

No. 18



**N. RAMIREZ, P. TACTUK,
E. HARDY and M. VAESSEN**

**The Dominican Republic
Fertility Survey:
An Assessment**

JULY 1976

**OCCASIONAL
PAPERS**

Managing Editor: Kay Evans

INTERNATIONAL STATISTICAL INSTITUTE
Permanent Office · Director: E. Lunenberg
428 Prinses Beatrixlaan
Voorburg
Netherlands

WORLD FERTILITY SURVEY
Project Director:
Sir Maurice Kendall, Sc. D., F.B.A.
35-37 Grosvenor Gardens
London SW1W OBS

The World Fertility Survey is an international research programme whose purpose is to assess the current state of human fertility throughout the world. This is being done principally through promoting and supporting nationally representative, internationally comparable, and scientifically designed and conducted sample surveys of fertility behaviour in as many countries as possible.

The WFS is being undertaken, with the collaboration of the United Nations, by the International Statistical Institute in cooperation with the International Union for the Scientific Study of Population. Financial support is provided principally by the United Nations Fund for Population Activities and the United States Agency for International Development.

This publication is part of the WFS Publications Programme which includes the WFS Basic Documentation, Occasional Papers and auxiliary publications. For further information on the WFS, write to the Information Office, International Statistical Institute, 428 Prinses Beatrixlaan, Voorburg, The Hague, Netherlands.

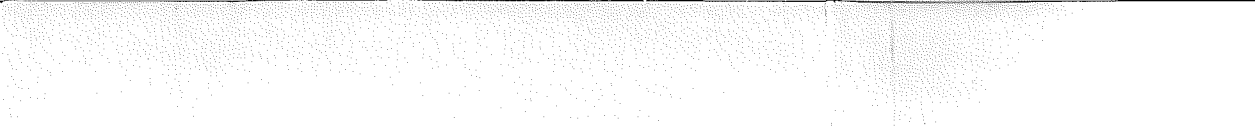
The views expressed in the Occasional Papers are
solely the responsibility of the authors.

The Dominican Republic Fertility Survey:

An Assessment of Procedures
and Problems

Prepared by:

N. RAMIREZ, P. TACTUK,
E. HARDY and M. VAESSEN



1

This report was prepared by N. Ramírez, Demographer,
Head of the Research Department of the
National Council for Population and the Family (CONAPOFA)
and Survey Director; P. Tactuk, Statistician, Deputy Survey Director;
E. Hardy, Sociologist and the WFS Resident Advisor
for the Dominican Republic Fertility Survey (DRFS); and
M. Vaessen, Sociologist, WFS Central Staff Coordinator for the DRFS.*

* The survey assistant, M. Guzmán, had left the survey by the time this report was written. The sections referring to mapping problems draw heavily on an internal report on updating of the sample areas, for which Guzmán was largely responsible.

1911

Contents

INTRODUCTION	9
1 ADMINISTRATION	10
1.1 Survey organization	10
1.2 Staffing problems	11
1.3 Time-table	12
1.4 Administrative staff and administrative problems	13
1.5 Printing	14
1.6 Office accommodation	15
1.7 Transport	16
2 FINANCE	17
2.1 Introduction	17
2.2 Relations with UNFPA	17
2.3 Budgetary problems	17
3 RECRUITMENT AND TRAINING OF FIELD STAFF	20
3.1 Recruitment	20
3.2 Training	21
4 THE QUESTIONNAIRES	23
4.1 Introduction	23
4.2 The household schedule	24
4.3 The individual questionnaire	26
5 SAMPLE DESIGN AND IMPLEMENTATION	35
5.1 Introduction	35
5.2 Recruitment and training of mappers	36
5.3 Mapping problems	37
5.4 Solution of mapping problems	38
5.5 Drawing and distribution of final maps	38
6 ORGANIZATION OF FIELD WORK	40
6.1 The model	40
6.2 Adapting the model to reality	40
6.3 Duration of field work	41
6.4 Working hours	42

6.5	Conditions in the field	42
6.6	Subsistence allowance	43
6.7	Personal problems	43
6.8	Cooperation of the population	44
6.9	Locating selected dwellings and women	44
6.10	Duties and performance of supervisors	45
6.11	Field visits by central staff	49
7	FIELD CHECKING AND OFFICE EDITING OF QUESTIONNAIRES	50
7.1	Introduction	50
7.2	Checking of questionnaires in the field	50
7.3	Recruitment and training of editing teams	51
7.4	General editing procedure	51
8	CODING, PUNCHING AND COMPUTER EDITING	53
8.1	Introduction	53
8.2	The questionnaire lay-out	53
8.3	Selected coding problems	54
8.4	Speed of coding	54
8.5	Card punching and verifying	54
8.6	Computer editing	55

This assessment of the problems encountered in the Dominican Republic Fertility Survey is the second of its type to be published in the Occasional Papers Series. The WFS encourages every participating country to produce such a 'problems report' and provides the survey directors with a Technical Monitoring Check-list to facilitate its compilation. Although not every problems report will be published, it is hoped to provide a representative selection in this series.

Editor

THE UNIVERSITY OF CHICAGO PRESS
50 EAST LEXINGTON AVENUE
NEW YORK, N.Y. 10017
TEL. (212) 850-8100

Introduction

The Dominican Republic Fertility Survey (DRFS) was the first survey organized in the Latin American region by the International Statistical Institute under its programme the World Fertility Survey (WFS). The DRFS was carried out under the auspices, and with the financial and technical contribution, of the National Council for Population and the Family (CONAPOFA), a department of the Ministry of Public Health and Social Assistance, and the United Nations Fund for Population Activities (UNFPA).

At the time this assessment was written, all survey operations had been concluded, except for the actual running of the tabulations and the writing of the first country report. Therefore, this paper will cover the problems encountered in the survey up to the preparation of the report.

The country report is scheduled for production in the next three months and it is assumed that by now the standard WFS survey and documentation¹ are sufficiently well known to the reader; thus where no special problems arose, there are no lengthy explanations of the survey procedures.

The purpose of this report is to discuss the problems encountered in the survey and consider what alternative lines of action could have been taken to avoid them.

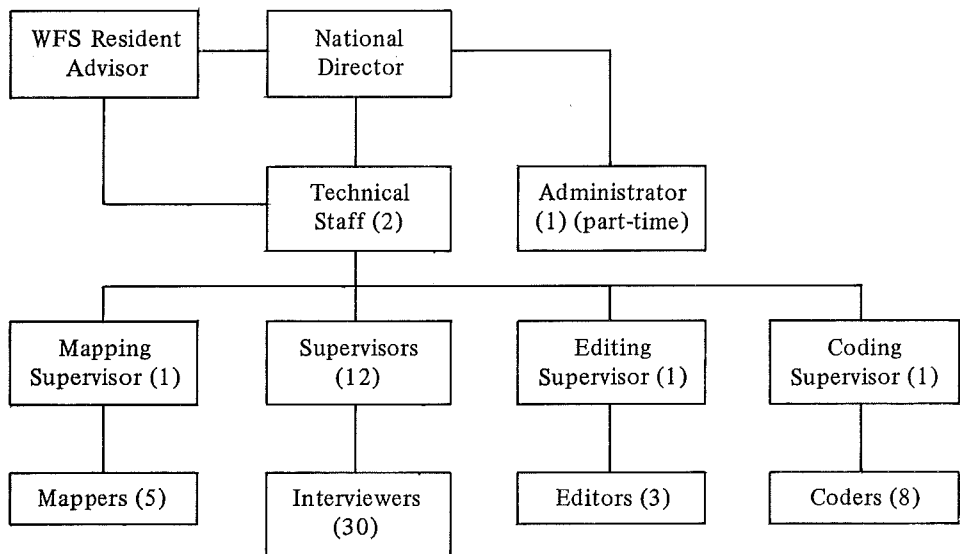
For further information on the survey procedures and the contents of the survey documents such as the questionnaires and manuals, the reader is referred to the forthcoming first country report.

¹ See the WFS Basic Documentation Series for detailed explanation of survey organization and procedures.

1 Administration

1.1 SURVEY ORGANIZATION

The organization chart of the survey was as shown below.

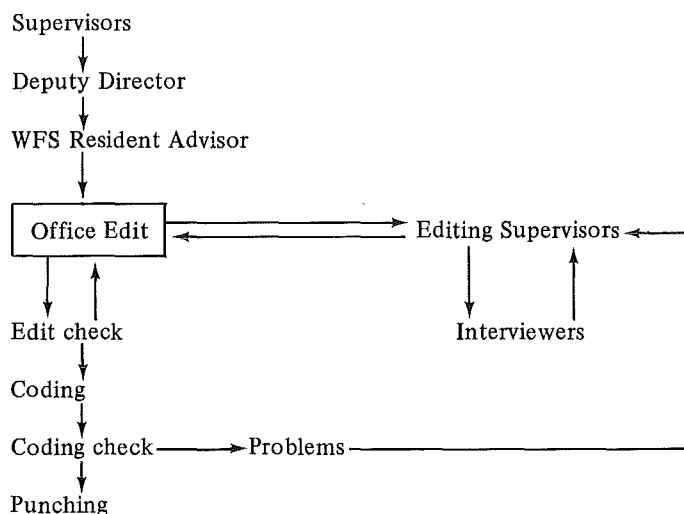


Field work was carried out by six teams, each consisting of 5 interviewers and 2 supervisors². The household interviews were first conducted in each area, after which the supervisor selected the women eligible for interview (1/4); and the interviewers generally interviewed them the following day. Originally, ten thousand household and 3,000 individual interviews were to be obtained; however, in the end 11,971 households and 3,203 women were selected. This surplus arose because the sampling fraction of 1/80 of all existing dwellings was based on the 1970 census results, though the population has been growing steadily since then; and because about 1000 additional dwellings were found in the sample areas³. Six hundred and twenty-one of the latter were randomly selected for interview.

Teams could usually return to the capital, Santo Domingo, every weekend, allowing a relatively early feedback from observations on their work performance by the technical staff, editors and coders. Once in the office, the flow of questionnaires was as follows:

² The distinction between field supervisors and field editors made in some WFS surveys, was not maintained in the Dominican survey.

³ These figures reflect the hand-counted survey results. Final computer figures might vary very slightly.



1.2 STAFFING PROBLEMS

The project established with CONAPOFA called for the recruitment of a survey director, a deputy director, and an assistant. One of the problems which arose was that, initially, these posts were to be filled by staff members of CONAPOFA, all of whom held more than one job. It did not seem very likely that they would really be available full time, even if they were paid a considerable additional salary by CONAPOFA or WFS. Moreover, the problem of lack of experience would remain as none of the proposed staff were demographers, nor had they ever run a survey of this type and magnitude.

This was partly solved by the recruitment of a demographer from CONAPOFA as the survey director, and of the deputy director and an assistant from outside. The problem of lack of experience in running a survey of this kind still remained, although the survey director had quite extensive experience in census taking and household surveys.

With the approval of CONAPOFA, the WFS therefore hired a resident advisor with survey experience to work with the national staff throughout the survey. This arrangement worked out very well. Indeed, the fact that the staff did not have all the required experience should not be considered as a problem which affected the survey. Thanks to the amount of work the staff put in and the willingness with which they tackled the problems, the WFS fulfilled one of its aims in the Dominican Republic, namely, to create fertility survey capability in countries which by and large lack it, or where emphasis on training, control and evaluation is minimal. It is worth mentioning that the assistant to the survey director obtained a fellowship to study demography at the Latin American Demographic Centre (CELADE) in San Jose, Costa Rica; and the survey director is currently involved in the creation of a special demographic analysis unit within CONAPOFA.

Finally, most persons in the country who are currently researching, or are interested in this field, were invited to a seminar on the national fertility survey, and were offered both technical and financial assistance for any further analysis of the data that they might wish to carry out.

These facts can only be considered as very positive side-effects of the WFS survey for the benefit of the country and CONAPOFA.

