.6	305	107
0.7	383	134
0.8	542	189
0.9	1027	358
0.99	9799	3418

There are two points to determine the sample size for this research project. One is that  $\rho$  should not be too high. A high value of  $\rho$  is problematic because it requires a large sample size for detecting an effect of each independent or confounding variable on a dependent variable. However, variables in this research are expected to show some correlation. For example, occupation of the mother, her educational level, and her desired number of children often show correlation (Kabir et al. 1988). Therefore, in my analysis, variables that show extremely high correlation will be eliminated or combined in appropriate ways (e.g. using principal components analysis).

Another point is that within a year, no more than 650 women (daughters-in-law and mothers-in-law) can be interviewed in my project because of the long questionnaire, the limited budget, and the small number of assistants. Since my sample will include 100 women who do not live with their mother-in-law (explained in the next paragraph), the sample size for women with their mother-in-law should be less than 275. When the sample size of  $Nm$  for the treatment and comparison area is 275 (204+71), the  $\rho$  is 0.2. For the kinds of social, behavioral, and economic variables considered in this study, this is probably not unreasonable value of  $\rho$ . If the  $\rho$  value in my analysis turns out to be considerably higher than 0.2, I can reduce it by eliminating or combining highly correlated variables. Especially, since the main interest of this research project concerns the six independent variables, combining confounders in appropriate ways does not skew its purpose.

Sample sizes of women who do not live with their mother-in-law in the same *bari* is simply determined 50 in each area. The third assumption to use the formulas above sets the lower limit of sample size as 50. Since comparing women's use of contraceptive with

regard to their mother-in-law's residence is not the main purpose in this research project, a small sample size is considered to be acceptable. Therefore, the total sample size in this research project is 254 for the treatment area and 121 for the comparison area.



## Appendix 4

There are many confounders that have to be considered in order to evaluate the mother-in-law's influence on her daughter-in-law's behavior.

The occupation of family members, particularly a daughter-in-law and her husband, may confound the influence of mothers-in-law on their daughters-in-law's reproductive behavior. The opportunities of non-agricultural wage-labor are slowly increasing (Saha 1994:8). It is expected to be rare, but if a daughter-in-law has an occupation that keeps her away from the *bari*, it may prevent her from having many children. When a woman works outside, it may become more difficult to take care of many children because taking care of children competes with working outside. Moreover, a daughter-in-law may experience stronger influence from her mother-in-law when her husband is absent from home as in wage work. It is also possible that some types of occupation give workers occasion to be exposed to different ideas and interactions with other people (Kabir et al. 1988). Some workers may confront modern ideas, such as the advantages of spacing births and having fewer children. For the same reason, the educational level of a daughter-in-law and her husband is a confounder since it may affect their desired number of children. While the overall educational level is low, there may be some parents who have gone to a secondary or more advanced school.

In addition, the economic wealth of a household may skew fertility in the household (Shaikh and Becker 1985). Economic wealth will be determined by house type (tin, mud, or others) and roof type (tin or not), land, boats, livestock, and consumer items, such as radios and watches. Religion may also confound results. In Matlab, about 88 percent of the people are Muslim; the remainder are predominantly Hindu (Shaikh and Becker 1985:83). Some Muslims believe that Islamic teachings are opposed to family planning and therefore be resistant to it (Ahmed 1981:104; Nag 1992:7). A previous study shows the preferred family size of Muslim women is likely to be larger than that of Hindu women (Ahmed 1981:104).

Moreover, it is important to examine whether a household includes an elderly male household head. Even though a grown son is married and is the main source of income, a father usually continues to be the household head of the extended family as long as he is alive (Cain 1991; Ellickson 1988). In such cases, according to the family members, the economic wealth of the household belongs to the elderly household head. The presence of an elderly male may affect the younger generation's behavior because economic wealth confers power or influence (Awe 1977; Brown 1975; Goldstein et al. 1983; Mannan 1989). Furthermore, the mother-in-law's power and/or influence may depend on her husband's authority (Cain 1991:195). The death of a woman's husband can change her position in the family.