1.3 TIME-TABLE

	Planned	Actual
Design, updating and selection of urban sample	1 August—	1 August 1974— 28 February 1975
Design, updating and selection of rural sample	31 October 1974	15 February— 20 July 1975
Questionnaire design	1 October—	1 October 1974—
Preparation of manuals	30 November 1974 18 November— 20 December 1974	15 January 1975 18 November 1974— 20 January 1975
Recruitment of supervisors	16 December— 29 December 1974	16 December 1974— 20 January 1975
Training of supervisors	2 January— 17 January 1975	27 January— 8 February 1975
Pre-test	20 January— 24 January 1975	10 February— 14 February 1975
Adaptation and printing of questionnaires and manuals	27 January— 7 March 1975	17 February— 31 March 1975
Recruitment of interviewers	24 February— 7 March 1975	24 February— 21 March 1975
Training of interviewers	10 March— 28 March 1975	31 March— 18 April 1975
Field work	31 March— 27 June 1975	22 April — 25 July 1975
Training of editors	Not considered	8 May— 16 May 1975
Office editing	Not considered	19 May— 5 September 1975
Training of coders	21 April— 25 April 1975	2 June— 6 June 1975
Coding	28 April— 21 July 1975	9 June— 2 October 1975
Punching and verification	23 June— 22 August 1975	8 September— 24 October 1975

Tabulation plan	30 May– 22 August 1975	18 August– 17 October 1975
Computer editing	25 August– 10 October 1975	27 October– 5 December 1975
Tabulations	13 October– 31 December 1975	March-May 1976
Analysis	7 January– 30 June 1976	Not completed
Publication of first report	1 July– 31 July 1976	Not completed

The timing posed some problems which luckily did not affect the total duration of the survey too much. Sampling, and especially the mapping operation, took much more time than was originally expected, but this problem was solved by starting the field work in those areas for which maps were ready, while mapping went on in other areas. Training of supervisors had to be postponed for about three weeks, because the survey documentation could not be printed in time. The manual for interviewers had to be translated into Spanish by the survey staff as the WFS translation was not yet available. Coding also took longer than planned because, on the one hand, more interviews were obtained, and on the other, the complete revision of the questionnaires already coded was required several times when a new problem turned up. Moreover, coders had to adapt the speed of their work to the speed of the office editors. There were only 4 of the latter, one of whom acted as supervisor; and the coders would have readily overtaken them in the amount of work done if they had not slowed down considerably. One advantage of this slow speed of work was that 100 per cent of the coding was checked. This proved extremely useful as many gross coding errors were detected by the survey staff at the start of the coding operation.

In the end, computer editing was completed one and a half months behind schedule. A major bottleneck was the programming of the tabulations, which should have been run at the end of 1975 but which, in fact, were run at the end of May 1976. This problem was caused mainly by the inability of the WFS to find enough personnel to complete this stage in time.

In the meantime, however, work has started on the first chapters of the country report, which in general do not require tabulations, and the time-table will probably not be exceeded by more than 1 or 2 months, if at all.

1.4 ADMINISTRATIVE STAFF AND ADMINISTRATIVE PROBLEMS

A major problem for the survey was the availability of only one part-time administrator who, although committed to administering the survey, was not assigned specific time in which to do this; and who had also to carry out all the administrative work of CONA-POFA. Another problem was that, because of the considerable distance between the

offices of CONAPOFA and the survey, person-to-person contact with the administrative officer proved difficult to maintain. As a result of these problems, the survey director had to spend considerable time on accounting and financial reporting matters, a very necessary exercise but one which overburdened him and led to the inevitable overloading of the other survey staff and the WFS advisor with survey work.

Another major administrative problem was that the procedure for obtaining money from CONAPOFA for the different survey stages was excessively cumbersome. Both the signature of the administrator and that of CONAPOFA's Executive Secretary were needed for each cheque; because of their commitments in other areas and the foreign travel normally required of them, on many occasions the money could not be paid promptly. This meant that supervisors, interviewers, editors and coders went without pay for a week or more. Sometimes the problem was solved by personal advances from the survey staff towards the payment of their personnel; but this cannot be considered a satisfactory arrangement. A survey of this magnitude and with these financial reporting requirements needs a full-time administrator, at least during the field work period when his activities will be at a peak. Moreover, the survey director should have ready access to the survey funds; if this is not possible because of internal administrative requirements of the organization conducting the survey, he should at least have a petty cash fund of about US\$ 1,000 to cover small expenses, or to draw upon in case of emergency, such as last minute hiring of taxis for transportation of personnel, and coverage of *per diems* when teams have to stay in an area longer than expected.

Experience with this survey indicates that one administrative officer is sufficient; but he should have fixed working hours for the survey administration and should work full time from the start of interviewers' training to the completion of the coding stage. This administrator should, like the survey director, have ready access to the survey funds, though they should, of course, be required to report to the appropriate higher authorities.

1.5 PRINTING

Printing of the questionnaires and other survey materials was done by a local printer. Only two problems were encountered:

- a) The lack of grey paper, which the printer solved adequately by dyeing white paper;
- b) Wrong sequences in the pages of the questionnaires as they were delivered. This was solved by the printer sending two girls to the survey office to re-collate all the questionnaires. Some errors still remained, but in the main the problem was satisfactorily solved.

The printing was done in two batches as more questionnaires were needed than was originally expected. This was, however, foreseen in time so that no delays occurred in field work.

1.6 OFFICE ACCOMMODATION

Office accommodation proved to be a major problem for this survey, although provision had been made in the contract for the rent of premises for 10 months. Because of overcrowded conditions in CONAPOFA, work started with the survey staff in the office of the Population Council, which generously gave space and equipment from August 1974 to the end of March 1975. However, when recruitment of interviewers started, the work of the representatives of the Population Council was affected by the number of people and the resultant noise.

In February 1975, other space was rented in the same building but electricity and telephone connections were delayed and no office furniture was available. The space rented was, in fact, a family apartment and not meant for use as an office.

All the staff moved to the new offices as soon as some desks and chairs were supplied, but during the field work there were never enough for everybody. This problem was greatest when the teams were working in Santo Domingo and came to the office daily to receive, verify and hand out work.

In the new offices, priority for use of the existing facilities was given to editors and coders. The editors were working in overcrowded conditions in one room, together with the resident advisor. At least they had the privacy required for their work, although all of them worked at one rather small table. The situation of the coders was worse: although they worked in the biggest room available, unfortunately it could not be shut off from the rest of the apartment, so one had to pass through it to reach the other offices. Of the two remaining rooms, one was occupied by the director and deputy director, and the other by the assistant to the director and the map workers. Field staff worked wherever they found space, including the secretary's desk, the kitchen, the servants' quarters, or the floor.

The office arrangements were altogether very unsatisfactory because of the small amount of space available, the lack of privacy for the different activities, the noise and, last but not least, because of the uncomfortable metal chairs, which were the only ones available. It was obvious from the outset that CONAPOFA did not have any office space available. Inevitably it is difficult to find space where as many as 50 people are able to work comfortably at any one time. The cost of renting such a place would be prohibitive; and credit should be given to all the survey personnel for putting up with such bad working conditions for such a long time.

No field offices were available so each team adapted as well as possible. Supervisors carried out their jobs in such diverse places as hotel lobbies, the home of a woman who had been interviewed, the house of a relative, or even under a tree. The fact that the teams could generally return to the capital every week-end may have helped them to accept these conditions. It would certainly have been impossible to have them for more than one week at a time in areas where all comfort was lacking.

1.7 TRANSPORT

Lack of adequate transport facilities proved to be a major hindrance to the survey. In the budget of the original survey design allowance was made for only two cars, because it was said that CONAPOFA could not provide any more; and because, considering the small size of the country, it was thought that public transport would be sufficient to take the interviewers from one area to another. The two cars were to shuttle between areas to solve immediate transport problems.

However, at the start of the survey only one car was available, and public transport proved unsatisfactory because of the long waiting and the high costs involved. While working in the capital the survey staff spent considerable time and effort driving interviewers to their sample areas in their own cars. Once the work in Santo Domingo was finished, this was no longer possible, and, although there were two cars available by then, an arrangement had to be made with a taxi driver who worked full time from mid-June until the end of the survey, which increased costs.

If the size of the country had been such that access to any one point was not possible within a day, these bad transport arrangements could have had disastrous results. In the DRFS the problem might be considered more or less adequately solved, but the experience showed that every interview team should have its own car and driver, especially when working outside the capital, or headquarters location. Even while working in the capital, and well within reach of headquarters, this would have been the best arrangement, as considerable time was lost because of transport problems.

At the time of the survey design, cars should be clearly committed to the survey otherwise, in practice, nobody can be sure that transport will really be obtained. Adequate transport facilities save time, make the interviewers work more willingly and prevent many problems.

2 Finance

2.1 INTRODUCTION

The Dominican Republic Fertility Survey was financed by CONAPOFA and UNFPA, which provided 31,700 and 131,700 Dominican pesos⁴ respectively, according to the original budget. UNFPA remittances were channeled through the UN Resident Representative in the Dominican Republic, in accordance with the stages of funding established in the project document.

2.2 RELATIONS WITH UNFPA

The WFS monitors the surveys both technically and financially, and provides the UN Resident Representative with copies of all reports. Normally, the Resident Representative releases funds for a new survey stage after receiving a cable from WFS confirming that the expenditures incurred match the progress of the survey to date. These stages are not necessarily three-month periods, but correspond to a logical division of the different survey steps. For instance, field work is in most cases one block of financing. The Resident Representative in the Dominican Republic was not instructed by UNFPA headquarters about this procedure and, understandably, was following the usual funding procedures for an UNDP project which involve three month periods. The problem was settled quite satisfactorily by the WFS staff and the Resident Representative after consultation with UNFPA headquarters. As a result of his interest in the project and his willingness to solve the financial problems without in any way hindering progress the Resident Representative proved to be an asset to the survey. The survey staff was also able to use UNDP equipment such as the Xerox machine and mimeograph.

2.3 BUDGETARY PROBLEMS

The original contribution of CONAPOFA and WFS/UNFPA were respectively 19.4% and 80.6% of the total cost of the survey, while the final estimate is 22.7% and 77.3% respectively. The total survey cost increased by about 20% over the original estimate.

The main reasons for this increase were the following:

- a) Originally no updating of the sampling maps was planned for the rural areas. However, on the basis of the changes and the difficulties observed in the urban areas, this stage was added to the survey at a cost of about 7,000 pesos.

⁴ One Dominican peso equals one US dollar.

- b) Field work cost 9,700 pesos more than estimated because more interviews were obtained than the number originally planned (see 1.1). This meant payment of *per diems* for longer stays outside the capital, and also an increase in total salaries to be paid, as interviewers were partly on fixed pay and partly on pay per completed questionnaire.
- c) Payments to data-processing personnel accounted for an increase of 6,500 pesos because the office editing procedure was not considered in the budget, but was added later on the basis of the difficulties encountered during the pre-test.
- d) Computer costs were underestimated: Only the actual running of the tabulations had been provided for and not the testing of the programs and computer editing. A total of 8,800 pesos was added under this heading.
- e) An extra 2,500 pesos were spent on the printing of additional questionnaires, office editing manuals, photocopies of the sampling maps, etc.

In all, the initial budget proved to be inadequate, especially with regard to the data processing item.

If interviewers are paid a basic salary plus an amount for each completed interview, the interviewers' remuneration is no longer fixed but may vary up or down. In the Dominican case, the additional dwellings found and the population growth reflected in the sample considerably increased the cost of interviewers' pay.

THE DOMINICAN REPUBLIC FERTILITY SURVEY BUDGET (PESOS)

	Original estimate			Final estimate		
	Country	WFS	Total	Country	WFS	Total
Technical personnel	18,700	34,400	53,100	18,700	34,800	53,500
Administrative personnel	500	6,500	7,000	500	6,900	7,400
Pre-test		200	200		400	400
Training for field work		4,900	4,900		4,400	4,400
Sample preparation		2,000	2,000	5,000	4,000	9,000
Field work	600	59,800	60,400	5,100	65,000	70,100
Data processing personnel		10,600	10,600	4,000	13,100	17,100
Expendable equipment	3,000	900	3,900	3,000	1,200	4,200
Non-expendable equipment	3,000	500	3,500	3,000	500	3,500
Rental of data processing equipment		900	900		9,700	9,700
Miscellaneous: printing of reports	3,500	6,500	10,000	3,500	9,000	12,500
Miscellaneous: other	2,400	4,500	6,900	2,400	5,200	7,600
Total	31,700	131,700	163,400	45,200	154,200	199,400

Another aspect of finance which posed some problems was the timely remittance of the government funds. As provision of these funds was often delayed, during the course of the survey the director had constantly to advance UNFPA money for headings which should have been covered by the government. A smoother financial situation could have been created by timely remittance. This problem might be remedied by the government, like UNFPA, depositing the necessary funds in the survey account once the project has been approved, even if release is subject to the same kind of staging as the WFS/UNFPA contribution.

Figures estimated in the original budget for the different survey headings and the expenditures actually incurred, or finally estimated, in pesos are stated above.

3 Recruitment and Training of Field Staff

3.1 RECRUITMENT

Recruitment of supervisors and interviewers was carried out through advertisements in two newspapers and notices posted in two of the universities in the city of Santo Domingo.

3.1.1 ADEQUACY OF RESPONSE

In terms of the number of women interested in working as supervisors and interviewers, the response rate was very good. Fifty-five candidates applied as supervisors and 124 as interviewers, of whom 20 and 60 respectively were selected for training.

3.1.2 ASSESSMENT OF CANDIDATES

There are no water-tight rules to follow when selecting candidates for training. Several procedures were followed for the Dominican survey; none was completely satisfactory. Supervisor candidates who visited the office were interviewed by the Director, or Deputy Director, of the survey and their *curriculum vitae* was considered by weighting each item in it. In this way, 32 candidates were selected for a psychological test designed to measure their ability in handling their own aggressive emotions and their capacity to lead a group. Fourteen candidates were recommended by the psychologist for training.

The final hiring of supervisors, however, was to be based on the candidates' performance during the whole training process. Therefore, the number trained had to be large enough to allow for a final selection of the 12 needed, even if a few were to drop out during training. For this reason, the directors of the survey chose an additional 6 persons for training, from among those not recommended after the psychological tests.

After a careful evaluation of the 15 candidates who remained after training, it was decided to hire only 10 supervisors at this stage. The performance of 2 of the girls hired was to be watched, and any basic errors corrected during their participation in the training of interviewers.

The other 2 supervisors needed were then to be chosen from among the interviewer candidates who passed the training course.

One hundred and five interviewer candidates were selected on the basis of a short interview and then given an ability test. This test was prepared along the lines presented in the *WFS Training Manual*. The points obtained in this test were added to the evaluation of the *curriculum vitae* of each candidate and the 60 with the highest average were selected for training.

3.1.3 RECRUITMENT OF SURPLUS TRAINEES

The lack of experienced personnel for the survey and of a reliable technique for assessing candidates were the reasons for training more girls than needed for the different jobs. This proved a very useful decision as some candidates dropped out during training, and

not all of those remaining showed the same capacity. Despite the precaution of training more people than needed, it was necessary to hire some persons whose qualifications were not entirely satisfactory.

3.2 TRAINING

Both the supervisors' and the interviewers' courses lasted three weeks. Field experience for supervisors was gained while carrying out the pre-test; and for interviewers through work in the field during the third week of training.

The interviewer candidates were divided into 2 groups of approximately 30 girls each. Two parallel training courses were held, one in the morning, the other in the afternoon, to enable trainers to give each candidate a certain amount of individual attention. The supervisors selected took an active role in the training of interviewers, especially when work and practice interviews were done in groups of two or three.

3.2.1 FACILITIES AND EQUIPMENT

The library of the Ministry of Public Health was used as the training centre for supervisors and interviewers. This room was very hot, particularly during interviewer training. There was only a half-hour lunch break, and the nearest place where food could be bought and consumed did not offer the appropriate facilities.

Interviewer candidates had to take one of their tests at the survey office because the library was being used for another purpose.

About 1,000 household schedules and 550 individual questionnaires were used during the training of interviewers. Blow-ups of the Pregnancy History and of the Sexual History of the Last Year were prepared on large blackboards, using white typewriter correction tape for drawing the lines. This allowed for erasing, so that as many examples as needed could be shown, and candidates could practice by writing on the blackboard while interviewing. This proved to be an extremely useful arrangement.

3.2.2 ROLE-PLAYING

Extensive use was made of role-playing in front of the whole class and in small groups. At first, trainers would act as 'respondents'; later on, candidates took turns at answering the interview questions. Lack of enough imagination was the main problem here.

On one occasion during the supervisors' training it was possible for a candidate to interview a woman who worked at the Population Council in front of the whole class. This was a very useful and interesting experience; unfortunately, it was not possible to repeat it because of difficulty in obtaining volunteers as respondents.

3.2.3 FIELD PRACTICE AND CASSETTE RECORDING OF INTERVIEWS

The field practice of supervisor candidates consisted of carrying out the pre-test interviews. A total of 302 household schedules and 124 individual questionnaires were attempted. Each candidate was asked to tape record one interview during the pre-test, but

because there were only 4 recorders available it was not possible to do this. After the pre-test some candidates had to carry out and record an additional interview so as to comply with this requirement.

The third week of interviewer training was dedicated to field practice in the same areas where the pre-test had been done, but in different dwellings from those selected for the pre-test. Each candidate had to record one interview out of the average of 15 household and 6.5 individual interviews which she carried out; meanwhile, supervisors practiced the use of the field control sheets.

During field practice of both interviewers and supervisors there were transportation problems, referred to in 1.7 above. As there was only one vehicle available, it was necessary for the survey staff to use their own cars to drive the girls to and from their assignments. Often the girls had to wait for a long time before a car was available to take them to work, and also after they phoned the office when they were ready to come back. The lack of vehicles was serious because of the limited public transportation in the country. Tape recording of interviews was no problem as far as the respondents were concerned; it was the interviewers who were nervous at first, especially when they used the recorders (2 out of the 6) that did not have a built-in microphone.

Although of a well known brand, the cassettes used at first turned out to be of poor quality, and often the tape would tangle so that it was impossible to listen to them. As a result, it was often necessary for the candidates to record more than one interview to comply with the requirement of obtaining at least one.

4 The Questionnaires

4.1 INTRODUCTION

The pre-test for the DRFS was carried out from 10-14 February 1975. For each individual interview, the interviewer was required to fill in a special record specifying the problems encountered. Fifteen interviews were recorded and listened to. Because of a lack of tape recorders at this stage, not all these recordings belong to the pre-test itself; some were obtained after the test had been completed (see 3.2.3).

Most of the serious problems were caused by questions not contained in the WFS Core Questionnaire; and many of these were eliminated during the revision of the questionnaire. Some others were rephrased, as also were some questions contained in the Core. In particular, the questions on specific contraceptive methods in Section 3 were found too long and were suitably shortened without altering their meaning. The question on abstinence was eliminated because it merely led to laughter. Instead, a question on contraceptive injections was inserted.

The pre-test proved very useful as a means of testing the questionnaires, but even more as a means of giving the future supervisors good field experience before the interviewers' training started.

Most of the problems which the pre-test revealed had already come up in the practice interviews undertaken during training. The attempt to obtain a special problems record for each interview obtained during the pre-test was not very fruitful. It only overburdened the interviewers because they had to fill in the problems record for all sections, even if no problems were encountered. A better procedure might have been for the survey staff to consider each questionnaire with the interviewer, and note down every problem encountered on a question-by-question basis, finally taking the interview as a whole. If there were no problems this would not take long, and if there were any problems the staff could write them down in fuller detail than the interviewers would. Bringing in real respondents during the training course might be a better and less time-consuming means of obtaining information on questionnaire problems (aside from the general interviewers' de-briefing, which should be considered indispensable).

It can be safely said that by the start of the pre-test itself all the major problems which were posed by the questionnaire were known, together with at least 90% of the minor ones. If the survey staff do not find these problems during training, they are certainly not going to find them during the pre-test if the majority of the interviews are not tape recorded.

Nonetheless, the pre-test itself was very useful for pinpointing interviewer errors, and this experience could be taken into account during the interviewers' training. In addition, the pre-test served as source material for the coding of the open-ended questions. It was also invaluable in developing mapping procedures and instructions.

The following sections of this chapter refer to the final version of the questionnaires.

4.2 THE HOUSEHOLD SCHEDULE

4.2.1 ELIGIBILITY OF RESPONDENT

Interviewers were instructed that any member of the household (aged 18 or over), but preferably the head of the household or his/her spouse, could be the respondent for the household schedule. A problem arose in those households where the maid (generally living in, and considered as a normal member of the household) was asked the questions. Many such informants did not know the characteristics of the other household members. It was therefore decided that information would be obtained from maids only if on the second visit to the household there was still no other eligible usual member at home.

4.2.2 LINE NUMBER OF THE HOUSEHOLD MEMBER

Line numbers were printed at the left hand side of the list of names of household members. The supervisors selected the women to be interviewed immediately after the household interviews in an area were obtained, and the line in which the woman figured was recorded as her line number in the individual questionnaire to be used.

In itself, this procedure is satisfactory, of course, but there was one rather serious pitfall. Often the interviewer had to eliminate a line from the list of household members because that person did not normally live in the household and had not slept there the night before, or because the woman misunderstood the first question, gave a name and then corrected herself.

Because the procedure to fill in the household schedule was first to fill in columns 1 and 2 vertically and then the rest of each line for each member in turn, the number of household members in these cases did not agree with the line number of the person listed last, since the interviewer did not use the number of the eliminated line again. An uninterrupted sequence was important for the control of the total number of household members after punching.

The editors corrected the sequence of line numbers, but in some of these cases this implied that the line number of the selected woman, recorded on the individual questionnaire, should also be changed. That this had not been done was discovered rather late during the coding procedure and consequently all questionnaires coded up to that time were scrutinized all over again, to check that the line number in the individual questionnaire was the same as the line number in the household schedule.

The code for the total number of household members was introduced in each household schedule by means of a rubber stamp only at the end of the coding procedure. Without this code there would have been no control on whether the information for the correct number of household members had been punched. The same stamp contained the box and column numbers for the coding of the schedule processing number and the line number of the first, second and third woman selected for the individual interview.

4.2.3 RESULT CODES

When sugar cane cutting or the coffee harvest was over in a community, some families closed their homes (with their furniture and household items inside) and moved to some

other place where cane was being cut, or coffee was being harvested. Their neighbours did not know when they would be back. Some interviewers recorded these cases as 'dwelling vacant'. They were instructed to record them as 'Other'. 'Dwelling vacant' was intended to mean that there was no furniture in the house, and that the latest inhabitants had moved away for good.

4.2.4 NON-RESPONSE

As the schedule was designed so that information could be punched directly from it, interviewers were instructed to write 9 or 99 when they could not obtain an answer, instead of 'N.S.' (no sabe = does not know). This way, editors would not have to write 9 or 99 above N.S. The schedules were cleaner and numbers clearer for the puncher.

4.2.5 AGE

This question should not have come after 'Is her (his) mother alive?' because it sounded as if the mother's age was being asked. Interviewers were instructed to make sure they were obtaining the answer for the right person.

4.2.6 MARITAL STATUS

An unexpected problem was that sometimes the marital status of a man and woman who were living together was recorded differently, for example, the man as married and the wife as divorced. A possible explanation was that the person being interviewed thought the question referred to 'legal marital status'. For example, the man may have been legally married to another woman and the 'wife' had divorced her legal husband. Interviewers were instructed not to accept this kind of answer and to probe further for the type of union existing between the man and woman currently living together.