The daughter-in-law's independent management of household activities from her mother-in-law may also moderate the mother-in-law's influence because it gives the daughter-in-law behavioral autonomy. Traditionally, a daughter-in-law lives with her mother-in-law in the same house or in the same *bari* (Cain et al. 1979:409). In a *bari*, even if a young couple is offered their own house, a daughter-in-law usually cooperates with or helps the mother-in-law in household activities, such as making meals and washing clothes. However, there may be some cases in which a daughter-in-law manages household activities independently from her mother-in-law.

The number of daughters-in-law in a household or in a *bari* must be considered. It is expected that the influence of a mother-in-law of a household or *bari* with only one daughter-in-law will be different from that with many daughters-in-law. Furthermore, a daughter-in-law's social network should be considered since it may affect her inclination toward modern behavior and interaction with people other than her mother-in-law and *bari* members. A daughter-in-law's age also has to be considered. A study shows that the peak age for women to use modern contraceptives is between 30 and 34 (Islam et al. 1989:26-27). It is also expected that younger women may be more receptive to the idea of modern contraception than older women.

Parental preference for number of children and additional children, and parental attitude towards modern contraception must be examined. Since a daughter-in-law's behavior is probably more affected by her and her husband's preference and/or attitude than by her mother-in-law's, it is important to know the bias they could introduce to this study. The number and gender of children that a couple already has should be examined because the desire to have an additional child and/or the use of contraceptives seem to depend on parity size as well as on gender composition. It has been observed that parents in rural Bangladesh typically want to have two or more sons and at least one daughter (Ahmed 1981; Bairagi and Langsten 1986; Chowdhury and Bairagi 1990; Rahman and DaVanzo 1993).

The status of maternal menstruation may affect the use of contraceptives. When a woman is not menstruating, she will probably not use contraception. Certainly, women who are pregnant do not need to use contraceptives. Women who are breast-feeding could also confound the prevalence of contraceptive use because they may understand that breast-feeding inhibits ovulation.

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## QUESTIONNAIRE: INDEPENDENT VARIABLES

Interviewer:  
Date:

Subject (mother-in-law) Name:  
Regist No:

Subject (daughter-in-law) Name:  
Regist No:

## SOCIAL NETWORK

A-1 "How frequently do you speak with somebody except your bari members around or in your bari?"  
Often / Sometimes / Seldom / Never

A-2 "In the past week, did you speak with anybody except your bari members around or in your bari?"  
Yes  
No--Skip to B

A-3 "About how many people did you speak with around or in your bari in the past week?"  
1 / 2-3 / 4-5 / 6 or more  
Don't remember

A-4 "Who did you speak with?"  
Name(s)

A-5 "What kind of relation do you have to each of them?"

A-6 "Did you talk to any one of them about contraception and the number of children?"  
Yes  
No--Skip to B  
Don't remember--Skip to B

A-7 "What is his/her opinion about contraception and the number of children?" (mark on each)  
Contraception: Support / Not support  
Small number: Support / Not support  
Don't remember or Don't know

B-1 "How frequently do you go far from the bari?"  
Often / Sometimes / Seldom / Never

B-2 "In the past week, did you go far from the bari?"  
Yes  
No--Skip to C

B-3 "About how many times did you go far from the *bari* in the past week?"

1 / 2-3 / 4-5 / 6 or more  
Don't remember

B-4 "Where did you go?" (mark on each)  
Place(s)

B-5 "Did you speak with anybody on any of these trips away from your *bari*?"

Yes  
No--Skip to C

B-6 "Who did you speak with?"  
Name(s)

B-7 "What kind of relation do you have to each of them?"

B-8 "Did you talk to any one of them about contraception and the number of children?"

Yes  
No--Skip to C

B-9 "What is his/her opinion about contraception and the number of children?" (mark on each)

Contraception: Support / Not support  
Small number: Support / Not support  
Don't remember or Don't know

C-1 "How frequently do you have a conversation with somebody who visit your household?"

Often / Sometimes / Seldom / Never

C-2 "In the past week, did you have a conversation with anybody who came to your household?"

Yes  
No--Stop

C-3 "About how many did you have a conversation with?"

1 / 2-3 / 4-5 / 6 or more  
Don't remember

C-4 "Who did you have a conversation with?"  
Name(s)

C-5 "Among those people, who came to your household primarily in order to have a conversation with you?"

Name(s)

C-6 "What kind of relation do you have to each of them (With regard to C-4 and C-5)?"

C-7 "Did you talk to any one of them (with regard to C-4 and C-5) about contraception and the number of children?"

Yes

No--Stop

C-8 "What is his/her opinion about contraception and the number of children?" (mark on each)

Contraception: Support / Not support

Small number: Support / Not support

Don't remember or Don't know

### FUNCTIONAL CAPACITY

PHYSICAL CAPACITY (mother-in-law's self report)

"How well do you see? Very well, well, with some difficulty, or poorly?"

"How well do you hear? Very well, well, with some difficulty, or poorly?"

"Do you forget very often, often, sometimes, or seldom?"

"Can you get out of bed by yourself almost always, often, sometimes, or seldom?"

"Can you dress by yourself almost always, often, sometimes, or seldom?"

"Can you sit up by yourself almost always, often, sometimes, or seldom?"

"Can you stand up by yourself almost always, often, sometimes, or seldom?"

"Can you walk by yourself almost always, often, sometimes, or seldom?"

"Can you feed yourself almost always, often, sometimes, or seldom?"  
[Do not be confused with "provide food"]

"Can you toilet by yourself almost always, often, sometimes, or seldom?"

"Can you lie down by yourself almost always, often, sometimes, or seldom?"

"Compared to other women the same age as you, how do you rate your overall ability above (to see, ..., to lie down by herself)?"  
good / a little bit better than average / a little bit worse than average / poor

## DAILY ACTIVITY (mother-in-law's self report)

Questions about Supervision

"Do you supervise other family members very often, often, sometimes, or seldom?"

"Whom do you supervise? Your son, daughter, daughter-in-law, grandchildren and/or other?"

"What kinds of behavior do you supervise? Cooking, washing dishes and utensils, cleaning the house and the yard, washing clothes, livestock care, marketing, handicraft work, child care and/or other?"

Questions about Labor Activities (Questions below ask about actual behavior, not supervision.)

"Do you cook or help with cooking almost always, often, sometimes, seldom, or never?"

"Do you serve meals to other family members almost always, often, sometimes, seldom, or never?"

"Do you wash or help with washing dishes and utensils almost always, often, sometimes, seldom, or never?"

"Do you clean or help with cleaning the house and the yard almost always, often, sometimes, seldom, or never?"

"Do you wash or help with washing clothes almost always, often, sometimes, seldom, or never?"

"Do you fetch or help with fetching water almost always, often, sometimes, seldom, or never?"

"Do you collect or help with collecting fuels for cooking-fires almost always, often, sometimes, seldom, or never?"

"Do you take care or help with taking care of children almost always, often, sometimes, seldom, or never?"

"Do you take care or help with taking care of animals almost always, often, sometimes, seldom, or never?"

"Do you make or help with making handicraft almost always, often, sometimes, seldom, or never?"

"Compared to other women the same age as you, how do you rate your overall ability above (to supervise, ...to make handicraft)?"  
 good / a little bit better than average / a little bit worse  
 than average / poor



## PHYSICAL CAPACITY (daughter-in-law's report)

"How well does your mother-in-law see? Very well, well, with some difficulty, or poor?"

"How well does your mother-in-law hear? Very well, well, with some difficulty, or poor?"

"Does your mother-in-law forget very often, often, sometimes, or seldom?"

"Can your mother-in-law get out of bed by herself almost always, often, sometimes, or seldom?"

"Can your mother-in-law dress by herself almost always, often, sometimes, or seldom?"

"Can your mother-in-law sit up by herself almost always, often, sometimes, or seldom?"

"Can your mother-in-law stand up by herself almost always, often, sometimes, or seldom?"

"Can your mother-in-law walk by herself almost always, often, sometimes, or seldom?"

"Can your mother-in-law feed herself almost always, often, sometimes, or seldom?" [Do not be confused with "provide food"]

"Can your mother-in-law toilet by herself almost always, often, sometimes, or seldom?"

"Can your mother-in-law lie down by herself almost always, often, sometimes, or seldom?"

"Compared to other women the same age as your mother-in-law, how do you rate her overall ability above (to see,...to lie down by herself)?"

good / a little bit better than average / a little bit worse than average / poor

## DAILY ACTIVITY (daughter-in-law's report)

Questions about Supervision

"Does your mother-in-law supervise other family members very often, often, sometimes, or seldom?"

"Who does she supervise? Your husband, your sister-in-law, you, your children and/or other?"