4.2.7 MONTH AND YEAR OF BIRTH OF LAST LIVE BIRTH

No instructions were given in the manuals, nor during training, regarding the need to check how old the woman was when her last child was born. This led to a certain number of women seeming to have given birth to their last child when they were over 50. This problem was encountered more often among the older women listed (60 or more years old).

Another omitted check relating to last birth date is based on the fact that any child currently living with the woman could not have been born later than the date of birth of her last child.

4.2.8 ELIGIBLE WOMAN

There were two main problems: (1) An eligible woman was sometimes not numbered; (2) The woman was numbered and selected, but the interviewer was given the name, relationship with the head of the household and the age of the woman listed on the following line instead of the data relating to the person to be interviewed.

An editor who found a woman who had not had a chance of being selected because she was not marked as eligible by the supervisor would assign that woman to the selection

list of the corresponding team, thus giving her a chance for selection. However, if such a woman was actually selected for an interview, it was not always possible to go back to the field. Whenever this arose, a questionnaire was assigned to her and the result code 'other' marked.

The scope of this is unknown but, on the basis of what was found during office editing, it is estimated that there were about 50 cases in which a woman had to be assigned a selection probability. During office editing, but after field work was over, 28 women were found who were eligible but had not been given a selection chance, 7 of which were selected according to the method described.

Also during office editing, 5 women who had been interviewed because of a supervisor's mistake were found and their questionnaires eliminated.

4.2.9 PERSONS LISTED

Sometimes the respondent for the household schedule would list people who did not live in the house and had not slept there the night before. Some were older children who had moved away, others were friends or even children who had died. On a few occasions, a person was listed by his name and separately by his nickname.

This problem probably resulted from the work of charity organizations that help poor people by giving them food and clothing, so that the more people listed in a house the more help they get. Interviewers were instructed to probe very carefully when it seemed as if too many people were being listed.

4.3 THE INDIVIDUAL QUESTIONNAIRE

4.3.1 GENERAL ASPECTS OF THE INTERVIEW SITUATION

a) Obtaining privacy

Although, as in any survey, it was important that the interview be carried out in the absence of other persons, this could not always be ensured. Even if no adults were present, children were nearly always around and may have distracted the respondent. Housing conditions in some of the sample areas were not a help in obtaining privacy. For all this, few cases were reported where the presence of adults had an adverse influence on the interview.

b) Reaction of local authorities

Interviews were carried out without any harassment from local authorities, whether civil, military, or religious. Only in two cases was a problem created, and this was because the interviews had to be performed in dwellings which were built on illegally occupied land. Consequently, the occupants feared that the whole operation might be aimed at removing them and their houses from the plots they occupied. In one case, the local authority solved the problem by bringing the representative (alcalde pedaneo) of the people concerned to his office and explaining the nature of the survey to him. No further problems were encountered in that area.

In the second case, it was not possible to carry out all the interviews assigned for the area. In another area, military authorities were suspicious of the nature of the activities carried out by the interviewers but after an explanation everything worked smoothly.

c) Eligibility for interview

Determining the eligibility of the women from the household interview and subsequent selection of 1/4 of them for the individual interview caused some problems. Among those selected, eight women were found to be ineligible during the individual interview because they had not slept in the dwelling the night before the household interview took place, and 25 were found to be outside the 15-49 age range fixed for the survey, 7 of these being under 15 years of age, and 18 over 49 years.

Two women who had been interviewed though they were not eligible were found during computer editing. Because of problems in identifying the number of their questionnaires it was only possible to eliminate the data of one of these women from the computer tape.

d) Duration of interviews

The duration of interviews proved to be no obstacle. The typical individual interview would take from 10 minutes for a single girl to 45 minutes for a woman with several pregnancies and/or unions. Only in very rare cases did the interview exceed one hour.

4.3.2 SOME SELECTED PROBLEMS

a) Problem of Establishing Dates

The Dominican Republic, like many developing countries, suffers from a very poor birth and death registration system. It is estimated that about 25 per cent of births and 50 per cent of deaths are unregistered.

Further, a birth certificate or identity card can be very misleading as to a person's date of birth or age, because most people do not obtain these documents until they are old enough to work. Most often they do not know exactly when they were born, or they lie and pretend to be older than they are so as to be able to work. The tropical climate, implying an absence of distinguishable seasons during the year, was of no help in obtaining information on the month of birth.

Nevertheless, interviewers were encouraged to refer to birth certificates after probing as to their validity. Birth dates were sometimes recorded by one of the parents on a piece of paper, or on the wall, so these sources were also consulted.

These difficulties regarding dates had been anticipated and the following provisions had been made:

- 1) All respondents were asked their date of birth and their age. Interviewers were instructed to probe if there was a difference of more than two years. If a respondent was unable to give her date of birth, her reported age was recorded. If she did not even know how old she was, the interviewer would estimate her age and record that. Despite this provision it seemed as if interviewers often probed even where there was a difference of less than two years between date of birth and age. To-

wards the close of field work in the capital city, it was discovered that if a woman did not report her date of birth, interviewers would estimate it according to the woman's age, and record this date. Because of this problem it is not possible to know how many women in Santo Domingo did not know when they were born.

- 2) If the calendar year of a live birth was not remembered, the interviewer would estimate it according to how old the child was now, or when it died, and would ask the mother if that date was correct.
- 3) If the calendar year of an abortion or a miscarriage was not remembered, the interviewer would estimate the date according to the interval between live births in which it had occurred.

Questions concerning dates were dispersed throughout the questionnaire. Respondent's age was obtained in Section 1; dates of live births, miscarriages and estimated date of termination of current pregnancy in Section 2; marriage dates in Section 6; and sterilization date in Section 7. This dispersion made it difficult to detect inconsistencies, both by field staff and editors, but had the advantage of avoiding explicit reference to birth dates in relation to marital status at the time. This, it was hoped, would allow women to mention all their pregnancies, even if they occurred while they were not married. There were 10,509 events registered in the Pregnancy History. The month in which they occurred was not known by the respondent and not estimated by the interviewer in 994 cases, and the year in 13 cases.

From the recorded interviews the following examples were obtained which illustrate difficulties with birth dates:

Q.107. In what month and year were you born?

R. Well miss, I don't know.

Q. How old are you?

R. 35.

Q.107. In what month and year were you born?

R. In... that was in 31, but I don't know the 'year'.

Q. And do you remember the month?

R. Well, it was in December.

Q. In 31 you say?

R. 31.

Q. How old are you?

R. 41.

Q. 41 you say? Do you have your identification card at hand, with your birth date?

R. No, that (inaudible).

Q. See if you have it. According to your card you are 44.

- Q.107. In what month and year were you born?
 R. I don't know.
 Q. Do you know the month?
 R. No.
 Q. How old do you think you are?
 R. Oh, the month, February.
 Q. February of what year, do you remember?
 R. No.
 Q. How old are you?
 R. 20.
 Q. 20, were you 20 now, in February?
- Q.218. How old is Julito?
 R. 14.
 Q. What month and year was he born?
 R. I don't know.
 Q. Where is his birth certificate? And do you remember about Julito?
 R. No, I don't remember the year.
 Q. And the month?
 R. In July.
 Q. Was he born in the month of July?
 R. Yes.
 Q. And is he 14 years old, or will he be 14?
 R. He will be.
 Q. He will be 14; then he is 13 years old. So he will be 14 in July, yes?
 R. Yes.
 Q. So he was born in 61?
 R. Yes.
 Q. Was he born more or less the year Trujillo died?
 R. (inaudible)
 Q. You don't dare think? or was he 14 now?
 R. I only know the months of the year.

Another key demographic variable that presented problems was date of marriage. According to reports from the interviewers and the impression of editors from completed questionnaires, respondents very frequently had difficulty recalling their date of marriage. Of 992 woman whose first marriage or union had ended, 265 did not remember the month and 229 did not remember the year it had started. The second marriage had ended for 297, of which 91 did not recall the month and 60 the year when it had started. A third marriage had broken up for 71, of which 23 did not remember the month and 20 the year when it had started. There were very few problems regarding the month and year in which the marriage had ended.

b) Questions Designed to Detect Errors in Previous Answers

In the household schedule, errors in questions 12 through 15 were to be detected by asking 'In all, you (she) had ___ live births. Is this correct?'. Further, the check question, 'To make sure I am not mistaken, you have had ___ children in all. Is this correct?' was designed to minimize errors in questions 204 through 213 of the individual questionnaire. Question 317, 'Have you had sexual relations?', was asked only of respondents who had never been pregnant and who had denied the use of any method of contraception. For those who answered 'yes', to this question a probe about contraceptive use was asked. So as to counteract the tendency to under-report use this probe was also asked of those women who had been pregnant but had never used a method. According to the marginals, 154 women answered 'Yes' to this probe of which 132 were sterilized.

As women who were separated could tend to consider their current marital status as single, all women who had had sexual relations and answered that they were single were asked question 602: 'Have you ever been married or lived in common law marriage?'. Of 14 who were asked this question 3 answered 'YES'.

c) Incomprehension of Questions

Though the individual questionnaire was concerned mainly with factual items, there were some questions that were not always understood by the respondent.

The following are some examples obtained from the recorded interviews:

Q.308. Some men use a condom (do you know what a condom is?) a condom during sexual relations, so that their wives don't become pregnant. Have you ever heard of this method?

R. No. I haven't heard.

Q. Look, a condom is like a sheath that the man puts on, so that his wife does not become pregnant. Have you heard about this?

R. Yes.

Q.7052. Do you think that you and your husband will use any method in the future, so that you do not become pregnant?

R. Well, I don't know if we will change our minds but we have talked that way sometimes. He says you must be industrious and be well prescribed to use it. I don't know, we haven't used anything yet.

Q. But do you believe that you will use in the future, or in coming years, or coming months some method so that you don't become pregnant?

R. (inaudible)

Q.7999. If you could choose exactly the number of children to have in all your life, how many children would you have?

R. If I...

Q. Could choose exactly, the number of children to have in all your life. How many children would you have?

R. Two.

Q.7999. If you could choose exactly the number of children to have in all your life. How many children would you have?

R. How many children.

Q. Would you have?

R. The number of children?

Q. Yes. If you could choose exactly the number of children to have in all your life, how many children would you have?

R. Me, children? Five children.

d) Problems with specific questions or sections

Section 1 - Respondent's Background, Qs. 107 and 108 (date of birth and age): When most of the interviewing in the city of Santo Domingo had been done, it was discovered that interviewers were estimating Q.107 by working back from the stated or estimated age. They were instructed not to continue doing this, and to accept a D.K. answer for Q.107.

Section 2 - Pregnancy History, Recording of Births in Correct Order: Though interviewers were instructed to probe so as to record information on births in the order in which they occurred, it was difficult for them to obtain an ordered list. Women tended to mention the live children who lived with them in age order, but would mention older children who lived away later on. This problem was anticipated and special space in the Pregnancy History was assigned in which to number all events in the order they had occurred. A card was punched for each event and it was then easy to put them in the correct order with the computer.

Many respondents did not remember the dates when their children had been born, and some did not even know how old the children were. This information was sometimes obtained from the husbands, and at other times was estimated by the interviewer. Another problem arose from Q.228, F.230 and Q.231:

Q.228 'Did you feed ___ (NAME, OR 'MOST RECENT CHILD') at the breast?'

F.230 ONE BIRTH or TWO OR MORE BIRTHS.

Q.231 'Did you feed ___ (NAME or 'SECOND TO LAST CHILD') at the breast?'

The interviewers' manual contained no special instructions regarding twins or other multiple live births. Interviewers were instructed to ask question 228 or 231 for both twins at the same time and in the event that one twin was breast-fed longer than the other, to record the longest period. This decision was taken on the grounds that the duration of breast-feeding after delivery was what really mattered.

A different problem arose with a mother whose only two children were twins, as the interviewers did not know what to check in F.230. They were instructed to check 'one birth' as the checking of 'two or more births' would mean that an answer to Q.231 and Q.232 would have to be obtained. Thus 'one birth' in F.230 was interpreted as 'one birth or twins'.

Qs. 236 and 237 were erroneously filtered out for women who said they had had no pregnancies at all, who were skipped from Q.203 to Q.301.

Section 3 - Contraceptive Knowledge and Use:

- Q.318 'I want to make sure I have the correct information. Have you ever done anything or tried in any way to avoid getting pregnant?'
F.320 INTERVIEWER TICK APPROPRIATE BOX (SEE COL. 3). 'HAS USED ONLY ONE METHOD' or 'HAS USED MORE THAN ONE METHOD'.

Interviewers were instructed to see column 3 and Q.318 before ticking the right box, as many times it was discovered through this last question that the woman had used a contraceptive or was sterilized.

- Q.322 'How many living children did you have when you used ___ (FIRST OR ONLY METHOD) for the first time?'

It seems as if many women understood this question wrongly and were really answering the question 'How many live births had you had when you used ___ (FIRST OR ONLY METHOD) for the first time?' This problem made it necessary to check carefully, especially when any of the woman's children had died, as in the following example. A woman had had three live births, but the middle child had died before its first birthday. She said she used a method for the first time when she had had three children. Was it possible for her to start use after the third child was born and before the second one died? To check this case, the date when the second child had died was obtained, or estimated from the pregnancy history, and compared with the birth date of the third child. If the first date was prior to the second one it was concluded that the woman had only two living children when she used the method for the first time.

Section 4 - Sexual History of the Last Year: The sexual history of the last year also presented problems, as it was difficult for respondents to get the correct idea of the time interval that the questions referred to.

- Q.401 Since July last year, a year ago already, up to now. Up to this July, have you been pregnant?
R. Since July?
Q. Last year until this July, have you been pregnant?
R. No, I can't explain because I don't understand. Since the year before last?
Q. Last. A year ago, have you been pregnant?
R. No!
Q. Didn't you just tell me that you were pregnant?
R. Yes, I am pregnant.
Q. And is this the only pregnancy you have had?
R. What?
Q. Since July last year, of '74 until this July have you had only this pregnancy, or have you had more pregnancies?
R. No, after this child I have not had more. I have not had miscarriages. Only this one and then I stopped.

Q.406 Since May last year, were you without sexual relations any month? That is were you without having your husband?

R. Well, very few times.

Q. Any month?

R. Always, because it isn't that one is anxious. But he has not been away this winter, though always. Weeks and 15 days and so.

Q. 15 days.

R. Is the longest he has lasted without using me.

Q. In which months have 15 days gone by?

R. I can't directly say which months I have lasted that time, because when I have my period, that is my habit, whenever I am breast-feeding, I am never tranquil. My period has never gone. It lasts, the least it has lasted after Diego was 2 or 3 months and from there I continue seeing it. When I am like that, upset by my period, he does not use me.

Q.403, 'Immediately before getting pregnant, did you use something not to become pregnant' was also answered wrongly. Most pregnancies registered as resulting from contraceptive failure had to be corrected during editing, since a check of the appropriate pages in Section 7 usually demonstrated that the woman had stopped use before getting pregnant.

The number of problems faced in the first part of Section 4 suggests that it would have paid to examine the questions used carefully and probably to add others so as to make it clearer that the questions referred to 'contraceptive failure'.

In Section 4 a few women who were using or had used abstinence were discovered. They had not mentioned the method in Section 3 and did not even know its name. They referred to the method as 'separated not to become pregnant', although they lived under the same roof as their husband.

Women who used two contraceptive methods at the same time were also detected. The interviewers were instructed to record the most effective one when one of the methods used belonged to the group of effective methods (sterilization, IUD, pill and injection). When both methods belonged to the group of less effective contraceptives, the one used more often was recorded. Use of two effective methods at the same time did not come up.

Section 5 - Maternal and Child Care: Many women did not know the name of the hospital or clinic they attended, and some were not even able to give its exact location.

Section 6 - Marriage History: Q.605, 'Does your husband usually live with you?' Any married household maids who live in the house where they work, and visit their families occasionally should have answered 'NO' to this question and explained why in 606. There were quite a few cases of these women who answered 'YES' to 605, even though sexually speaking their situation is similar to that of a woman whose husband works in another town. In both cases, the woman is considered as 'living with husband'. It seems that very few unwed mothers admitted the fact that they had never married nor

lived as a common-law wife. Many of these women seem to have been living in common-law marriage only while they were pregnant, many of these 'marriages' ending the same month the woman gave birth.

Q.615 was erroneously filtered out for those women who said they had never been in a union.

Section 7 - Fertility Planning: Qs. 7006 and 7008, 'Do you think your husband and you could have another child if you wanted to?' (equivalent to Q.506, Fertility Regulation Module) seems to be a question that was not understood by all women. Women who, judging by their age, must have started menopause answered 'YES' even when quite a few years had gone by since their last pregnancy and they had not used a contraceptive since then.

Qs. 7045-7047 were superfluous as a change in skip instructions would have allowed getting the information in Qs. 7042-7044.

Q.7999 on ideal number of children was also often not understood, and needed probing.

Section 8 - Woman's Work History: Q.813, 'Tell me, more or less, how many years have you worked in all, since you married (for the first time)?' Interviewers did not always check that the number stated was possible: a nurse at 13? In addition, it was not clear in the manuals what to do in the case of a woman who had worked, for example, 18 years planting rice, the kind of work that is carried out only a few months each year. Are these 18 years counted as years of work, or must they be reduced according to some formula, and, if so, how exactly? In the event, the answer recorded by the interviewer was not changed.

Q.815, 'Did you work since you married (for the first time) until your first child was born?' It was not made clear in the manual if a response was counted positive only if the woman worked all the time up to the birth of the first child, or also if she worked only part of the time. The latter was accepted.

Section 9 - Husband's Background: When a woman declared that her husband had attended elementary school (Q.904) but did not know which was the last grade he completed (Q.905), interviewers were instructed to skip F.906 and ask Q.907: 'Can he read a newspaper or magazine, for example?'

Occupation of the respondent or husband: Description of the respondent's or husband's work was often not complete in interviews done during the last weeks of field work. It was difficult to code these cases. Probably interviewers became a bit careless during the last stages of the survey.

5 Sample Design and Implementation

5.1 INTRODUCTION

The Dominican Republic Fertility Survey was based on a probability sample of non-institutional dwellings, designed to yield a sample of 10,000 households and 3,000 women aged 15-49. A four-stage sample design was adopted:

- 1) Municipalities and municipal districts;
- 2) Urban and rural areas;
- 3) Blocks and rural communities;
- 4) Dwellings.

Twenty-six municipalities and municipal districts were selected in the first stage, from an existing total of 98. Although this proportion may seem low, this procedure was decided upon on the basis of the homogeneity of the population's characteristics outside the main urban areas.

The sample was self-weighting and the probability of a dwelling being selected was always 1/80 (selection of 10,000 from the estimated 800,000 existing dwellings).

The sample design gave rise to several problems. Initially, it was designed by a sampling expert commissioned by the Population Council. However, after scrutiny of the design by WFS expert staff, the sample was modified in certain respects. The time lapse between those two activities, plus the fact that no extensive report was made available on the first design, created some anxiety in the survey staff.

When the WFS sampler arrived on the scene, the first and second stage selections had already been made. Systematic sampling with PPS had been used in both stages. In several cases, the selected units exceeded the size of their respective intervals, leading to inelegant sampling chains containing probabilities greater than 1. Specifically, at the first stage this had happened once in a stratum consisting of but two municipios. Since paired selection was being used at the first stage, each of the two municipios was simply reassigned a probability of 1.

At the second stage (within-municipio), three selections had been made per municipio using systematic sampling with PPS. In most cases, the urban centre was selected along with two rural sections, principally because the urban centre ordinarily contains from 20% to 40% of the population of a given municipio. In a half-dozen cases of selected urban centres, the probability exceeded 1 (i.e., they contained more than one-third of the population of their respective municipios). In other cases, three rural sections were chosen (very small urban centres), and in yet others, the urban centre was chosen twice. To clean this up, it was decided to form two strata within each municipio, (urban centre and rural sections), and automatically (i.e., probability = 1) to select the urban centre, and select two rural sections systematically. In this manner, virtually all second-stage

selections were salvaged, with re-calculated probabilities. This was important inasmuch as a great investment, in terms of time and money, had already been made in gathering information concerning these second stage selections.

Some problems arose with third-stage selections: two localities or groups of localities within selected rural sections. Since there were no census data on individual localities, estimates of their size had been developed from data in the files of the National Service for the Eradication of Malaria. Where the sum of these sizes of localities differed greatly from the census figure for the respective sections, which happened in 15 of the 56 selected sections, a special investigation was undertaken. The causes of the discrepancies were detected and remedied in all cases, but it took several man-days of work to accomplish this.

Problems of bad, or incomplete, listing were to some extent ameliorated through the use of two updating, or corrective, techniques. In urban areas, where dwellings in selected blocks were chosen by applying an interval, all extra dwelling units encountered by interviewers or supervisors in a selected block were added to the original map and the systematic selection procedure was continued. In rural areas, where 'chunks' or clusters were chosen the limits were clearly drawn on the maps. Any extra dwelling encountered within the limits of the cluster was automatically included in the sample. In all, 11,350 dwelling units were originally chosen. Through use of the above updating or corrective techniques, an additional 621 dwellings were added to the sample.

5.2 RECRUITMENT AND TRAINING OF MAPPERS

Five persons were hired who were recommended as mappers by the National Statistical Bureau and by the University's Geographical Institute. Each of them had done this type of work before, so instead of full training they were given a two-hour briefing with some general indications about the symbols to be used on the maps.

This turned out to be quite insufficient: two mappers had to be discharged because of their below-standard performance during the mapping of urban areas. Five new candidates were trained together with the three remaining ones. Training took about two hours and consisted of reading aloud and discussing a specially prepared manual.

At this stage, the original mappers were sent out to work and the new applicants were asked to prepare a map of three different blocks each, in Santo Domingo, which had already been updated for the pre-test. The two who worked best were hired.

Recruitment of the mappers should have been more discriminative from the outset. The first group hired were not subjected to any tests, and this was clearly a mistake. Although they had experience, the work of two of them was below standard and created some serious problems during field work, as will be seen later. Mappers should be subjected to the same careful selection as supervisors and interviewers. A manual should be prepared for them and they should have at least a two-day training course that emphasizes practical work in the field with subsequent verification by the survey staff.

5.3 MAPPING PROBLEMS

Many of the mapping problems were caused by the fact that the mappers were not supervised while they worked in urban areas. Errors were only detected when field staff visited a block to start interviewing. Some teams had to go back to headquarters because their maps contained serious errors. When these problems appeared a mapping supervisor was hired to work during the updating of rural areas.

Most of the updating problems were encountered in the capital city. Of 90 updated by the mappers, 47 had to be revised entirely. In twenty-nine of these the maps had to be drawn all over again: 25 presented problems of omission or wrong location of dwellings, and the other four blocks were wrongly located, that is, the block updated was not included in the sample. At the same time, 4 blocks were found which did not exist according to the original mappers.

As no supervision of the updating of the rest of the urban areas had taken place, this was done while updating the rural areas. In each of the urban areas of the sample, the mapper had to update again 4 of the approximately 20 selected blocks. If the errors which appeared in these 4 blocks were serious the whole area was updated again. If no major mistakes were found nothing was done. As a result of this, 4 of the 26 municipalities had to be entirely updated.

The following table shows the number of dwellings found during the first and second updating of these 4 municipalities.

	Updating		Difference	(%)
	First	Second		
La Vega	518	691	(+) 173	25.0
San Cristobal	328	434	(+) 106	24.4
San Juan	441	556	(+) 115	20.7
Bonao	638	708	(+) 70	9.9

The most frequent errors found in the updated maps were:

- a) Omission of dwellings, mainly those built behind other houses and those which looked like only one house but were really two or more;
- b) Wrong location of the dwellings on the maps;
- c) Over-enumeration of dwellings in rural areas, where kitchens (which are generally constructed separately from the house) were confused with separate dwellings;
- d) Wrong use of the symbols designed by the survey staff to identify dwellings, shops, roads, rivers, trees, etc.;
- e) Updating of blocks which were not selected in the sample, due to the fact that one block was mistaken for another.