"What kinds of behavior does she supervise? Cooking, washing dishes and utensils, cleaning the house and the yard, washing cloths, livestock care, marketing, handicraft work, child care, and/or other?"

Questions about Labor Activities (Questions below ask about actual behavior, not supervising.)

"Does she cook or help with cooking almost always, sometimes, seldom?"

"Does she serve meals to other family members almost always, often, sometimes, or seldom?"

"Does she wash or help with washing dishes and utensils almost always, often, sometimes, or seldom?"

"Does she clean or help with cleaning the house and the yard almost always, often, sometimes, or seldom?"

"Does she wash or help with washing cloths almost always, often, sometimes, or seldom?"

"Does she fetch or help with fetching water, almost always, often, sometimes, or seldom?"

"Does she collect or help with collecting fuels for cooking-fires almost always, often, sometimes, or seldom?"

"Does she take care or help with taking care of children almost always, often, sometimes, seldom, or never?"

"Does she take care or help with taking care of animals almost always, often, sometimes, seldom, or never?"

"Does she make or help with making handicraft almost always, often, sometimes, seldom, or never?"

"Compared to other women the same age as your mother-in-law, how do you rate her overall ability above (to supervise,...to collect fuels)?"

good / a little bit better than average / a little bit worse than average / poor

**PREFERENCE FOR THE NUMBER OF CHILDREN** [using the Coombs scale (Coombs 1974, 1979)]

"Please think about how many children you would like your daughter-in-law, (daughter-in-law's name), to have. If she could have just the number you would like her to have, what would this number be when her family is complete?"

"If she does not have \_\_\_ children, then how many children would you like her to have, either \_\_\_ or \_\_\_?"

"If she does not have either \_\_\_ or \_\_, then how many children would you like her to have, either \_\_\_ or \_\_\_?"

**PREFERENCE FOR THE NUMBER OF ADDITIONAL CHILDREN** [using the Coombs scale (Coombs 1974, 1979)]

"Please think about how many children you would like your daughter-in-law, (daughter-in-law's name), to have more. If she could have just the number you would like her to have, what would this number be?"

"If she does not have \_\_\_ more child/children, then how many children would you like her to have more, either \_\_\_ or \_\_\_?"

"If she does not have either \_\_\_ or \_\_ more, then how many children would you like her to have more, either \_\_\_ or \_\_\_?"

## EXPERIENCE OF MODERN CONTRACEPTIVES

- 1) "Please name the kinds of contraceptives you know about?"  
Name
- 2) "If you remember, when and how did you obtain information about contraceptives first?"  
When  
How (through a CHW, a relative, etc.)
- 3) "Have you ever used any contraceptives?"  
Yes  
No--Skip to 5
- 4) "When and how long did you use them?"  
When:  
How long:
- 5) "Please answer followings with regard to your reproductive years."  
  - \*you knew about contraceptives. y/n
  - \*contraceptives were easily available. y/n
  - \*you used/wanted to use contraceptives to limit the number of children. y/n
  - \*using contraceptives to limit the number of children was morally acceptable. y/n
  - \*you use/wanted to use contraceptives to space births. y/n
  - \*using contraceptives for spacing birth was morally acceptable. y/n
  - \*having many children, particularly sons, was necessary to survive. y/n
  - \*it was advantageous to have many children. y/n
  - \*your husband or other family members opposed to using contraceptive or controlling fertility. y/n
- 6) "At that time (during your reproductive years), did you know if anybody whom you knew used/was using any contraceptives?"  
Yes / No
- 7) "Do you think you would use any of these contraceptives if you could start life over again now? Why and why not?"  
Yes: Reason  
No: Reason

ATTITUDE TOWARD MODERN CONTRACEPTIVES (mother-in-law's self report)

1) "What do you think about the younger generation using contraceptives?"

2) "Do you know whether your son and/or daughter-in-law, (daughter-in-law's name), use any contraceptives?"

Yes, they use

Yes, they do not use--Skip to 7

No--Skip to 7

3) "Do you approve your son and/or daughter-in-law, (daughter-in-law's name), using the contraceptive? Why and why not?"

Yes and Reason

No and Reason

No opinion

4) "If you were in the daughter-in-law's situation, would you use a contraceptive?"

Yes

No

Don't know

5) "If your son and/or daughter-in-law, (daughter-in-law's name), want to use a contraceptive, do you support him and/or her?"

Yes

No

No opinion

## ATTITUDE TOWARD MODERN CONTRACEPTIVES (daughter-in-law's report)

(dep.) 1) "Please name as many kinds of contraceptives as you know?"

Name

(dep.) 2) "What do you think about other people using contraceptives?"

(dep.) 3) "What do you think about using contraceptives for yourself?"

(con.) 4) "What do you think your husband's opinion toward contraceptives? Does he mind if you use contraception?"

Yes

No

Don't know

5) "Have you and your mother-in-law ever talk about contraceptives in general or the young generation's use of contraceptives (not your use of contraceptives)?"

Yes

No

6) "What do you think your mother-in-law's evaluation of contraceptives in general or her evaluation of the young generation's use of contraceptives (not her evaluation of your use of contraceptives)?"

She strongly supports

She weakly supports

She weakly opposes

She strongly opposes

Don't know

7) "Has your mother-in-law ever talked to you about your and/or your husband's use of contraceptives?"

Yes

No

8) "What do you think your mother-in-law's evaluation of your a and/or your husband's use of contraceptives?"

She strongly supports

She weakly supports

She weakly opposes

She strongly opposes

Don't know

(dep.) 9) "Are you and/or your husband currently using contraceptives? If yes, what type? If no, why?"

Yes and Type

No and Reason--Skip to 11

(dep.) 9) "Are you and/or your husband currently using contraceptives in order to space time between children, in order to stop having a child, or with any other reason?"  
Space / Stop / Other

10) "Do you feel any opposition from your mother-in-law?"  
Yes  
No

(dep.) 11) "Have you and/or your husband had used contraceptives? If yes, what type and why? Why did you stop using them?"  
Yes: Type:  
Reason for using:  
Why stopped:  
No

(dep.) 12) "Do you intent to use contraceptives in the future? If yes, when and/or what situation (after having 4 children and/or without any opposition from husband and mother-in-law)?"  
Yes: Situation:  
No

## QUESTIONNAIRE: CONFOUNDERS

### OCCUPATION

- "What kinds of occupation do you/does your husband have?"
- "Where do you/does he go to work?"
- "Do you/Does your husband often away from home for a long time?"

### EDUCATION

- "Have you gone to elementary (secondary, or higher) school?"
- "Has your husband gone to elementary (secondary, or higher) school?"

### ECONOMIC WEALTH

- Wall type (each house if the mother-in-law lives separately)
- Roof type (each house if the mother-in-law lives separately)

#### Land

"How much land does your household have?"

#### Boats

"Does your household have boats? How many?"

#### Livestock

"What kinds of livestock does your household have?"

"How many of each does your household have?"

#### Radio

"How many radios does your household have?"

#### Watch

"How many watches are there in this household?"

#### Electrification

"Is there electric power in this house?"

### INDEPENDENT MANAGEMENT

(Questions for Daughter-In-Law)

"Do you cooperate with or help your mother-in-law in household activities, such as preparing meals, cleaning the house and/or bari, wash clothes and dishes, and serve meals?"

Almost never / Seldom / Often / Almost always



(Questions for Mother-In-Law)

"Do you cooperate with your daughter-in-law, (daughter-in-law's name), [Does your daughter-in-law, (daughter-in-law's name), help you] in household activities, such as preparing meals, cleaning the house and/or *bari*, wash clothes and dishes, and serve meals?"

Almost never / Seldom / Often / Almost always

DAUGHTER-IN-LAW'S SOCIAL NETWORK

A-1 "How frequently do you speak with somebody except your *bari* members around or in your *bari*?"  
Often / Sometimes / Seldom / Never

A-2 "In the past week, did you speak with anybody except your *bari* members around or in your *bari*?"  
Yes  
No--Skip to B

A-3 "About how many people did you speak with around or in your *bari* in the past week?"  
1 / 2-3 / 4-5 / 6 or more  
Don't remember

A-4 "Who did you speak with?"  
Name(s)

A-5 "What kind of relation do you have to each of them?"