5.4 SOLUTION OF MAPPING PROBLEMS

As already said, some of the problems were solved by updating the selected blocks, or areas, all over again. However, this was done only in those sample areas where gross mistakes were detected.

The main mechanism for the solution of the problems in areas with fewer errors was the listing of additional dwellings found and the subsequent selection of some of them. This was done by the supervisors who carried out the selection in the urban areas according to the specific selection interval used. In rural areas all of the additional dwellings found in the selected clusters were interviewed.

Problems would have been fewer if the budget had made provision for at least 2 mapping supervisors. As it was, a supervisor was only available during the mapping of rural areas, and he could not possibly check all maps in the field.

5.5 DRAWING AND DISTRIBUTION OF FINAL MAPS

For the location of the dwellings in the sample areas, two sources were available:

- a) The maps used by the National Statistical Bureau for the census of 1970;
- b) The maps of the National Service for the Eradication of Malaria.

Maps from both sources were out of date, some of them by as much as 8 years. This made it obvious that all maps to be used in the survey should be updated in the field.

The rough drafts prepared had then to be drawn clearly in the office, to a size which could easily be handled by supervisors and interviewers. Not enough personnel were available for this task and the survey assistant was really taxed to the limit to have the maps ready in time, and not hold up the field work. Only one person was available to help the assistant with this job. In addition, the assistant had to photocopy the maps in sufficient numbers for the field staff, and keep control over the whole mapping operation. This arrangement was rather unsatisfactory.

Another problem derived from the fact that some of the rural areas were very spread out, and consequently their maps were so large that they had to be reduced to a manageable size. This sometimes resulted in a loss of accuracy, and supervisors had to consult the original to check the numbers of dwellings and the names of streets.

Because of all these problems, maps were not always available on time and teams had to wait up to a day before they could be assigned new work. In the end, it was perhaps surprising that, in spite of all the problems mentioned, field work took only about one week longer than originally planned.

After this experience the following conclusions were reached:

- a) Mappers have to be thoroughly trained, mainly on the job;
- b) All mapping operations should be subject to supervision;

- c) Enough personnel should be made available to draw the final maps;
- d) One person should have overall control of the mapping operation in the office, assigning and receiving maps, reproducing them and generally seeing that the work is done in time;
- e) Another person should be in control of all of the above mentioned activities and should actively check the work of mappers, supervisors and the person in charge of the mapping operation in the office.

6 Organization of Field Work

6.1 THE MODEL

The organization of field work was mainly determined by the search for an adequate balance between the quality of interviewers that could be obtained and the maximum length of field work which would be acceptable.

All field staff, except the drivers, were female. This staff was divided into six teams of two supervisors and five interviewers each. Although two supervisors for every 5 interviewers might seem to be excessive the reason for this was that adequate supervision had to be achieved in the field rather than in the office. This decision was taken because the office was usually too far away from the field and questionnaires would reach it after a considerable time lag (about a week). This would make it very difficult and expensive to correct a field error by going back to the household, or woman, interviewed.

Theoretically, one supervisor was in charge of each team and would be mainly concerned with distribution of work and correction of the questionnaires in the field, while the other would carry out spot-checks, re-interviews and control of the boundaries of each sample area.

The survey director, the deputy director and the resident advisor would act as roving supervisors, visiting each of the teams regularly and supervising the work of both supervisors and interviewers.

Field work was to start in the capital city, to allow rapid supervision by the office staff and to iron out any major problem before the teams were left to work on their own for extended periods.

After this the teams would cover all the areas to be interviewed in each of the five zones of the country. Work would be carried out by zone, interviewing the urban area first and then the rural areas within the zone.

6.2 ADAPTING THE MODEL TO REALITY

One major problem arose from the fact that the maps for many areas were not available at the time when field work began or, as in the case of Santo Domingo, many housing blocks had to be re-mapped. As a result, no strict deployment plan could be made before field work started and the whole operation had to be played by ear. In the end, most of the urban areas in the sample were visited first, while the rural updating was being done. From the fact that field work took only one week longer than planned, although 1971 more household interviews and 203 more individual interviews were obtained, it must be concluded that this arrangement worked well.

Once in the field, supervisors did not have different responsibilities in the team but alternated with each other quite easily, and most probably to the advantage of the survey.

The original division of responsibilities was found to be rather inefficient: if it had been strictly maintained one supervisor, the head of the team, would have been doing nothing for a considerable length of time, as questionnaires were being brought to headquarters after interviewers had finished in the field for the day. In practice, most field editing was done at night, by both supervisors, the same day that the interview had been carried out.

6.3 DURATION OF FIELD WORK

The duration of field work posed several problems. Some interviewers, and supervisors as well, worked faster during the week so that they could come back to Santo Domingo for the weekend, where their fiancés or friends were waiting. Once the survey staff became aware of this, things were arranged in such a way that the interviewers' work load could easily be completed in no longer than a week. In this way, it was hoped to avoid poor quality interviews during the last few days that a team worked in an area.

The size of the Dominican Republic facilitated this procedure, as Santo Domingo can be reached in a few hours from almost any point in the country. It would certainly have been a bad procedure to demand a long stay by the girls in any given area, although occasionally a team would work for a week and a half, or two weeks, without coming to the capital. If this arrangement had not been made, interviewers would probably have come to the capital on their own, and control would have been lost.

All this happened in spite of the fact that interviewers were told repeatedly that their work might involve long spells of being away from home and all had declared that this was no problem for them. Moreover, nearly all supervisors and interviewers were single. Another problem arose from the fact that most interviewers were university students, and occasionally had to come down to the capital for special classes or examinations and to enroll for the next term. The survey staff tried to solve these problems on a case-by-case basis, exercising tolerance where possible because of course one could not expect anyone to welcome the loss of half a year's study through participation in the survey.

A shorter period of field work might have helped to overcome some of these problems to a large degree, but on the other hand it would certainly have weakened the quality of the interviewers as a larger number would have been necessary.

As it was, from the 60 candidates accepted for training the selection of 30 proved to be rather problematic; it was found that some were not very good and had to be closely supervised at all times during field work. They frequently had to be sent back to the household, or the woman, to correct errors. Three of them were dismissed after working a short time.

Although, in retrospect, the interviewers and supervisors were found to be of very acceptable quality, there was one major factor that made them interested in participating in the survey: payment. This, in turn, made them consent to any conditions imposed on them before the survey actually started, even though during field work conditions were not always as pleasant as they had expected.

6.4 WORKING HOURS

Interviewers, and especially supervisors, were not expected to adhere to strict pre-fixed working hours. Some interviews had to be done very early in the morning, or late at night; and supervisors generally put in a 12-hour working day. It may well be that these long hours were counter-productive, because the quality of work, especially of supervisors, may have been adversely affected by excessively long and monotonous working hours. Supervisors were often pressed for work assignments by interviewers, probably for one main reason, namely, that in addition to their basic salary of US\$ 100 per month, interviewers were paid a bonus of US\$ 1 for each completed household interview and \$ 2.60 for each completed individual interview. Considering the strength of their drive to earn money, this method of payment may have been responsible for their long working hours and the possible negative effect these had on the survey. On the other hand, would it have been possible to finish the survey only a week after scheduled time with 1971 more household and 203 more individual interviews without this system? Would quality in the end have increased or decreased, given the longer duration of the field work which would have been necessary if they worked more slowly?

Taking into account the supervision by survey staff in the field, and office editing, it is felt that the possible effect of this method of payment must be considered less detrimental than the alternative: a considerably extended field work period because of the conditions encountered in the field, as described below.

6.5 CONDITIONS IN THE FIELD

Field conditions were not attractive for the teams. In most places, there were no adequate hotels available, and interviewers had to live with some relatives, or anywhere they could find a room. This was no great problem as they preferred staying with relatives of one or more of the team in order to save on their subsistence allowance.

The main problems were posed by the inadequacy or the lack of food and water, not to speak of hygienic facilities.

The non-existence of drinking water in many areas was known beforehand, so interviewers generally took water with them in plastic containers. Food, however, was more difficult to take because of the climatic (tropical) conditions of the country. In one supervisor's control sheet there is a note under the heading 'observations' saying 'day of hunger'. Interviewers and supervisors are known to have bought even a live chicken, killed it themselves and subsequently cooked and eaten it, as no other food of any nourishing value was available in the area in prepared form.

The conditions encountered in several of the rural areas would have had disastrous effects on the teams if they had not been allowed to return to the capital almost every weekend. These problems were further increased by the inadequate transport facilities, as mentioned earlier, which meant a long wait for the car to come and pick them up, long walks in the tropical heat and a sense of being abandoned.

Conditions in the field were so bad partly because at the time of the survey the country was suffering from a severe drought. On the other hand, the drought made it possible to finish the work free from the probable delays' caused by tropical rains.

6.6 SUBSISTENCE ALLOWANCE

Interviewers and supervisors were paid US\$ 12 per day when working away from the home base, Santo Domingo. Their urge to save some of that money probably induced them to live below preferred standards. In fact most of them saved a considerable part of their subsistence allowance.

In itself there was no objection to this, but matters came to a crisis at the beginning of field work outside the capital. To pay each interviewer her total subsistence allowance an estimate was made of the probable length of her stay in the area to be visited. Teams made an effort to finish before that time, claiming that the subsistence allowance for the remaining estimated days was theirs, because they had done all the work in the area, even if in a shorter time. This, of course, led to sloppy interviewing and supervision; and the survey director had to take a firm stand, making it clear that subsistence allowance was only paid for each day actually spent in the area, and that any surplus had to be given back. At that stage, it was also emphasized that the quality of interviews was the single most important issue, and that it was better not to hurry the work and stay a day or two longer, if necessary. After some argument this was accepted.

6.7 PERSONAL PROBLEMS

As with any survey, the DRFS also had its share of personal problems among the interviewers and supervisors, which interfered with the work. Two supervisors got married during field work and consequently did not want to stay away over the weekend. Another supervisor was so madly in love she did not want to stay away at all. One supervisor finished the field work about six months pregnant, though she worked very well. However, and most important, no major problems were encountered with personal relations within the teams.

As it was clear from the start that certain supervisors would like to work together, and that certain supervisors preferred certain interviewers to work with them, discussions were held about the constitution of the teams. The survey staff decided which supervisors would work together, and in an open meeting with supervisors and interviewers, it was resolved to allocate teams on a random basis to the supervisors. Teams of interviewers, however, were formed *a priori* by the survey staff, trying to get an equal distribution of interviewers of different capacity in each group.

The allocation of all the works – both the assignment of the area to each team and the assignment to each interviewer – was done on a strictly random basis, by a kind of lottery: each supervisor or interviewer drew a number representing a sample area or

cluster of households. For some groups, or individuals, who were continuously persecuted by bad luck, the survey staff made convenient adjustments. This system worked extremely well and avoided much discussion between supervisors and the survey staff and between interviewers and supervisors.

6.8 COOPERATION OF THE POPULATION

Apart from some minor problems with local authorities, mentioned earlier in this report (4.3.1b), there were no major problems in obtaining the cooperation of the population. The refusal rate for the household interview was only 0.17% and for the individual questionnaire 0.25%. As usual, the refusal rate was higher in the urban than in the rural areas, and especially in the well-to-do sections of the urban areas. In fact, interviewers designated to interview in the elegant areas of Santo Domingo resented their assignment, and several times supervisors had to be called in to obtain the cooperation of the household selected. In general, the cooperation of the population was excellent. Interviewers were rarely asked to show their letters of identification. This may also have been due to the fact that an extensive information campaign on the survey was carried out by radio and television and in the newspaper.