A-6 "Did you talk to any one of them about contraception and the number of children?"  
Yes  
No--Skip to B  
Don't remember--Skip to B

A-7 "What is his/her opinion about contraception and the number of children?" (mark on each)  
Contraception: Support / Not support  
Small number: Support / Not support  
Don't remember or Don't know

B-1 "How frequently do you go far from the *bari*?"  
Often / Sometimes / Seldom / Never

B-2 "In the past week, did you go far from the *bari*?"  
Yes  
No--Skip to C

B-3 "About how many times did you go far from the *bari* in the past week?"  
1 / 2-3 / 4-5 / 6 or more  
Don't remember

B-4 "Where did you go?" (mark on each)  
Place(s)

B-5 "Did you speak with anybody on any of these trips away from your *bari*?"  
Yes  
No--Skip to C

B-6 "Who did you speak with?"  
Name(s)

B-7 "What kind of relation do you have to each of them?"

B-8 "Did you talk to any one of them about contraception and the number of children?"

Yes

No--Skip to C

B-9 "What is his/her opinion about contraception and the number of children?" (mark on each)

Contraception: Support / Not support

Small number: Support / Not support

Don't remember or Don't know

C-1 "How frequently do you have a conversation with somebody who visit your household?"

Often / Sometimes / Seldom / Never

C-2 "In the past week, did you have a conversation with anybody who came to your household?"

Yes

No--Stop

C-3 "About how many did you have a conversation with?"

1 / 2-3 / 4-5 / 6 or more

Don't remember

C-4 "Who did you have a conversation with?"

Name(s)

C-5 "Among those people, who came to your household primarily in order to have a conversation with you?"

Name(s)

C-6 "What kind of relation do you have to each of them (With regard to C-4 and C-5)?"

C-7 "Did you talk to any one of them (with regard to C-4 and C-5) about contraception and the number of children?"

Yes

No--Stop

C-8 "What is his/her opinion about contraception and the number of children?" (mark on each)

Contraception: Support / Not support

Small number: Support / Not support

Don't remember or Don't know

**PARENTS' PREFERENCE FOR THE NUMBER OF CHILDREN**

"Please think about how many children you want to have. If you could have just the number you would like, what number of children would you want to have when your family is completed?"

"If you could not have the number, then what number of children would you want to have, either \_\_\_ or \_\_\_?"

"If you could not have those numbers, then what number of children would you want to have, either \_\_\_ or \_\_\_?"

"How many children do you think your husband wants you to have?"

**PARENTS' PREFERENCE FOR ADDITIONAL CHILDREN**

"Please think about how many children you want to have more. If you could have just the number you would like, what number of children would you want to have more?"

"If you could not have the number, then what number of children would you want to have more, either \_\_\_ or \_\_\_?"

"If you could not have those numbers, then what number of children would you want to have more, either \_\_\_ or \_\_\_?"

"How many children do you think your husband wants you to have more?"

**PARENTS' ATTITUDE TOWARD CONTRACEPTIVES AND USE OF CONTRACEPTIVES**  
in the section of attitude

ICDDR,B'S EXISTING DATA

RELIGION (HOUSEHOLD)

OLD MAN (a husband of the mother-in-law in the *bari*?)

THE NUMBER OF DAUGHTERS-IN-LAW IN A HOUSEHOLD AND IN A BARI

AGE OF DAUGHTER-IN-LAW

NUMBER OF CHILDREN THAT PARENTS HAVE ALREADY HAD

GENDER COMPOSITION OF CHILDREN

MENSTRUATION

PREGNANCY

BREAST-FEEDING BEHAVIOR

QUESTIONNAIRE:subject not living with m-i-1

Interviewer:

Date:

Subject Name:

Regist No:

**OCCUPATION**

"What kinds of occupation do you/does your husband have?"

"Where do you/does he go to work?"

"Do you/Does your husband often away from home for a long time?"

**EDUCATION**

"Have you gone to elementary (secondary, or higher) school?"

"Has your husband gone to elementary (secondary, or higher) school?"

**ECONOMIC WEALTH**

Wall type

Roof type

Land

"How much land does your household have?"

Boats

"Does your household have boats? How many?"

Livestock

"What kinds of livestock does your household have?"

"How many of each does your household have?"

Radio

"How many radios does your household have?"

Watch

"How many watches are there in this household?"

Electrification

"Is there electric power in this house?"

**DAUGHTER-IN-LAW'S SOCIAL NETWORK**

A-1 "How frequently do you speak with somebody except your *bari* members around or in your *bari*?"

Often / Sometimes / Seldom / Never

A-2 "In the past week, did you speak with anybody except your *bari* members around or in your *bari*?"

Yes

No--Skip to B

A-3 "About how many people did you speak with around or in your *bari* in the past week?"

1 / 2-3 / 4-5 / 6 or more  
Don't remember

A-4 "Who did you speak with?"

Name(s)

A-5 "What kind of relation do you have to each of them?"

A-6 "Did you talk to any one of them about contraception and the number of children?"

Yes

No--Skip to B

Don't remember--Skip to B

A-7 "What is his/her opinion about contraception and the number of children?" (mark on each)

Contraception: Support / Not support

Small number: Support / Not support

Don't remember or Don't know

B-1 "How frequently do you go far from the *bari*?"

Often / Sometimes / Seldom / Never

B-2 "In the past week, did you go far from the *bari*?"

Yes

No--Skip to C

B-3 "About how many times did you go far from the *bari* in the past week?"

1 / 2-3 / 4-5 / 6 or more

Don't remember

B-4 "Where did you go?" (mark on each)

Place(s)

B-5 "Did you speak with anybody on any of these trips away from your *bari*?"

Yes

No--Skip to C

B-6 "Who did you speak with?"

Name(s)

B-7 "What kind of relation do you have to each of them?"

B-8 "Did you talk to any one of them about contraception and the number of children?"

Yes

No--Skip to C

B-9 "What is his/her opinion about contraception and the number of children?" (mark on each)

Contraception: Support / Not support  
 Small number: Support / Not support  
 Don't remember or Don't know

C-1 "How frequently do you have a conversation with somebody who visit your household?"

Often / Sometimes / Seldom / Never

C-2 "In the past week, did you have a conversation with anybody who came to your household?"

Yes  
 No--Stop

C-3 "About how many did you have a conversation with?"

1 / 2-3 / 4-5 / 6 or more  
 Don't remember

C-4 "Who did you have a conversation with?"

Name(s)

C-5 "Among those people, who came to your household primarily in order to have a conversation with you?"

Name(s)

C-6 "What kind of relation do you have to each of them (With regard to C-4 and C-5)?"

C-7 "Did you talk to any one of them (with regard to C-4 and C-5) about contraception and the number of children?"

Yes  
 No--Stop

C-8 "What is his/her opinion about contraception and the number of children?" (mark on each)

Contraception: Support / Not support  
 Small number: Support / Not support  
 Don't remember or Don't know

#### PARENTS' PREFERENCE FOR THE NUMBER OF CHILDREN

"Please think about how many children you want to have. If you could have just the number you would like, what number of children would you want to have when your family is completed?"

"If you could not have the number, then what number of children would you want to have, either \_\_\_ or \_\_\_?"

"If you could not have those numbers, then what number of children would you want to have, either \_\_\_ or \_\_\_?"



"How many children do you think your husband wants you to have?"

**PARENTS' PREFERENCE FOR ADDITIONAL CHILDREN**

"Please think about how many children you want to have more. If you could have just the number you would like, what number of children would you want to have more?"

"If you could not have the number, then what number of children would you want to have more, either \_\_ or \_\_?"

"If you could not have those numbers, then what number of children would you want to have more, either \_\_ or \_\_?"

"How many children do you think your husband wants you to have more?"

**PARENTS' ATTITUDE TOWARD CONTRACEPTIVES AND USE OF CONTRACEPTIVES**

(dep.) 1) "Please name as many kinds of contraceptives as you know?"

Name

(dep.) 2) "What do you think about other people using contraceptives?"

(dep.) 3) "What do you think about using contraceptives for yourself?"

(con.) 4) "What do you think your husband's opinion toward contraceptives? Does he mind if you use contraception?"

Yes

No

Don't know

(dep.) 5) "Are you and/or your husband currently using contraceptives? If yes, what type? If no, why?"

Yes and Type

**QUESTIONS FOR A FUTURE PROJECT** (Questions below are not directly related to this research project but may be asked. Answers will possibly help me to design a future research project.)

**DAUGHTER-IN-LAW'S NATAL HOME**

"Where do your mother and/or father live?"

**NATAL MOTHER'S ATTITUDE**

1) "Have you and your mother ever talk about contraceptives in general or the young generation's use of contraceptives (not your use of contraceptives)?"