6.9 LOCATING SELECTED DWELLINGS AND WOMEN

During the pre-test it was found that with the help of maps drawn for each sample area, there were no problems in locating the dwellings in which household interviews had to be carried out, that is, apart from the mapping problems already mentioned in the chapter on sample design.

It was generally possible to read the location of the dwellings from the map, or to see that the dwelling was, for example, the fifth on the left side of the road, counting from the church.

Interviews were done in two stages, first the household interviews and, later in the day or in the next day or two, the individual interviews. For the latter, only one out of every four eligible women found was to be interviewed. Thus there could have been a problem in locating the dwelling where the individual interview had to be carried out. This problem arose specially in rural areas and those urban areas where street names were doubtful, non-existent, or inconsistent and where house numbers were non-existent, or in random sequence.

It was also found that in a case where street names and dwelling numbers were non-existent or arbitrary, description of the dwelling was too complex a matter to be handled by the interviewer, especially where all houses are very similar.

To overcome these problems, dwellings were numbered on each map from 1 to N, following a more or less logical assignment according to the sequence of the dwellings on the map. This number was written in parentheses above the drawing identifying each house,

even if it already had another number. If another number existed, it was also shown. Thus, looking at the map, the interviewer could easily identify the dwelling she had to visit for the individual interview, and its location in relation to the other houses in the area. In addition, she was given the name, relationship with the head of the household, and age of the selected women, so as to avoid interviewing another women within the same household. As the same interviewer who had done the household interviews would generally carry out the individual interview, she still remembered the characteristics of the dwellings and their occupants.

The pre-assigned and arbitrary but unique dwelling number was the best means of avoiding problems of identification when looking for a specific woman who had to be interviewed by someone who had not done the household interview. This arrangement of numbering the houses on the maps was one of the main positive results of the pre-test.

As already mentioned, a rather large number of additional dwellings was found in the sample areas. These were drawn on the map by the interviewer locating them; they were verified by the supervisor, and subsequently assigned a dwelling number starting with the last existing number in the segment, plus one.

6.10 DUTIES AND PERFORMANCE OF SUPERVISORS

The duties of supervisors can be summarized as follows:

- 1) Assignment of work load to interviewers;
- 2) Editing of completed questionnaires;
- 3) Quality control by spot-checks;
- 4) Quality control by re-interviewing;
- 5) Quality control by listening to tape recordings;
- 6) Keeping track of quality control operations;
- 7) Assisting with refusals and failures to locate households;
- 8) Making travel and lodging arrangements;
- 9) Maintaining supplies and communication with headquarters.

6.10.1 ASSIGNMENT OF WORK LOAD TO INTERVIEWERS

Serious problems were caused by the amount of paper work that supervisors had to handle for the assignment of interviews and the overall control of each interviewer's performance. For this, supervisors had to use four different control sheets:

- a) Assignment of household interviews;
- b) Assignment of individual interviews;
- c) Progress for each interviewer: household questionnaire;
- d) Progress for each interviewer: individual questionnaire.

As each interviewer was expected to carry out at least 10 household interviews each day,

supervisors had to fill in 50 lines on the sample assignment sheet, listing the number of the dwelling, complete address, date of assignment and name of the interviewer. The next day they had to assign at least 25 individual questionnaires and fill in the dwelling number, the address, the name of the selected women, and her age and relationship to the head of the household.

In addition, when the questionnaires were returned they had to fill in the result, date of return, date of field editing and any quality control check carried out with respect to that questionnaire.

Supervisors also tried to edit questionnaires during the same day as they were returned. As a result, the assignment work was often left till the morning, causing some interviewers to wait an hour, or even longer, before their assignment was ready. The most tedious aspect was the writing down of the address for each questionnaire. This should have been omitted as the dwelling number and the map were sufficient to identify any given household. Interviewers had to copy the information for the individual interviews (complete address, name, age and relationship to the head of the household) on a separate sheet.

It seems that a better system would have been for the supervisor to record only the dwelling number, date of assignment and interviewer's name on the control sheet and write the rest of the information on the questionnaire, possibly in a section that would not be coded. With this procedure, interviewers would have been saved the work of copying existing information, and supervisors would be more sure that questionnaires were assigned correctly.

These control operations should, of course, be maintained as the only feasible means of keeping track of work progress, but they should also be substantially simplified, if possible. They are the least attractive part of the work, are time-consuming and, as currently recommended, are quite unnecessary in part. This simplification is only suggested because the unique dwelling numbers introduced in the maps made the writing of the same address in different places unnecessary. It may also be noted, however, that the name, relationship to head of household and age of the woman to be interviewed do not provide a means of checking subsequently whether the right person has been questioned. This information was only meant to help the interviewers find the right woman, but except for her age, none of the other information appears in the individual questionnaire. The age might also vary, because it is not supposed to be checked against the age obtained in the household interview.

6.10.2 EDITING OF COMPLETED QUESTIONNAIRES

All questionnaires were edited in the field by the supervisors. This was very time-consuming and, except for the obvious mistakes, was not very thorough. The office editors had a big job editing pregnancy histories and marriage histories. Problems with the latter were caused mainly by the fact that women simply did not know or remember dates, so there was much inconsistency. On the other hand, it should be remembered that good editing requires a lot of practice, and the supervisors did not get enough during training.

6.10.3 FIELD CONTROL

Field control operations were supposed to be recorded on the control sheets, so as to provide a full account of all the checks carried out to improve or ensure the quality of the survey data. As will be seen in the following paragraphs, the recording of these quality check operations on the control sheets was wholly inadequate. The main reason for the persistence of this problem during the whole course of field work was that, during receipt and control in the main office, no attention was paid to whether a team was recording the quality check operation or not. On the other hand, the impression that supervisors simply became a little tired of all the paper work is unavoidable; perhaps they merely forgot what they had done with each particular questionnaire.

The supervisor's manual should specify that when the supervisor is carrying out controls in the field, she should always carry the assignment sheets with her and record every quality check on those sheets immediately after it has taken place. If not she would have to write her control activities on a separate sheet of paper or memorize them, and later transcribe the information to the assignment sheet. Both of these possibilities, memorizing or writing on a separate sheet, should be considered inadvisable.

Although this report may seem rather critical of the field control requirements, it is necessary to remember that, in addition to all the work already mentioned, supervisors also had to keep control sheets for the progress of each interviewer, with total and cumulative interviews attempted and achieved per area both for the household and the individual questionnaires. It is necessary to emphasize that paperwork should be cut down to the absolute minimum, if it is to be carried out and checked with the same care as questionnaires, tape recordings and re-interviews.

6.10.4 SPOT-CHECKS

This was the type of check used most extensively. Generally, supervisors accompanied interviewers each time new households were assigned so as to get acquainted with the area and to indicate which were the households to be visited. In fact, this was usually standard practice, and in each of the cases where a supervisor indicated the household to be visited, she should have made a 'spot-check' entry on the control sheet. This was not done and a revision of control sheets for the household questionnaires indicates only 65 spot-checks. The real figure must be somewhere far above a thousand. Maybe supervisors were not aware that when they saw an interviewer in a house, they were in fact spot-checking. Moreover, they did not carry the control sheets with them, and during field work nobody ever reminded them that these activities must be registered in full in the appropriate column of the control sheet. In fact, the 65 spot-checks were nearly all by the supervisors of one team. The others did not bother at all with this aspect of the record-keeping.

Supervisors did record an additional 245 cases where they accompanied the interviewer during a household interview, and 119 during an individual interview. This procedure must also be considered as a spot-check. Although 'sitting in' was not foreseen to this degree at the start of field work, supervisors complained that women did not like to be re-interviewed, nor did they themselves want to have to listen to too many tape recordings because it took too long.

The survey staff accepted this procedure especially as an alternative to re-interviewing, but insisted that tape recordings also be done allowing central staff to 'listen in' on some interviews.

The extent to which the presence of the supervisor during the interview has been under-reported in the control sheets is not known, but it is thought to be considerable.

6.10.5 RE-INTERVIEWING

As already mentioned, both respondents and supervisors did not like re-interviews. After 'sitting in' was accepted as a substitute, a supervisor would re-interview only in cases where something was very wrong with an interview. Only 15 re-interviews for the individual questionnaire were registered in the control sheets.

6.10.6 LISTENING TO TAPE RECORDINGS

The extent to which tape recordings were under-reported in the control sheets can be more or less estimated. At the start of field work, the recordings were used only as a means for supervisors to listen to the interview and discuss errors with the interviewer. The cassette was then used for another interview. After about two weeks it was decided that this arrangement was unsatisfactory, because no records existed about what errors were shown on the tape recordings. Therefore a sheet was designed in which the supervisor recorded the errors found and any comment she considered important. These sheets were kept for later analysis, and according to them 37 household and 82 individual interviews were tape recorded.

However, a revision of the control sheets gives a total of 34 household interviews and 80 individual interviews tape recorded. As recording was especially heavy during the first few weeks of field work, the control sheets underestimate tape recording by at least 20%. The cassettes used were of bad quality and thus several of them had to be discarded.

Despite these difficulties, tape recording was found to be an invaluable aid to quality control, providing the only real means for the survey staff to evaluate interviewer performance.

In particular, the recording of interviews was very useful for detecting and correcting the following types of errors: lack of probing or wrong probing; wording of a question changed; answer suggested; answer not written down correctly; question skipped; instructions not followed correctly. Except for the odd case, there were no major problems with women not wanting their interview to be tape recorded.

6.10.7 LOCATION OF DWELLINGS

Due to mapping errors, supervisors were continually engaged in the revision of maps in the field, and in the verification of the additional dwellings found by interviewers in the sample area. At this stage, it may be mentioned that an interviewer was paid US\$ 1 for each additional dwelling found, subject to previous verification by a supervisor. The verification of maps in the field was tedious, and often disheartening for supervisors, even though two of them would share this job in each team.

No important problems occurred in relation to the other duties of supervisors, that is,

assisting with refusals, making travel and lodging arrangements, maintaining supplies and maintaining communication with headquarters.

6.11 FIELD VISITS BY CENTRAL STAFF

In retrospect, it is clear that the usefulness of the field visits by the central staff suffered from a lack of attention during these visits to the administrative aspect of the field work. Generally, a sample of questionnaires was scrutinized and some tape recordings were listened to, but no attention was paid to control sheets, not much to spot-checks and usually the visits were too short to allow a good feel of the performance of each team. This was offset to a certain extent by the fact that teams came to the main office nearly every weekend and were then informed when errors had been detected during the editing, or coding, of their questionnaires.

With four operations going on simultaneously, field work, mapping, editing and coding, the existing office staff had to choose between fully controlling some operations or controlling all of them to a lesser degree. The last solution was adopted as editors and coders needed constant attention, mapping could not be finished earlier and, in general, the demand on their time was formidable. However, it would have been more useful for the quality of the survey if more staff had been available for a continuous and better field work checking operation.

7 Field Checking and Office Editing of Questionnaires

7.1 INTRODUCTION

When the survey was first planned, only field scrutiny of questionnaires by supervisors was considered. Later on, their lack of practice, and the problems presented by the respondents' ignorance on the timing of events, led to the decision to have questionnaires edited in the office also.

Thus, questionnaires were first edited in the field by supervisors (and sometimes by technical staff) and then re-edited by a specially trained team in Santo Domingo. Finally, they were computer edited in San Jose, Costa Rica. In the first phase, some questionnaires were returned to the field for the correction of errors and for obtaining missing information. In the second phase, on a few occasions it was possible to return a questionnaire to the field, while field work was still going on in the capital.

Because there was contact only once a week between headquarters and the field, and in view of the overall field strategy, it was necessary for office editors to correct most errors using information contained in the questionnaires; they were not normally able to consult the interviewer.

7.2 CHECKING OF QUESTIONNAIRES IN THE FIELD

During interviewer training, supervisors practiced the checking of questionnaires for errors. In the field, supervisors had to scrutinize all questionnaires as soon as possible after receipt, indicating all errors in red ink. Comments had to be written on the back of the household schedule or in a special space on the last page of the individual questionnaire. When serious errors were found, or information was missing, the interviewer had to return to the field.