Yes

No

2) "What do you think your mother's evaluation of contraceptives in general or her evaluation of the young generation's use of contraceptives (not her evaluation of your use of contraceptives)?"

She strongly supports

She weakly supports

She weakly opposes

She strongly opposes

Don't know

3) "Has your mother ever talked to you about your and/or your husband's use of contraceptives?"

Yes

No

4) "What do you think your mother's evaluation of your and/or your husband's use of contraceptives?"

She strongly supports

She weakly supports

She weakly opposes

She strongly opposes

Don't know

**ECONOMIC WEALTH OF NATAL HOUSEHOLD**

1) Is your natal house made by tin, mud, or others? How about roof, tin or not?

2) Does your natal household have more land than your husband's household does?

much more/more/about the same/less/much less

3) Does your natal household own more boats than your husband's household?

much more/more/about the same/less/much less

4) Does your natal household own more livestock than your husband's household?

much more/more/about the same/less/much less

5) Are there more radios in your natal household than in your husband's household?

much more/more/about the same/less/much less

6) Are there more watches in your natal household than in your husband's household?

much more/more/about the same/less/much less

**PARENTS' NATAL FAMILY SIZE** [The influence of the natal family size of a given set of parents should be known since this confounder may affect contraceptive use. Many studies have demonstrated that the number of siblings a parent has seems to affect fertility preference and behavior of the parent (Anderton et al. 1987; Axinn et al. 1994; Johnson and Freymeyer 1989; McAllister et al. 1974; Zimmer and Fulton 1980).]

"How many siblings did you grow up with? (How many siblings did you have before you got married?)"

"How many of them are brothers/sisters?"

**DOUBLE STATUS**

"How many daughters-in-law do you have?"

INFORMED CONSENT FORM

Title of project: Mother-in-law's Influence on Daughter-in-law's Reproductive Behavior

Person in Charge: Akiko Nosaka  
409 Carpenter Build.  
The Penn. State University  
University Park, PA 16802 U.S.A.

1. EXPLANATION OF THE STUDY

A. The study in which you will be participating is part of a research project intended to examine the influence of mothers-in-law on their daughters-in-law's acceptance of modern methods of contraception. By conducting this research, I hope to facilitate further development in Bangladesh and provide potentially valuable examples for other countries dealing with problems of high fertility.

B. If you agree to take part in this research, you will be asked to answer questions with regard to your behavior and opinions. For example, you will be asked if you support use of modern contraceptives. Your answer, together with those of approximately 650 other women, will be used to draw conclusions about if and how mothers-in-law influence their daughter-in-law's acceptance of modern contraceptives.

C. Your participation in this research will take a total of about two hours.

D. During your participation in this research, you may experience some minor embarrassment while responding to some of the questionnaire items. For example, you will be asked whether you have ever used modern contraceptives.

2. YOUR RIGHTS AS A RESEARCH PARTICIPANT

A. You may ask any questions about the research procedures, and these questions will be answered. Further questions should be directed to Akiko Nosaka.

B. Your participation in this research is confidential. Only the person in charge will have access to your identity and to information that can be associated with your identity. In the event of publication of this research, to make sure your participation remains confidential, no personally identifying information will be disclosed.

C. Your participation is voluntary. You are free to stop participating in the research at any time, or to decline to answer any specific questions without penalty.

3. INFORMED CONSENT TO PARTICIPATE

PARTICIPANT:

I agree to participate in a scientific investigation of "Mother-in-law's Influence on Daughter-in-law's Reproductive Behavior".

I understand the information given to me, and I have received answers to any questions I may have had about the research procedures. I understand and agree to the conditions of this study as described.

To the best of my knowledge and belief, I have no physical or mental illness or difficulties that would increase my risk because of participation in this study.

I understand that I will receive no compensation for my participation.

I understand that my participation in this research is voluntary, and that I may withdraw from this study at any time by notifying the person in charge.

I understand that I will receive a signed copy of this consent form.

Signature \_\_\_\_\_ Date \_\_\_\_\_

RESEARCHER:

I certify that the informed consent procedure has been followed, and that I have answered any questions from the participant above as fully as possible.

Signature \_\_\_\_\_ Date \_\_\_\_\_

\* This informed consent form will be translated into Bengali by an interpreter whom I will hire in Bangladesh. At this point, there is no person available who can translate this form into Bengali.