Supervisors re-interviewed several respondents who had originally been interviewed by girls whose work was not up to standard, and who were dismissed at an early stage.

The checking of questionnaires by supervisors was of uneven quality. Some errors were not detected until office editing. Errors were also found by technical staff while checking supervisors' work in the field. Supervisors usually did not wait until the evening but were checking questionnaires during the day out in the field. They would work under a tree or in the house of some woman who had been interviewed. No records were kept of the number of questionnaires that supervisors returned to the field.

7.3 RECRUITMENT AND TRAINING OF EDITING TEAMS

The editing supervisor was a fifth-year medical student who had trained as field supervisor but was not hired for this job, mainly because she was very shy and did not seem capable of taking charge of a group of interviewers. She then applied as interviewer and attended all the training. The office staff decided that as she had very good knowledge of the questionnaires, she was the most appropriate person to fill the editing supervisor post. The other three editors were two supervisor candidates who had attended the training course and a trained interviewer candidate.

One advantage in the choice of these persons as editors was that their training for the specific job was quite short, because they were all acquainted with the questionnaires and the interviewers' manual. It was only necessary to point out the changes in the questionnaires after the pre-test to the candidates who had trained only as supervisors. Editors were trained during two mornings. The editing manual was read aloud and discussed, and editors practised on questionnaires filled out during interviewers' field practice. The second morning, they worked with the questionnaires and maps corresponding to a whole block so as to practice the steps that were to be followed to check that all selected houses and women had been interviewed.

7.4 GENERAL EDITING PROCEDURE

Editors worked on one block, or rural area, at a time. First they checked the number of household schedules against the number of houses selected on the map and the number of households encountered in those dwellings; and the number of individual questionnaires against the women selected for interviewing in the households.

Editors detected omissions and filled them in when possible, and deleted answers to questions that should not have been asked. Their main work was concerned with checking the consistency of the data in each questionnaire.

The number of sons and daughters living with the mother or away from home, and the number of dead children listed in pages 4 and 5 were checked against the children listed in the pregnancy history. Dates were examined to ensure that there was an interval of at least 10 months between consecutive live births. Use of a contraceptive at the time of becoming pregnant (Q.403) was checked with the question on contraceptive use in the corresponding coloured page.

Only if the correct answer could be inferred with certainty from other parts of the questionnaire were editors allowed to correct any inconsistency, or omission, found. They were instructed to use green ink for this and to describe major errors that had to be corrected in the space assigned for this purpose on the last page of the individual questionnaire. Whenever possible, they were to consult the interviewer responsible.

At first, each editor would talk to the interviewer concerned before correcting a questionnaire. This caused discussions when there was a difference of opinion about the nature of the problem and often the other editors would also interfere. It was then

decided that all questionnaires with problems that required consultation would be handed to the editing supervisor, who would then talk to the interviewer when she came to the office. When necessary, the editor would participate in this conversation. Office editing began almost a month after field work started, and took eighty 5-hour days to complete. Each editor was allowed to take a short break every time she felt the need. Some editing problems that had not been considered in the Manual turned up, for example: errors in the sample identification numbers that the supervisor wrote on each questionnaire, errors of subtractions in calculating how long it took to do the interview, and discrepancy between the line number of the woman selected for interview in the household schedule and in the individual questionnaire.

8 Coding, Punching and Computer Editing

8.1 INTRODUCTION

Coders worked 5 hours a day, with two fixed ten-minute breaks. Coding was completed in 84 working days.

In section 1.6 dealing with office space and equipment, reference was made to the poor facilities available for the coding operation. The influence on the coders' performance of the lack of privacy and the noise they had to endure cannot be evaluated. However, the office arrangements clearly had a distracting influence as the coders were often seen listening to interviewers and supervisors, or simply chatting with someone in another office.

As soon as these problems came to light, the coding supervisor was asked to take a firm line with anyone interrupting the coders, or with coders who left their job to have a chat. Once it was found necessary to have one of the girls work in another room, to keep her from talking. Better office accommodation would have overcome most of these problems.

8.2 THE QUESTIONNAIRE LAY-OUT

The questionnaire lay-out proved to be a problem for the coders. When a large number of pages of the questionnaire had been skipped by the interviewer, the coder often forgot to code the little information remaining on any one page, especially the questionnaire number, which was coded in the last four columns of every card. Women without sexual relations were skipped from page 12 to Q.7999 on page 32 (the Fertility Regulation Module) and this question was forgotten many times during coding. Most of these errors were found early in the coding stage by the survey staff, and a special meeting with the coders was arranged in which the most frequent errors of this type were pointed out to them. One hundred per cent verification of the coding, imposed because of these and other types of coding errors, corrected most of these mistakes.

Although the questionnaire was designed so that coding could be done entirely on the questionnaire itself, it was decided that a separate coding sheet would be used for the pregnancy history. The reason for this was that the many problems interviewers encountered with this section, and the frequent changes and corrections made in it during the interview and later during editing, often led to very untidy pages. This meant that both coders and punchers would have a lot of trouble coding clearly and punching the information correctly. A loose pregnancy history coding sheet was inserted and later stapled to each questionnaire. Although none of them were lost, it would have been better if the coding sheet had been incorporated in the questionnaire from the beginning to make it fully self-contained.

Whenever a fully integrated pregnancy history is used, it is unlikely that coding can be

done directly on the questionnaire if dates and other information are difficult to obtain. In this case the pregnancy history as obtained in the field looks messy because of the many changes and corrections made in it.

A separate coding sheet was also used to code the cases of women who had more than four unions that had ended. Only six of these cases were found.

8.3 SELECTED CODING PROBLEMS

As always, the coding of the occupation of both husband and wife was the most difficult task to be performed. This assignment was carried out by one person who only coded occupation. He had to have a full grasp of both the WFS coding instructions and the ILO classification of occupations. As always, difficult cases arose, which were solved in consultation with the survey staff.

Special verification of some codes was needed because editors had not put enough effort into the editing of certain information, or had received contradictory instructions, or because the need for a new code arose during the coding stage. Because of this, 100 per cent re-checking of the following information took place: sample identification numbers; agreement between the line numbers of the selected woman as coded in the household and individual questionnaires; sexual history; place where pregnancies, or abortions, occurred during the last year; history of previous marriages; total number of years worked since marriage; and total number of years worked before marriage.

A systematic error was often committed when coders had to decide to code in one of two spaces that were side by side, for example card 08 column 7 or 8, or column 10 or 11. They would often code in one or other of the spaces without considering which of the two coding boxes applied.

8.4 SPEED OF CODING

Because office editing was quite time-consuming, and because of editing problems, and the fact that there were only 4 editors while 8 persons were coding, coders nearly overtook the editors on several occasions during the coding operation. The 100% verification of the coding helped to solve this problem, but during the last month, coders had to work slow deliberately in order not to overtake the editors. Thus there should be at least as many editors as coders if the time-table is not to become unduly extended, and the editors should start work at least three weeks before coders.

8.5 CARD PUNCHING AND VERIFYING

Letters were written to the five private companies that have card punching and verification facilities in the capital city, asking if they were interested in doing this work for

the fertility survey. Three of them sent a representative to talk to the director, and finally only one was interested in the job. At that time, it was estimated that about 100,000 cards would be punched. The company was also committed to verifying 100 per cent of the punching.

Written instructions were prepared for the persons who were to do the punching, and the company's representative was asked to telephone the survey office if there were any problems they did not know how to solve. Punching and verification was carried out in about seven weeks. During the computer editing stage, many errors cropped up which were clearly punching errors; for example, all columns of a card were displaced or cards were duplicated or skipped. Although no statistics are available on these errors, all staff involved in the computer editing stage were convinced that no verification, or only random verification, of the punching had taken place. Such was the suspicion that a special team was sent to the data processing firm by CONAPOFA, to investigate whether verification had in fact taken place. They concluded that it had.

The complaint of the data processing firm, and the possible explanation for the errors committed, was that the questionnaire was too bulky; and too many blank pages, or pages with only one code, were involved to make punching from the questionnaire comfortable. There seems some ground for the complaint as the punchers, of course, do not know the sequence to be followed according to certain skips, or at least are not required to know the questionnaire to the extent that the interviewers and coders are.

This problem had already come up during the punching of a sample of 300 questionnaires, and was partly solved by stapling together pages with no codes in them. Again, this proved to be a problem as some of the coders who did this stapling also made mistakes (stapling a page with a code so that the code was lost to the punching). All in all, the questionnaire as designed in the Dominican Republic proved unsatisfactory for direct punching.

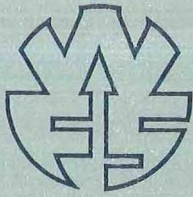
8.6 COMPUTER EDITING

A major problem in the Dominican Republic was that no qualified programming personnel were readily available and that computer time was very expensive. WFS enrolled CELADE to program the computer edits with their newly-created editing program, CONCOR. The preparatory period was not as smooth as it could have been, because all dealings with CELADE's computer staff were done by mail, phone and occasional personal contact.

While in Santo Domingo the CELADE representatives decided, after consultation with the survey staff, that computer editing could be run more efficiently and cheaply at CELADE's sub-centre in San José, Costa Rica. This, however, meant that all the questionnaires would have to be shipped out there. After intense deliberation the go-ahead was given, mainly because the computer time in San José would be free, more programming personnel would be at hand and the cost of shipment of the questionnaires and travel of the survey staff would be offset by the saving in computer cost. Questionnaires were

flown out of the Dominican Republic, accompanied by a staff member. Even so, they were lost for one day because of a change of plane in Panama; however, they arrived in good condition, without any losses.

CELADE had already programmed the consistency checks which had been run in San José when the questionnaires arrived. In the case of the individual questionnaire, the consistency checks showed 1,319 questionnaires with one or more errors. The second run, after correction, of course, showed 356 questionnaires with errors. The third run still showed 6 questionnaires with errors and a final and formal run was necessary. Of all the questionnaires with errors, there were about 200 with missing dates of some kind; this was accepted, as computer imputation is planned. The first editing run of the household questionnaire showed 951 questionnaires with errors, the second 161, the third 54 and the fourth 0.



WORLD FERTILITY SURVEY

OCCASIONAL PAPERS

- | | |
|--|--|
| 1. Fertility and Related Surveys | William G. Duncan |
| 2. The World Fertility Survey:
Problems and Possibilities | J. C. Caldwell |
| World Fertility Survey Inventory:
Major Fertility and Related Surveys 1960-73 | |
| 3. Asia | } Samuel Baum <i>et al</i> |
| 4. Africa | |
| 5. Latin America | |
| 6. Europe, North America and Australia | |
| 7. The Study of Fertility and Fertility Change
in Tropical Africa | John C. Caldwell |
| 8. Community-Level Data in Fertility Surveys | Ronald Freedman |
| 9. Examples of Community-Level Questionnaires | Ronald Freedman |
| 10. A Selected Bibliography of Works on Fertility | György T. Acsádi |
| 11. Economic Data for Fertility Analysis | Deborah S. Freedman (with Eva Mueller) |
| 12. Economic Modules for use in Fertility Surveys
in Less Developed Countries | Deborah S. Freedman and Eva Mueller |
| 13. Ideal Family Size | Helen Ware |
| 14. Modernism | David Goldberg |
| 15. The Fiji Fertility Survey:
A Critical Commentary | M. A. Sahib <i>et al</i> |
| 16. The Fiji Fertility Survey:
A Critical Commentary-Appendices | M. A. Sahib <i>et al</i> |
| 17. Sampling Errors for Fertility Surveys | L. Kish <i>et al</i> |
| 18. The Dominican Republic Fertility Survey:
An Assessment | N. Ramírez <i>et al</i> |
| 19. WFS Modules: Abortion · Factors other than
Contraception Affecting Fertility · Family
Planning · General Mortality | WFS Central Staff |